



South African
Weather Service

ISO 9001 Certified Organisation

ANNUAL REPORT

2016|17

TOWARDS A
WEATHER
SMART
NATION





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PART A

GENERAL INFORMATION



GENERAL INFORMATION

PUBLIC ENTITY'S GENERAL INFORMATION

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ACTING COMPANY/ BOARD SECRETARY:	Ms Thobile Ntusi

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LIST OF ABBREVIATIONS/ACRONYMS

AASA	Airlines Association of Southern Africa	AWS	Automatic Weather Station
AAWS	Aviation Automatic Weather Station	BCP	Business Continuity Plan
ACAMS	Advisory Committee for Aeronautical Meteorological Services	BSRN	Baseline Surface Radiation Network
ACDI	African Climate Development Initiative	CAPA	Corrective and Preventive Action
ACRE	Atmospheric Circulation Reconstructions of the Earth	CCMA	Commission for Conciliation, Mediation and Arbitration
ACRU	Agricultural Catchment Research Unit	CDW	Community Development Workers
AFS	Annual Financial Statements	CGICT	Corporate Governance of ICT
AFTN	Aeronautical Fixed Telecommunication Network	CHPC	Centre for High Performance Computing
AGSA	Auditor-General South Africa	COID	Compensation for Occupational Injuries and Diseases
AOC	Airline Operators Committee	COGTA	(Dept. of) Corporate Governance and Traditional Affairs
AMC	Aerodrome Management Centre	COMET	Cooperative Program for Operational Meteorology Education and Training
AMHS	Aeronautical Traffic Services Message Handling System	CPT	Climate Predictability Tool
APIRG	Africa Planning and Implementation Regional Group	CRR	Capital Replacement Reserve
AQHI	Air Quality Health Index	CRS	Community Rainfall Station
AQMF	Air Quality Modelling and Forecasting	CRSES	Centre for Renewable and Sustainable Energy Studies
AQMS	Air Quality Modelling and Forecasting System	CRSVIS	Catchment Rainfall Spatial Variability Indicator Suite
ARC	Audit and Risk Committee	CSI	Corporate Social Investment
ARS	Automatic Rainfall Station	CSIR	Council for Scientific and Industrial Research
ASCA	Agulhas System Climate Array	CUT	Central University of Technology
ASMET	African Satellite Meteorology Education and Training	DAFF	Department of Agriculture, Forestry and Fisheries
ATM	Air Traffic Management	DBCP	Data Buoy Co-operational Panel
ATNS	Aeronautical Traffic Navigation Services	DEA	Department of Environmental Affairs
ATR	Annual Training Report	DGCS	Decadal Global Climate Summary
AVE	Advertising Value Equivalent	DMISA	Disaster Management Institute of South Africa
AvRDP	Aviation Research Demonstration Project	DRD-Gold	A Mining Company
AWC	Aviation Weather Centre		

EC-JRC	European Commission's Joint Research Centre
EIA	Environmental Impact Assessment
ENSO	El Niño Southern Oscillation
ERF	Extended Range Forecast
ERM	Enterprise-wide Risk Management
EXCO	Executive Committee
FAO	Food and Agriculture Organization
FDR	Fire Danger Rating
FEWSNET	Famine Early Warning Systems Network
FIR	Flight Information Route
GANP	(ICAO) Global Air Navigation Plan
GCM	Global Circulation Model
GFCS	Global Framework on Climate Service
GHG	Green House Gases
GISC	Global Information System Centre
GLOBE	Global Learning and Observation to Benefit the Environment
GML	Geographical Mark-up Language
GPC-LRF	Global Producing Centre for Long Range Forecasts
GPM	Global Precipitation Measurement
GRAP	Generally Recognised Accounting Practice
GTS	Global Telecommunication System
HCM	Human Capital Management
HE	Hydro Estimator
HPC	High Performance Computing
HRRC	Human Resources and Remuneration Committee
IAS	International Accounting Standards
ICAO	International Civil Aviation Organization

ICT	Information and Communication Technology
IMO	International Maritime Organization
IMT	Institute for Marine Technology
IOC	International Oceanographic Commission (of UNESCO)
IoDSA	Institute for Directors of Southern Africa
IPCC	Intergovernmental Panel for Climate Change
IPSAS	International Public Sector Accounting Standards
IRI	International Research Institute
ISAs	International Standards of Auditing
ISOC	International Scientific Organizing Committee
IWXXM	ICAO Weather Exchange Model
JCOMM	Joint Commission for Oceanography and Marine Meteorology
JDE	JD Edwards (financial system)
JOC	Joint Operating Centre
JTA	Joint Tariff Agreement
LDARD	Limpopo Department of Agriculture and Rural Development
LDN	Lightning Detection Network
LRF	Long Range Forecasting
MASA	Meteorological Association of Southern Africa
METAR	Meteorological Aviation Report
MHS	Message Handling System
MoU	Memorandum of Understanding
MRI	Mammal Research Institute
MWO	Meteorological Watch Office
NAAQWN	National Ambient Air Quality Monitoring Network
NAEIS	National Atmospheric Emission Inventory System

LIST OF ABBREVIATIONS/ACRONYMS (continued)

NAME III	Numerical Atmospheric-Dispersion Modelling Environment
NATJOC	National Joint Operating Centre
NCCRP	National Climate Change Response Programme
NCEP-CFS	National Centre for Environmental Prediction - Climate Forecasting System
NDMC	National Disaster Management Centre
NEOSS	National Earth Observation and Space Secretariat
NJDCC	National Joint Drought Coordinating Committee (USA)
NMMU	Nelson Mandela Metropolitan University
NOAA	National Ocean and Atmosphere Administration
NRF	National Research Foundation
NVSRF	Nowcasting and Very Short Range Forecasting
NWP	Numerical Weather Prediction
OEI	Organisational Environment of Integration
OHS	Occupational Health and Safety
OHS Act	Occupational Health and Safety Act
OPMET	Operational Aeronautical Meteorological Data
PAA	Public Audit Act of South Africa
PCEA	Portfolio Committee on Environmental Affairs
PFMA	Public Finance Management Act
PG	Public Good
PPSA	Public Protector of South Africa
PWC	PricewaterhouseCoopers
QCTO	Quality Council for Trades & Occupations
QMS	Quality Management System
R4A	Rain for Africa
RCC	Regional Climate Centre

RCMS	Regulating Committee on Meteorological Services
RCOF	Regional Climate Outlook Forum
REDFEST	Rural Education Festival
RMDCN	Regional Meteorological Data Communication Network
RSMC	Regional Specialized Meteorological Centre
RTC	Regional Training Centre
RTH	Regional Telecommunications Hub
SAAQIS	South African Air Quality Information System
SAASTA	South African Agency for Science and Technology
SACAA	South African Civil Aviation Authority
SADC	Southern African Development Community
SADIS	Satellite Distribution System
SADCO	South African Data Centre for Oceanography
SAEO	South African Environmental Outlook
SAEON	South African Environmental Observation Network
SAFFG	South African Flash Flood Guidance System
SAIAB	South African Institute for Aquatic Biodiversity
SALGA	South African Local Government Association
SAMSA	South African Maritime Safety Authority
SANAE	South African National Antarctic Expedition
SANAP	South African National Antarctic Programme
SANAS	South African National Accreditation System
SANBI	South African National Botanical Gardens Institute
SASAS	South African Society for Atmospheric Sciences
SASSCAL	Southern African Science Service Centre for Climate Change and Adaptive Land Management

SAF	Satellite Application Facility
SAWS	South African Weather Service
SCM	Supply Chain Management
SCOM	Sectoral Committee on Meteorology
SEB	Socio-economic Benefits
SES	Stakeholder Engagement Strategy
SET	Science, Engineering and Technology
SETI	Science, Engineering and Technology Institutions
SH	Southern Hemisphere
SIGMET	Significant Meteorological Phenomena
SIGWX	Significant Weather
SMART	Safe, More informed, Alert, Resilient, Timeous
SMRF	Short and Medium Range Forecasting
SOLAS	Safety of Life at Sea
SPC	Strategic Programmes Committee
SPECI	Aviation Special Weather Report - issued when there is significant deterioration or improvement in airport weather conditions
SPFS	Solar Power Forecasting System
SPI	Standard Precipitation Index
SQL	Structured Query Language
SSFA	Safe Skies for Africa
SST	Sea Surface Temperatures
SSW	Sudden Stratospheric Warming
START	System for Analysis, Research and Training
SVP	Solar Photovoltaic Output
SWFDP	Severe Weather Forecast Demonstration Project
SWIM	System Wide Information Management
SWIRLS	Short-Range Warning of Intense Rainstorms in Localised Systems

SWWS	Severe Weather Warning System
TAF(s)	Terminal Aerodrome Forecasts
TETA	Transport Education & Training Authority
TTT	Tropical Temperate Trough
UCT	University of Cape Town
UKMO	United Kingdom Meteorological Office
UKZN	University of KwaZulu-Natal
UMS	Unified Model System
UN	United Nations
UNEP	UN Environmental Programme
UNESCO	UN Educational, Scientific and Cultural Organization
UNESCO-IOC	UNESCO Intergovernmental Oceanographic Commission
UP	University of Pretoria
UVB	Ultra Violet B-Spectrum
VFR	Visual Flight Rules
VOS	Voluntary Observation Ship
WCCAP	World Calibration Centre for Aerosol Physics
WDC	World Data Centre
WCSSP	Weather and Climate Science to Service Partnership
WIS	WMO Information System
WIS/WIGOS	WMO Information System/WMO Integrated Global Observing System
WMO	World Meteorological Organization
WRC	Water Research Commission
WRR	World Radiometric Reference
WSP	Work Skills Plan
WWF-SA	World Wildlife Fund South Africa
XML	Extensible Mark-up Language

MESSAGE FROM THE MINISTER OF ENVIRONMENTAL AFFAIRS



It gives me great pleasure to present the 2016/17 Annual Report of the South African Weather Service (SAWS), a public entity of the Department of Environmental Affairs (DEA).

SAWS derives its mandate from the South African Weather Service Act, 2001 (No 8 of 2001 as amended).

Its strategic planning and operations are aligned to national imperatives and strategies, such as Vision 2030 of the National Development Plan (NDP), the National Climate Change Response Policy, the National Infrastructure Plan adopted by Government in 2012 and the Nine Point Plan announced by President Jacob Zuma in 2015.

As South Africa and the world continue to grapple with the impacts of an ever-changing climate, the role of an institution such as the South African Weather Service becomes all the more critical.

The drought experienced in large parts of the country over the past two years has brought home the importance of early warning systems and adequate planning, so that South Africans are warned timeously of inclement weather that could affect their crops and livestock, or human settlements in flood-prone areas. SAWS is playing an increasingly important role in supporting climate change adaptation - thereby enhancing and ensuring public safety.

This annual report outlines SAWS' role in ensuring that its products and services are kept relevant and responsive to

present and projected needs, as well as the development priorities of the country. This is through harnessing the latest technological trends.

In order to provide the public with timeous weather information, SAWS operates a sophisticated observations network.

There are 23 weather offices across the country conducting weather and other specialised observations that provide daily weather forecasts. The organisation's observations network includes weather radars, daily upper-air soundings, a lightning detection system and other weather satellite observations.

In addition, SAWS operates the country's most powerful high performance computer for producing numerical weather predictions, weather watches and warnings – important in an era where we are working as a government through the National Development Programme (NDP) to transition the country to an environmentally stable, climate change resilient, low-carbon economy and a just society by 2030.

SAWS' greatest asset is the highly-trained, knowledgeable and dedicated staff who operate and maintain the observations network. They interpret data and ensure that reports reach the information dissemination network across a range of disciplines such as dam level management, energy demand management and agricultural planning. They also drive the development of weather-related knowledge and products to serve SAWS' numerous stakeholders.

SAWS continues to contribute to the country's safety by providing information on approaching severe weather and climate events.

The cooperation of SAWS with Disaster Management Centers and the National Joint Operations Centre (NATJOC) has enabled better societal preparedness and responsiveness, thus limiting fatalities and destruction of property. Seasonal climate information provided by SAWS has also assisted medium to long-term planning and decision-making by authorities.

Based on the Global Framework for Climate Services (GFCS) of the World Meteorological Organization (WMO), South Africa has developed its own National Framework for Climate Services (NFCS). This Framework enables better management of the risks associated with climate variability and change through the development of science-based climate information and prediction services for planning, policy and practice.

The NFCS strives to enhance climate observations and monitoring and the transformation of information into sector-specific products and applications that can be disseminated to users.

During the 2016/17 reporting period, SAWS developed products for the agriculture, energy, water and health sectors, thereby demonstrating its relevance for socio-economic development in our country.

SAWS has developed a National Education Plan which not only articulates the climatological and meteorological human resource needs for the sector across all spheres of government, but further aims to contribute towards resolving South Africa's unemployment challenges.

In the present economic climate, the enhancement of resources through collaboration with similar institutions is a prudent strategy which contributes to scientific innovation and research partnerships.

An important development in 2016 was the registration of SAWS as an accredited research institution. This means that the organisation is now able to access direct funding from the National Research Foundation (NRF). SAWS, in partnership with DEA, is at the forefront of local, national and international drives to increase research related to, for example, climate adaptation. In the past financial year SAWS scientists have produced research published in relevant peer-reviewed publications, and participated in international fora of the WMO and the International Civil Aviation Organization (ICAO).

I would like to congratulate the SAWS Board for its leadership and SAWS' management and employees for their work in delivering quality weather and climate services to South Africans.

The 2016/17 Annual Report of the South African Weather Service complies with all statutory requirements of the Public Finance Management Act, 1999 (No 1 of 1999) and National Treasury regulations. I am proud to present it for your perusal.



Dr BEE Molewa
Minister of Environmental Affairs

MESSAGE FROM THE DEPUTY MINISTER OF ENVIRONMENTAL AFFAIRS



Tasked with providing timely and accurate scientific data in the field of meteorology, the South African Weather Service's mandate reflects a combination of both public good and commercial services and contributes to the building of stakeholder relations and the empowerment of citizens, particularly in terms of adapting to the effects of weather and climate variability. At a time when climate change is leaving no part of the world untouched, I would like to commend SAWS for its role in making our country and citizens WeatherSMART, meaning **Safe, More informed, Alert and Resilient** and able to respond on **Time** to weather and climate related phenomena.

During the 2016/17 period the country experienced a range of extreme weather phenomena. This necessitated the fostering of sound stakeholder relationships with a number of role players nationally and internationally, including government, weather-sensitive industries and regional and international organisations. Furthermore, as insight into various weather-sensitive stakeholder groups became paramount, SAWS conducted studies and surveys with a view to understanding the needs of these sectors and ensuring the continued relevance of the organisation's products and services.

Alongside its strategic alignment with broader reaching national priorities and imperatives, SAWS has not lost sight of the immediate needs of its key stakeholders. As part of the drive to build a WeatherSMART nation, engagement with vulnerable communities on matters relating to severe weather continued to be given high priority. By educating these communities about

severe weather events and the development of adaptation mechanisms, the organisation also aligned its activities with Outcomes 4 and 7 of the NDP as they relate to the aspects of innovation, knowledge development, skills acquisition and the implementation of adaptation strategies.

One of these initiatives included collaboration with Community Development Workers and the convening of SAWS' first community workshop in the Pretoria Sunnyside/Arcadia area in April 2016. This initiative was applauded by community development workers as being an effective way of conveying the WeatherSMART message and contributing to societal preparedness. It has also proved to be an excellent way of building a community network for the assessment of community needs with a view to developing products and applications that are relevant and user-friendly.

In its ongoing quest to raise awareness among stakeholders and the public, SAWS made efficient use of various media platforms and its website. Increased utilisation of social media, in particular Twitter, was applied as an additional measure to ensure that the WeatherSMART message reached a wider audience. In this regard, I wish to commend SAWS for its efforts to build public weather awareness as evidenced by the tremendous growth in advertising value equivalent (AVE) to around R172 455 162 for the year. Seven times the anticipated AVE for the period under review, this figure bears testimony to the increased media relevance of the organisation and its information during the 2016/17 period.

On the international front, SAWS participated in international regulating bodies such as the WMO and ICAO on both administrative and technical matters. As an implementing agency of DEA, SAWS has continued to fulfil its international responsibilities under the Safety of Life at Sea (SOLAS), WMO and ICAO conventions. As a WMO member, SAWS has designated roles as the Regional Training Centre (RTC), Regional Specialized Meteorological Centre (RSMC), Global Producing Centre for Long Range Forecasts (GPC-LRF) and Global Information System Centre (GISC). Within the Southern African Development Community (SADC) region, SAWS serves as a Board Member of the Meteorological Association of Southern Africa (MASA) and also hosts the Secretariat of MASA at its Bolepi headquarters in Pretoria. In addition to its RSMC responsibility, SAWS runs the WMO's Severe Weather Forecast Demonstration Project (SWFDP) for all SADC members and ensures that severe weather forecasts in the SADC region are developed and shared timeously with all National Meteorological Services in the sub-region.

In essence SAWS has maintained sound stakeholder relations with both domestic and international partners. The organisation

has also expanded its outreach programmes to enhance communication and more effectively assess the needs of users, particularly in the vulnerable areas of South Africa. The noteworthy enhancement of SAWS' communication, particularly on social media and during periods of severe weather, is a critical contribution to strengthening the country's weather-resilience. SAWS has undoubtedly continued to play a pivotal role in meteorological cooperation on the African continent and in severe weather prediction and training in the SADC region.

It gives me great pleasure to join the Minister of Environmental Affairs and the SAWS Board, Management and staff in presenting the 2016/17 SAWS Annual Report.



Mrs Barbara Thomson

Deputy Minister of Environmental Affairs

FOREWORD BY THE BOARD CHAIRPERSON



On behalf of the SAWS Board, it is with great pride that I join the Minister, Deputy Minister and Interim Chief Executive Officer in congratulating SAWS Management and personnel on another year of dedicated service to societal resilience in the face of weather and climate variability.

It has truly been a pleasure to be part of the Board team tasked with providing strategic direction to the organisation and ensuring that it delivers on its mandate. The Board has been mindful of national priorities and has continuously worked with Management to ensure that SAWS remains responsive to these priorities.

SAWS is a scientific organisation that provides vital weather and climate information for both public and commercial use. This means that the organisation focuses on quality, scientific excellence, innovation and effective use of technology, and provides valuable products and services for ensuring the safety and development of society. Central to the provision of these products and services are the personnel of the organisation. The delivery of knowledge and information to SAWS' users and stakeholders would not be possible without the organisation's motivated, skilled and loyal workforce. This assessment was confirmed by the recommendations emanating from the system-wide review of public sector Science, Engineering and Technology Institutions (SETI) as well as the results of a situational analysis of the SAWS Operations Division. Both

analyses confirmed that the sustainability and strategic positioning of SAWS relied on three conditions, namely technological infrastructure and ICT; relevant Science, Engineering and Technology (SET) human capital; and operational revenue (which is fundamental to the achievement of the first two conditions).

SAWS has engaged in a number of interventions to retain, recruit and develop its personnel. SAWS' dual career-pathing programme has proven to be very successful in the development and retention of scarce and critical skills in the organisation. In addition to retaining a critical staff level of 98.4%, the organisation also continued to implement its Employment Equity Plan which is aimed at correcting past imbalances through the placement of women in managerial positions and the advancement of Africans and people with disabilities in the workplace. Furthermore, the continued high performance of staff was encouraged and new talent management initiatives were implemented. The SAWS bursary programme helped to fund the recruitment and training of new personnel while also providing assistance to current staff to further their studies and improve their skills. The awarding of 65 bursaries was another step towards building the SAWS talent pool in order to meet the future needs of the organisation. Of these bursars, approximately 60% were absorbed by the organisation and 5% embarked on studying towards their doctoral degrees.

The Board can report with confidence that SAWS' delivery on its mandate was exceptional in this reporting period despite ongoing resource constraints, an underfunded but expanded public good mandate, and mounting (often unregulated) competition as the meteorological arena, like many others, becomes increasingly globalised. These challenges have required considered strategic thinking around the optimisation of existing resources and the strengthening of commercial revenue streams.

The resource constraints faced by SAWS are not only financial. As a meteorological institution, SAWS is particularly affected by the scarcity of critical SET skills in South Africa. While investments in the expansion, re-capitalisation and maintenance of the observations network are essential, the organisation is highly cognisant of the need to build and nurture expertise both internally and in the national atmospheric and related sciences talent pool. SAWS' strategic planning and operationalisation of objectives in the reporting period thus included a strong human capital development component.

Another key challenge that the organisation faced during this period was the departure of several Executives and Senior

Managers. The EXCO and Board improvised by appointing acting managers in these positions. The Board will act swiftly in 2017/18 to ensure that the vacant positions are filled in order to maintain momentum and stability in the organisation.

The many achievements of SAWS in the reporting period and reflected in this annual report have been supported not only by strong strategic thinking but by effective performance management and integrated reporting and audits. The Board and the SAWS Executive are thanked for their sterling contribution to making this possible.



Ms Ntsoaki Mngomezulu
Board Chairperson

OVERVIEW BY THE INTERIM CHIEF EXECUTIVE OFFICER



The South African Weather Service has maintained an excellent performance track record over the past years. This success is attributable to the alignment of SAWS' strategy with national imperatives and the optimisation of resources to foster scientific innovation, collaboration and partnership in our journey towards a WeatherSMART nation.

The concept of a WeatherSMART nation was at the core of SAWS' activities during the 2016/17 financial year and symbolises a paradigm shift in the provision of weather services in our country. The aim is to improve societal preparedness for the severe weather events associated with climate variability and change. This entails enhancing the SAWS infrastructure and modelling and the organisation's value-add through the creation of quality products and services, and strengthening stakeholder relations and partnerships in order to ensure effective dissemination and understanding of information by users.

The WeatherSMART nation concept has formed the basis of the organisation's service delivery and the framework of five programmes which guided the organisation's activities in the period under review as follows:

- The development and delivery of products and services that meet the needs of the communities we serve.

- Enhancing the South African Weather Service infrastructure to enable Government and developmental agencies to deliver their services to all South Africans but mostly the vulnerable communities, whilst investing in People development.
- Increased cooperation and relationships with our partners, in particular Government departments and industry forums in the SADC region and global structures.
- A science institute that has a powerful knowledge base that could be reckoned with world-wide.
- Diversifying our commercial portfolio to create new revenue streams, especially in the converged ICT sector.

SAWS excelled in its service delivery as the eastern parts of the country started to recover from a severe drought attributed mainly to the 2015/16 El Niño episode. Although initial predictions were for a wetter than normal summer rainfall season (La Niña), these were quickly reversed as neutral conditions prevailed over the Pacific Ocean which suggested that near normal summer rainfall could be expected over South Africa.

SAWS has continued to use its infrastructure and modelling capability to produce a suite of seamless forecasting products for nowcasting as well as short-term, medium-term and seasonal forecasts. These products have been used by various government authorities and the public and private sectors for preparedness planning and decision-making.

The 2016/17 period also saw substantial efforts on the part of SAWS' researchers to develop new products. In line with the organisation's dual mandate, several new and innovative products for both the public and commercial good have been developed including the Climate Change Reference Atlas, Precipitation Concentration Index (an indicator with agro-hydro applications) and Catchment Rainfall Spatial Variability Indicator Suite (CRSVIS). The development of a Malaria health prediction product proved to be unexpectedly relevant in light of several cases of malaria that were reported in the City of Tshwane area early in 2017. The product uses multivariate analysis techniques to link incidents of malaria with remotely derived environmental and climatic variables as a basis for the development of a malaria prediction model and in-house early warning system to assist in the prevention and control of the disease. Projects such as these serve to highlight the range of SAWS' expertise and capabilities beyond the provision of basic meteorological information.

A major highlight in SAWS' provision of aeronautical services to support aviation safety and efficiency was the launch in December 2016 of an upgraded aviation website which enables easy decoding of meteorological data and, most importantly, supports mobile applications. Pilots and flight information centres continue to register for access to the site. SAWS was also one of the stakeholders invited by the South African Civil Aviation Authority (SACAA) to participate in the formulation of a 2017 safety campaign on Visual Flight Rules (VFR) for pilots and flying schools.

The ongoing monitoring of dam water levels by the Hydrometeorology Research team was an important component of SAWS' operations and services in this reporting period. A study of the variable impact of climatic factors on dam levels has particular relevance in terms of the challenge that climate variability holds for the country's scarce water resources. Data from the study will inform important decisions on interventions to support weather-vulnerable communities, particularly the agricultural sector.

The launch of the Rain for Africa (R4A) project in February 2017, a collaborative project between SAWS, the Agricultural Research Council, Dutch company Hydrologic and other role players, was a significant milestone for SAWS as it has a major role to play in providing weather related information that empowers farmers to achieve improved food production quality and quantity. The dissemination of correct and timeous information in a sustainable manner via the internet and mobile technologies such as cell phones will contribute to higher crop yields and the more efficient use of inputs by large and small scale farmers.

SAWS can be very proud of its achievements during this year in spite of a continued significant shortfall in its operational and capital expenditure budgets. In light of the limited annual government grant, more emphasis was placed on sourcing commercial and other income in order to ensure the organisation's continued performance and delivery of a high quality service.

The professionalism of SAWS staff and their customer focus needs to be applauded as the organisation obtained an 85% overall satisfaction rating in its annual independently conducted stakeholder perception survey. A rating of over 80% is considered to be excellent for the industry.

It was an honour for me to fulfill the role of Interim Chief Executive Officer of the South African Weather Service in the second half of the 2016/17 financial year. I would like to thank both the Board and the employees of the organisation for their continued support and enthusiasm during this period.



Ms Mmapula Kgari
Interim Chief Executive Officer

MEMBERS OF THE BOARD

1 April 2016 to 31 March 2017



Ms Ntsoaki Mngomezulu
Board Chairperson



Dr Nolulamo Gwagwa (PhD)
*Deputy Board Chairperson
until January 2017*



Dr Linda Makuleni (BSc VetMed)
CEO until November 2016



Ms Mmapula Kgari
*Interim Chief Executive Officer
from November 2016*



Cllr Keabetswe Modimoeng
Board member



Mr David Lefutso
Board member



Prof Elizabeth Mokotong
Board member

MEMBERS OF THE BOARD

1 April 2016 to 31 March 2017



Ms Judy Beaumont
Board member



Dr Jonty Tshipa (PhD)
Board member



Ms Nandipha Madiba
Board member



Mr Rowan Nicholls
Board member



Ms Sally Mudly-Padayachie
Board member



Ms Thobile Ntusi
*Acting Board Secretary
from September 2016*



Adv Derick Block
Board member



Dr Jasper Rees (DPhil)
Board member

EXECUTIVE MANAGEMENT

1 April 2016 to 31 March 2017



Ms Mmapula Kgari
*Interim Chief Executive Officer
from November 2016*



Dr Linda Makuleni (BSc VetMed)
*Chief Executive Officer
until November 2016*



Ms Marilize Hogendoorn
Chief Financial Officer



Dr Ziyanda Majokweni (BSc VetMed)
*General Manager: Corporate Affairs
until December 2016*



Ms Michelle Hartsliet
*Acting General Manager: Commercial
from November 2016*



Mr Mnikeli Ndabambi
General Manager: Operations

EXECUTIVE MANAGEMENT

1 April 2016 to 31 March 2017



Mr Siphosiso Masinga
Chief Information Officer



Mr Lulama Gumenge
*Acting Chief Financial Officer
from January 2017*



Mr Mark Majodina
*Acting General Manager: Corporate Affairs
from January 2017*



Ms Julia Mphahudi
*General Manager: Human Capital Management
from December 2016*



Ms Khanyisa Hanisi
*Acting General Manager: Human Capital Management
until December 2016*

SENIOR MANAGEMENT

1 April 2016 to 31 March 2017



Mr Kama Chetty
*Senior Manager: Air
Quality Management*



Mr Tshepho Ngobeni
Senior Manager: Forecasting



Dr Winifred Jordaan (PhD)
*Head: Regional Training Centre
and Acting Senior Manager:
Human Capital Development
from November 2016*



Mr Mandlesilo Mavimbela
*Acting Senior Manager:
Occupational Health and Safety*



Mr Jongikhaya Witi
Senior Manager: Climate



Ms Gaborekwe Khambule
Senior Manager: Aviation



Mr Thabo Maake
*Senior Manager: Finance
from February 2017*



Mr Masindi Netshilema
Senior Manager: Commercial Africa

SENIOR MANAGEMENT

1 April 2016 to 31 March 2017



Mr Mark Majodina
*Senior Manager:
International Relations*



Ms Khanyisa Hanisi
*Senior Manager: Human
Capital Services*



Dr Nhlolipho Nhlabatsi (PhD)
*Senior Manager:
Research*



Ms Zandile Nene
*Company Secretary
until August 2016*



Ms Mandy Tyikwe
*Senior Manager: Supply
Chain Management*



Ms Anto Badimo
*Senior Manager:
Stakeholder Relations*



Ms Nomathansanqa Tabata
*Senior Manager: Human Capital Development
until November 2016*



Mr Bubele Vakalisa
*Senior Manager: ICT
until November 2016*

EXECUTIVE REPORT – CEO

Report by the interim Chief Executive Officer to the Executive Authority and Parliament of the Republic of South Africa.

PREPARATION AND PRESENTATION OF THE ANNUAL FINANCIAL STATEMENTS

The Annual Financial Statements have been prepared in accordance with the South African Statements of Generally Recognised Accounting Practice (GRAP) including any interpretations of such Statements issued by the Accounting Standards Board.

SAWS complies with the Public Finance Management Act (PFMA), 1999 (No 1 of 1999); Treasury Regulations; the Companies Act; and the principles of Good Corporate Governance recommended by King IV in managing its financial affairs. The Annual Financial Statements for the year ended 31 March 2017 were compiled on the going concern basis as it is expected that SAWS will continue operations in the foreseeable future.

GENERAL REVIEW OF THE STATE OF AFFAIRS

SAWS is the primary provider of weather and climate related information within South Africa, as legislated in the South African Weather Service Act, 2001 (No 8 of 2001 as amended) – also referred to as the “SAWS Act”. It supplies weather-related

information to the public at large as part of its public good mandate of which a government grant is received to support this activity.

SAWS furthermore provides weather-related information to the aviation industry on a cost recovery basis through a regulated tariff. The Regulating Committee on Meteorological Services (RCMS) plays a pivotal role to ensure that the recommended tariff is just and fair to all parties involved and recommend accordingly to the Minister of the Environmental Affairs for approval and subsequent promulgation in the Government Gazette.

The Act also allows SAWS to provide weather and climate-related information to commercial clients from industries such as mining, insurance, tourism, telecommunication, municipalities, and other international meteorological organisations.

According to the Act, SAWS is also the custodian of the South African Air Quality Information System, which includes the selling of ambient air-quality or meteorological information packages.

Revenue

The Total Revenue increased by 18.06% from R 317,59 million to R 374,93 million year-on-year.

Table 1: Movement in Revenue 2016/17 versus 2015/16 (year-on-year):

Revenue	2016/17 R	2015/16 R	Variance R	%
Revenue from non-exchange transactions				
Revenue from non-exchange transactions - operational expenditure	204 985 000	160 434 311	44 550 689	21.73%
- Government grant - operational expenditure	189 278 000	145 518 311	43 759 689	30.07%
- Government grant - SAAQIS	15 707 000	14 916 000	791 000	5.30%
Contributions and donations	3 002 177	7 099 722	(4 097 545)	-57.71%
- TETA - SETA grant	673 740	1 548 570	(874 830)	-56.49%
- Donations received	1 069 665	2 425 198	(1 355 533)	-55.89%
- Donor funding - research projects	1 258 772	3 125 954	(1 867 182)	-59.73%
Revenue from non-exchange transactions	207 987 177	167 534 033	40 453 144	24.15%
Revenue from exchange transactions				
Regulated commercial revenue				
- Aviation	132 918 492	127 979 096	4 939 396	3.86%
Non-regulated commercial revenue	29 369 191	19 022 030	10 347 161	54.40%
- Aviation instruments maintenance income	1 326 540	848 854	477 686	56.27%
- Air quality revenue	6 948 003	-	-	100.00%
- Information fees	14 026 508	9 978 394	4 048 114	40.57%
- Training - Regional Training Centre	747 495	389 835	357 660	91.75%
- Lightning detection network sales	3 903 607	5 042 185	(1 138 578)	-22.58%
- Project/Automatic Weather Stations income	2 417 038	2 762 762	(345 724)	-12.51%
Total commercial revenue	162 287 683	147 001 126	15 286 557	10.40%
Other revenue	4 650 726	3 050 157	1 600 569	52.45%
- Miscellaneous income	643 709	395 796	247 913	62.64%
- Interest received from receivables	94 884	861 428	(766 544)	-88.99%
- Income from investments	3 912 133	1 792 933	2 119 200	118.20%
Revenue from exchange transactions	166 938 409	150 051 283	16 887 126	11.25%
TOTAL REVENUE	374 925 586	317 585 316	57 340 270	18.06%

Government Grant

The total grant income increased by 21.73% (R44,55 million). The operational grant and SAAQIS grant included under the total grant income increased by 30.07% year-on-year to R189,28 million and by 5.30% year-on-year to R15,71 million, respectively for the 2016/17 financial year.

Aviation Income

Aviation income increased by 3.86% from R127,98 million to R132,92 million year-on-year. This result is mainly due to higher air traffic volumes.

Non-Regulated Commercial Income

Non-regulated commercial revenue increased by 54.40% from R19,02 million to R29,37 million year-on-year. The increase is

mainly attributed to:

- ✓ revenue from the sale of air quality data to various municipalities which amounted to R6,95 million year-on-year;
- ✓ information fees which increased by 40.57% to R14,03 million year-on-year mainly due to Hydro sales; and
- ✓ revenue received by the Regional Training Centre which increased to R747 000, an increase of 91.75% year-on-year.

Other Income

Interest from investments increased by 118.20% from R3,05 million to R4,65 million year-on-year. Interest income arose as a result of increased revenue from both Non-Regulated Commercial income and Aviation income.

The relation between externally and internally generated revenue is reflected in Table 2 below.

Table 2: Relation between Externally and Internally Generated Revenue

	2016/17	2015/16
Internal Revenue as % of Total Revenue	55%	51%
External Revenue as % of Total Revenue	45%	49%

- Internal revenue comprises all Government Grant Revenue.
- External revenue comprises Aviation, Non-regulated Commercial and Other Revenue.

Expenditure

Total Expenditure has increased by 8.55% from R 328,75 million to R356,84 million year-on-year.

Table 3: Total Expenditure

Description	2016/17 R	2015/16 R	Variance	
			R	%
Administrative	7 070 095	9 335 086	(2 264 991)	-24.26%
Employee costs	202 480 457	187 183 858	15 296 599	8.17%
Amortisation	4 205 225	3 233 246	971 979	30.06%
Depreciation	30 435 306	26 967 798	3 467 508	12.86%
Other operating expenses	112 653 793	102 028 417	10 625 376	10.41%
Total Expenditure	356 844 876	328 748 405	28 096 471	8.55%

Administrative Expenditure

Administrative Expenditure has decreased by 24.26% year-on-year from R9,34 million to R 7,07 million. Costs related to the provision for doubtful debts resulted in a recovery of bad debts previously written off. Simultaneously, the entity saw an upsurge in legal fees due to various labour-related matters experienced during the current financial year.

Employee Costs

Compensation of Employees increased by 8.17% year-on-year to R202,48 million (2015/16: R187,18 million) and constitute 56.79% (2015/16: 56.94%) of the **Total Expenditure** of SAWS.

During the year under review all qualifying employees from Level 1 to 12 received a salary increase of 6.8% and Senior Management increases were limited to 5.18%.

Operating Expenditure

Other operating expenses increased by 10.41% (R10,63 million) from R102,03 million to R112,65 million year-on-year. This was slightly higher than the average inflation rate over the year, but it must be noted that most of the expenditure is either fixed in nature, with clauses allowing for higher than inflation increases, or are subject to foreign exchange fluctuations.

Depreciation and Amortisation

Depreciation and Amortisation increased by 14.70% from R 30,20 million to R 34,64 million year-on-year. The increase is as a result of an increase in the useful life of assets and intangibles following the assessment thereof.

SUPPLY CHAIN MANAGEMENT SYSTEM

SAWS maintains an appropriate procurement and provisioning system which is fair, equitable, transparent, competitive and cost-effective, in accordance with the Public Finance Management Act, 1999 (No 1 of 1999, as amended); Treasury Regulation 16A; Cost Containment Measures as issued by National Treasury and other applicable legislative frameworks.

POST-RETIREMENT MEDICAL AID BENEFIT

SAWS has a Defined Benefit Liability in the form of a Post-Retirement Medical Aid Benefit Plan for all staff employed before November 2008. This obligation has been funded by payments from the entity and its employees, taking into account the recommendations of the independent qualified actuaries.

Actuarial gains and losses are recognised in surplus or deficit in accordance with GRAP 25.

As at 31 March 2017, SAWS' liability on the Post-Retirement Medical Aid (PRMA) increased from R8,32 million to R11,32 million. This *Non-current Liability* represents a total of 56 employees (2015/16: 57 employees), of which 34 (2014/15: 35) are already on retirement/pension while the remaining 22 (2014/15: 22) are still in service.

In addition to the above, SAWS purchased a plan asset "Customised With-Profit Annuity" from Momentum at a cost of R18,9 million in 2012, and the first instalment of R6 million was paid in 2012 with the remaining balance was payable annually in equal instalments of R3,24 million until December 2015.

BUDGETED REVENUE AND EXPENDITURE COMPARED TO ACTUAL

During the year under review, SAWS realised a surplus of R23,87 million (2015/16: Deficit R9,05 million).

Total revenue for the year exceeded budget by R33,57 million,

amounting to R374,93 million (Budget: R341,36 million), while total expenditure was below the budget of R370,25 million by 3.62% (Actual: R356,84 million).

SERVICES RENDERED BY THE SOUTH AFRICAN WEATHER SERVICE

Services rendered by SAWS, significant events that have taken place during the year as well as major projects undertaken are discussed in detail in this report.

CAPACITY AND OTHER CONSTRAINTS

Funding Sources - SAWS' optimal productivity relies heavily on the availability of financial enablers to ensure that the desired yields on the investment are attained. It is in this context that SAWS continues to rely heavily on the support from Government in the form of a grant allocation from the Shareholder, which is significant in ensuring the long term sustainability of the entity.

Operational Capacity - Global trends and developmental pressures have propelled organisations similar to ours to invest more heavily in capacity building, such as modern technology and human capital. The enhancement in capital injections and technology ensures that there are up-to-date enablers to assist in generating relevant applications in research that will assist Government in planning and decision-making processes. It is highly desirable that the South African Weather Service take a leading role in this process. The success of these projects could be derailed by lack of funds to invest in advanced technology and human capital, a necessary resource to drive these processes.

SAWS appreciates and welcomes the continued support it receives from Government and its Shareholder in investing in SAWS' infrastructure for the benefit of the South African community. During the 2013/14 financial period, SAWS was allocated R50 million towards the purchase of a High Performance Computer (HPC), of which R20 million of this allocation was received during the 2013/14 financial year and the remaining amount of R30 million was received during the 2014/15 financial year. No Capital Grant was received during the 2015/16 and 2016/17 financial years. However, the HPC needs to be upgraded to address storage and capacity requirements and radar infrastructure requires upgrading as it is now close to its midlife, while other salient infrastructure such as the Lightning Detection Network and Automatic Rainfall Stations have reached their full capacity and need to be completely replaced.

Employees - In as much as there has been marked progress in the attraction and retention of skills, as demonstrated by the steadily declining turnover figures in critical and scarce skills, there is also an equally demanding challenge to maintain these figures and provide such employees with a conducive environment within which to operate.

Part of that responsibility is to respond to creating a greater pool of scientists and technologists with greater focus on the Previously Disadvantaged Individuals. However, without the necessary financial resources it will be difficult to achieve these objectives, more so because these are part of the SAWS mandate, as per the SAWS Act.

SAWS continues to provide bursaries for external students who at the end of their studies are given opportunities to work at SAWS either through internships and/or full time employment. Most of the students on the scientific internships are subsequently employed on a full time basis.

CORPORATE GOVERNANCE ARRANGEMENTS

SAWS is committed to the objectives and principles of transparency, accountability and integrity as set out in the **King IV Report on Corporate Governance**. A detailed discussion of the application and results of Corporate Governance in the organisation is included in Part C of this report.

Risk Management is disclosed under Note 31 in the Annual Financial Statements, whereas Related Party Transactions are reflected in Note 30 in the Annual Financial Statements.

Disclosure of Remuneration to Members of the Accounting Authority and Executive Management is disclosed in Note 30 in the Annual Financial Statements.

The **SAWS Strategic Plan** which sets out the direction of the entity for the next five years was developed by the Board and approved by Parliament and is aligned to the key Government priorities including aspects of the National Development Plan relevant to the mandate of SAWS.

The **Audit and Risk Committee** meets on a regular basis and ensures that management adheres to internal controls, accounting policies and procedures. This Committee is chaired by an independent person and the majority of its members are non-executive Board members.

On 1 April 2013, SAWS appointed *PriceWaterhouseCoopers* as the internal auditors for the following three years. During the year under review, the contract with PwC was extended to 31 March 2017 until a new service provider was appointed.

The **Audit and Risk Committee** has adopted formal Terms of Reference and is satisfied that it covered its responsibilities for the year in compliance with its Term of Reference. (Refer to the Report of the Audit and Risk Committee in this report).

PERFORMANCE INFORMATION

Performance targets are set on an annual basis - refer to the specific section in this report for the disclosure of these targets and related performance. Quarterly performance reports are prepared by the South African Weather Service and submitted to the Department of Environmental Affairs stating achievements during the year under review.

EVENTS AFTER THE REPORTING DATE

Management is not aware of any matter or circumstances arising since the end of the financial period which would affect the figures, as disclosed in the Annual Financial Statements.

FRUITLESS AND WASTEFUL EXPENDITURE

During the period under review, management did not detect any fruitless and wasteful expenditure.

IRREGULAR EXPENDITURE

Irregular expenditure has been disclosed under Note 34 of the Annual Financial Statements.

DISCONTINUED ACTIVITIES / ACTIVITIES TO BE DISCONTINUED

There were no discontinued activities during the period under review and there is no plan to discontinue activities in the 2017/18 financial year.

NEW OR PROPOSED ACTIVITIES

An internal project team has been set up to focus on the development of the Waterkloof Land which will be used as the Headquarters of the South African Weather Service.

REQUEST TO RETAIN SURPLUS FUNDS

A request to retain surplus funds has been submitted to National Treasury through the Department of Environmental Affairs.

METEOROLOGICAL AUTHORITY

SAFETY OVERSIGHT

The South African Weather Service (SAWS) is designated in terms of Section 3 of the South African Weather Service Act, 2001 (No 8 of 2001 as amended) as the aeronautical meteorological authority responsible for fulfilling the obligation of the State under the Convention on International Civil Aviation, commonly known as the Chicago Convention.

The Meteorological (MET) Authority has been established to fulfill the safety oversight obligations of SAWS and thereby the State. In doing so, the MET Authority is enabled by the Memorandum of Agreement between SAWS and the South African Civil Aviation Authority (SACAA).

During the period under review, the MET Authority continued to develop the safety oversight system which is based on the International Civil Aviation Organization (ICAO) model. One of the critical components of this safety oversight system is the legislative framework comprising the law (acts), regulations, policies and procedures. The development of regulations

governing aeronautical meteorological service provision was concluded and the promulgation process has begun.

The MET Authority appointed two inspectors on a fulltime basis to conduct its inspectorate activities. These appointments have enhanced the ability of the MET Authority to conduct safety oversights effectively and also contributed to addressing the ICAO finding of 2013. The inspectors have received training in safety management systems, ICAO standards and recommended practices as well as the SAWS Quality Management System (QMS).

As part of its safety oversight function the MET Authority completed scheduled inspections at the following aerodromes: OR Tambo, King Shaka, Pietermaritzburg, Mthatha, Cape Town, Mahikeng, Pilanesberg, Polokwane, Kruger Mpumalanga, Grand Central, Bram Fischer, Kimberly, Upington, Rand, Lanseria, Wonderboom, Richards Bay, East London and George.



STATEMENT OF RESPONSIBILITY

The Chief Executive Officer is responsible for the preparation of the public entity's performance information and for the judgements made in terms of this information.

The Chief Executive Officer is responsible for establishing and implementing a system of internal controls designed to provide reasonable assurance as to the integrity and reliability of performance information.

In our opinion, the performance information contained in this report is a fair reflection of the actual achievements against planned objectives, indicators and targets as per the Strategic and Annual Performance Plans of the public entity for the financial year ended 31 March 2017.



Ms Mmapula Kgari
Interim Chief Executive Officer

All information and amounts disclosed in the annual report are consistent with the Annual Financial Statements audited by the Auditor-General. The Annual Financial Statements (Part E) have been prepared in accordance with the Generally Recognised Accounting Practice (GRAP) standards applicable to the public entity.

The performance information of the entity, as attached hereto, was approved by the Board at its meeting on 31 May 2017.



Ms Ntsoaki Mngomezulu
Board Chairperson

LEGISLATIVE AND OTHER MANDATES

The South African Weather Service (SAWS) is a Schedule 3 A entity in terms of the Public Finance Management Act (PFMA), 1999 (No 1 of 1999) and relevant Treasury regulations and derives its mandate from the South African Weather Service Act, 2001 (No 8 of 2001) as amended by the South African Weather Service Amendment Act, 2013 (No 48 of 2013).

The objectives of SAWS are to:

- Maintain, extend and improve the quality of meteorological services for the benefit of all South Africans;
- Provide public good services and commercial services to all South Africans;
- Ensure the ongoing collection of meteorological and ambient air quality data over South Africa and the surrounding southern oceans for use by current and future generations;
- Be the long-term custodian of a reliable national climatological and ambient air quality record;
- As the national meteorological service of the Republic of South Africa, fulfil the international obligations of Government under the Convention of the World Meteorological Organization;
- As the Aviation Meteorological Authority, fulfil the international obligations of Government under the Convention on International Civil Aviation;
- Provide services that are sensitive to the demographic realities of the country;
- Fulfil such other weather-related or ambient air quality information and international obligations as the Minister may direct; and
- Be the custodian of the South African Air Quality Information System (SAAQIS).

STRATEGIC OVERVIEW

VISION

The South African Weather Service (SAWS), as the mandated national meteorological service, has as its vision “a WeatherSMART Nation” where citizens and institutions are able to use quality and reliable weather and climate related data provided by the organisation to enhance the quality of their lives, build resilience to extreme weather events and mitigate the impact of climate change.

MISSION

The South African Weather Service (SAWS) will achieve this vision by evolving into a Centre of Excellence that provides innovative weather and climate solutions to ensure a WeatherSMART region, sustainable development and economic growth through thought leadership in meteorological, climatological and other related sciences; developing relevant and innovative applications and products utilising cutting edge technology; and establishing and leveraging collaborative partnerships.

VALUES

The South African Weather Service (SAWS) is conscious of its responsibility to fulfill its mandate in order to support the policies of the Government. Its Shareholder concomitantly upholds the following values:

– Scientific Excellence

We consistently demonstrate our commitment to innovation through human capital development, knowledge generation, the dissemination of reliable quality data and information, and continuous learning.

– Collaboration

We are willing to work with, share with and gain knowledge from various stakeholders and to leverage our collective and diverse strengths and abilities to achieve our goals.

– Community Consciousness

We strive to develop and sustain compassion for and attentiveness to the needs of the communities we serve whilst also building a sense of community within the organisation.

– Safety

Given our authoritative role in ensuring public safety, we are committed to maintaining high safety standards at all times with respect to our employees and the communities we serve.

BRAND PROMISE

Making you WeatherSMART

S - Safe

M – More informed

A - Alert

R – Resilient/Ready

T - Timeous

This is the promise that will permeate all SAWS products and services as well as associated marketing and brand promotion.

KEY POLICY DEVELOPMENTS AND LEGISLATIVE CHANGES

The South African Weather Service Act, 2001 (No 8 of 2001) as amended in 2013.

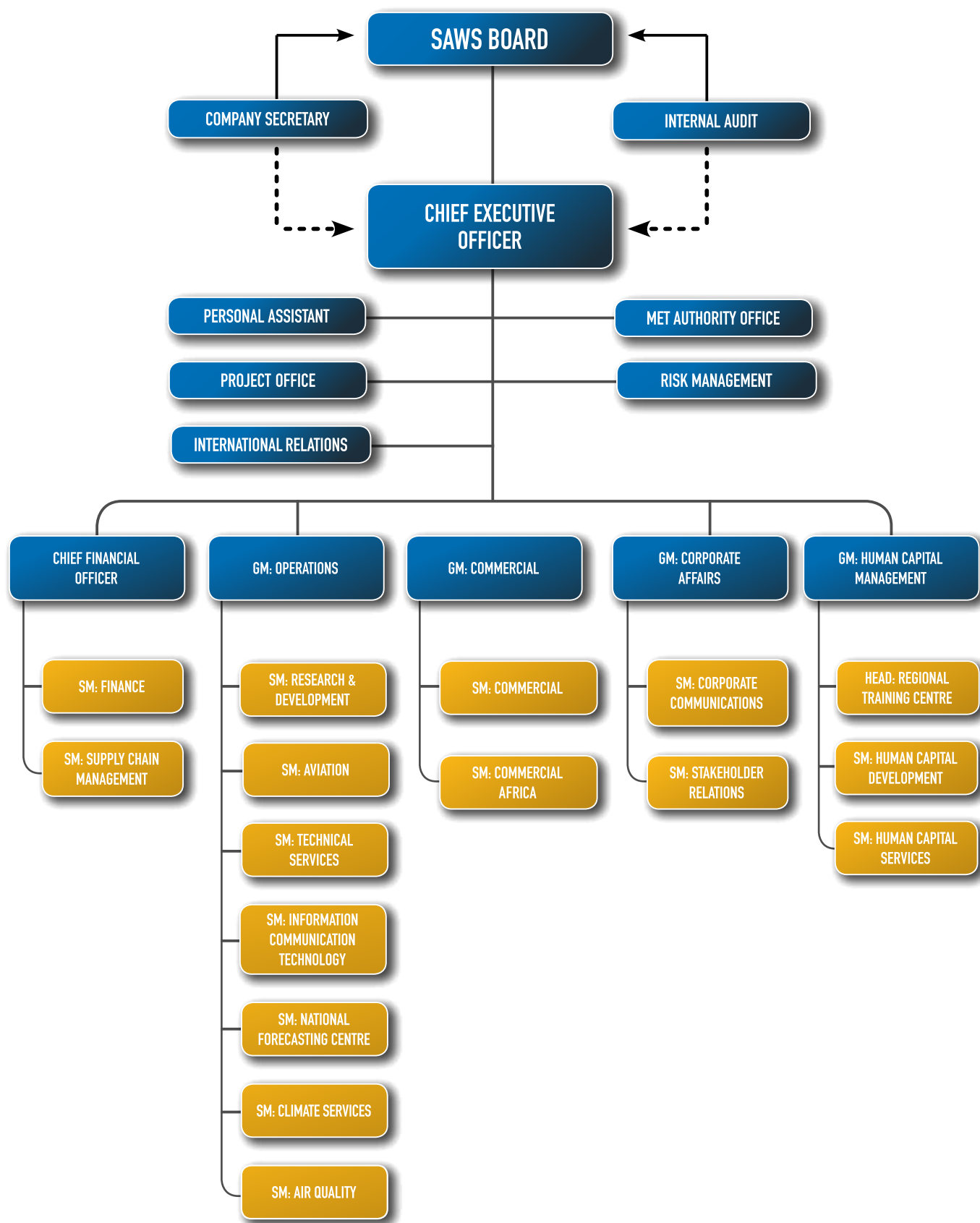
During the period under review, no policy or legislative changes were implemented.

STRATEGIC OUTCOME-ORIENTED GOALS

To fulfil its mandate, SAWS has revised its goals and set out to achieve the following in the 2016/17 to 2020/21 financial years:

- The development and delivery of products and services that meet the needs of the communities we serve.
- Enhancing the South African Weather Service infrastructure to enable Government and developmental agencies to deliver their services to all South Africans but mostly the vulnerable communities, whilst investing in People development.
- Increased cooperation and relationships with our partners in particular Government departments and industry forums in the SADC region and global structures.
- A science institute that has a powerful knowledge base that could be reckoned with world-wide.
- Diversifying our commercial portfolio to create new revenue streams, especially in the converged ICT sector.

ORGANISATIONAL STRUCTURE



PART B

PERFORMANCE INFORMATION



PERFORMANCE INFORMATION

SITUATIONAL ANALYSIS

Service Delivery Environment

The South African Weather Service (SAWS) is an ISO 9001:2008 certified provider of meteorological services and the national provider of weather- and climate-related information. Within this context, SAWS is well positioned to make a significant contribution to socio-economic development and thus to a prosperous and equitable society living in harmony with its natural resources. As a provider of reliable weather and climate information through its products and services, the organisation continues to enable various sectors and communities to develop weather and climate risk mitigation strategies and reduce the impact of climate change and weather-related natural disasters.

Some of the benefits derived from the use of SAWS' products and services include but are not limited to:

- Safe, regular and efficient aviation operations in order to promote aviation safety, efficient air navigation and ease of access to markets and to support various priority sectors such as the tourism industry, thereby contributing to socio-economic development and job creation.
- Risk management support for agriculture and fisheries, thereby contributing to improved food security and the sustainability of rural livelihoods.
- Rainfall monitoring towards the enhancement of water resources management in the country and the sub-region.

Organisational Environment

The cardinal strategic intention of SAWS is the overarching goal of attaining “a WeatherSMART nation” through the provision of relevant meteorological products and services within an environment that is having to deal with the multiple impacts of climate variability and change. To this end, SAWS must comply with various regulatory frameworks, national and international priorities and increasing competition at all levels. A volatile economy, and specifically an uncertain aviation industry, poor

service delivery, globalisation and the WMO's Resolution 40 which requires global data sharing between countries, could impact negatively on SAWS' agility, competitiveness and sustainability. Further challenges that need to be managed include infrastructure management; financial sustainability; enhancing community awareness, preparedness and education; commercialising SAWS' products and services; attracting and retaining critical and scarce skills, information and knowledge management, innovation and the safety and security of resources.

Key Policy Developments and Legislative Changes

The South African Weather Service Act, 2001 (No 8 of 2001) as amended in 2013. During the period under review, no policy or legislative changes were implemented.

Strategic Outcome-Oriented Goals

The South African Weather Service has embarked on a number of strategic transformational programmes encompassing the following key focus areas:

- The development and delivery of products and services that meet the needs of the communities we serve;
- Enhancing the South African Weather Service's infrastructure to enable Government and developmental agencies to deliver their services to all South Africans, but primarily vulnerable communities, whilst investing in people development;
- Increased cooperation and relationships with our partners, in particular government departments and industry fora in the SADC region and global structures;
- A science institute that has a powerful knowledge base that could be reckoned with world-wide;
- Diversifying our commercial portfolio to create new revenue streams, particularly in the converged ICT sector.

PROGRAMME ONE

THE DEVELOPMENT AND DELIVERY OF PRODUCTS AND SERVICES THAT MEET THE NEEDS OF THE COMMUNITIES WE SERVE

1. PROVISION OF PRODUCTS AND SERVICES

- *Develop and provide meteorological and related products and services for targeted communities nationally.*
- *Develop and market meteorological and related products and services for specific economic sectors.*
- *Establish strategic partnerships for products and services.*

This programme is concerned with the development and provision of innovative products and services for both public and commercial purposes, to proactively assist the South African population to adapt to Climate Change. In recent years, South Africa, like many other parts of the world, has witnessed an increase in the frequency and intensity of severe weather events. These hazardous weather conditions impact on food security, lives and property as highlighted in the World Food Programme/ Met Office publication of 2012.

The performance and relevance of SAWS' monitoring and forecasting capabilities continued to be tested by extreme weather events in the year under review. As predicted, a weaker La Niña followed on the El Niño episode which subjected the country to intense heat and a devastating drought in 2015/16, as reported by the Famine Early Warnings Systems Network (FEWSNET). While parts of the country continued to suffer severe water shortages, the impact of this weaker La Niña made itself felt in the form of periods of intense cold and snow, torrential rains and gale force winds that resulted in damage to property and loss of life in many regions, as recorded in the corresponding SAWS Monthly Climate Summaries.



1.1 Service and Product Delivery

Maintaining the public weather forecast, Severe Weather Warning System, seasonal climate forecast and historic weather reports

Four existing products were maintained in the period under review, namely the public weather forecast, the Severe Weather Warning System (SWWS), the seasonal climate forecast and historic weather reports. The dissemination of forecasts and warnings to the media and other users continued unabated during this period and the prevalence of extreme weather events resulted in heightened interest among members of the user community.

• **Public Weather Forecast: Significant Weather Phenomena in the 2016/17 Period**

Through the SAWS infrastructure and modelling capability, the following significant weather events were forecast and monitored and information was disseminated timeously through the media, Disaster Management Centres and other partners.

Heavy falls, strong to gale force winds, heavy swell and snowfalls associated with very cold conditions dominated the winter months in 2016, starting with a severe and rather unseasonal snow storm in April 2016 which left the Kgalagadi National Park and the Nossob Camp covered in a white blanket. Over this period, SAWS issued timeous severe weather alerts and warnings to assist Disaster Risk Management in taking preventative action.

Between 6 and 8 May 2016, the SAWS regional offices issued a weather watch for heavy rainfall which was upgraded to a flood warning as a cold front slipped east of the country and resulted in a strong high pressure system ridging along the east coast. This ridging high, coupled with weak upper-air perturbations, resulted in heavy rainfall along the coast and adjacent interior of KwaZulu-Natal, with the Mtunzini weather station recording 165.4mm of rain within a 24 hour period. Localised urban and flash flooding resulted in the disruption of railway services and numerous road accidents. Over 400 people were displaced and six deaths related to the severe weather were reported.

The passing of an intense cold front associated with an upper-air trough on 13 and 14 June 2016 resulted in snowfalls over Lesotho, the KwaZulu-Natal Drakensberg, the southern Drakensberg of the Eastern Cape and the southern Free State. This resulted in a significant drop in temperatures over the country, with new lowest maximum temperatures for June being

recorded in the north-east part of the country. SAWS issued a special weather advisory for snow and a warning for disruptive snowfalls for the southern Drakensberg of the Eastern Cape and the Golden Gate Highlands National Park region in the Free State.

A cut-off low system which developed over the western interior on 24 July 2016, slowly moving south and then south-eastwards and exiting the country over the Eastern Cape on 28 July, brought further significant weather conditions to most parts of the country, including heavy rain, localised urban and flash flooding, disruptive snowfalls, gale force winds, severe thunderstorms and high seas.

This weather system was well predicted and communicated, with an initial media release on 21 July being updated on 25 July and followed by a special media release on the tornado which hit Tembisa, Gauteng on 27 July 2016. Special weather advisories and watches were issued well in advance from 21 July onwards and were upgraded to warnings closer to the time of the events or as they occurred.

Heavy rain and significant flooding (including flash floods) occurred along the coast and adjacent interior of KwaZulu-Natal from 24 to 27 July 2016. Paddocks alone received 266 mm of rain within a 24 hour period. Damage to bridges, roads, houses and motor vehicles amounting to millions of Rands were reported in places and at least five people lost their lives. Heavy rain was also reported in places in the Eastern Cape, Free State and Western Cape. Localised flooding was reported in places in the Western Cape as well as the coastal areas of the Eastern Cape. While destruction of property and loss of life were experienced, the heavy rains also brought welcome relief to the drought-stricken areas of KwaZulu-Natal. In a 48 hour period, Durban received approximately 150 mm and Paddocks recorded the highest total of 349 mm. Melting snow from significant falls over most of the western and southern interior of Kwazulu-Natal also filled the rivers.

Very cold conditions and snowfalls occurred over the western and southern high ground of KwaZulu-Natal, extreme eastern parts of the Free State and high-lying areas of the Eastern Cape as well as the mountainous areas of the Western Cape from 24 July 2016 onwards. Significant amounts of snowfall, with measured depths of up to one metre occurred over the western and southern high ground of KwaZulu-Natal, extreme north-eastern parts of the Free State and the north-eastern parts of the Eastern Cape. This resulted in the closure of various passes in those areas, while areas such as the Tiffendell Ski Resort were cut off for several days. The Swartberg Mountain pass in the Western Cape was also closed due to the heavy snowfall.

In July 2016, severe thunderstorms over the North West Province, Free State and Gauteng, and falls of both large and small hail were reported in places. In addition, three tornadoes were confirmed in Gauteng on 25 and 26 July, one of which caused significant damage to houses, the Phumulani Mall and the Tembisa Tertiary Hospital in Tembisa, Gauteng. This highlighted the need for people to be on the alert for damaging hail, strong damaging winds, flash flooding and even tornadoes when severe thunderstorms are expected.

Along the Eastern Cape and KwaZulu-Natal coastlines, high seas with significant wave heights and gale force winds were experienced and resulted in damage to residential houses.

On 20 October 2016, a severe thunderstorm over Bloemfontein was accompanied by large amounts of small hail which reached a significant depth in places, causing traffic disruptions and requiring the use of excavators to clear the roads. In some areas, golf ball-sized hail stones resulted in damage to cars.

On the afternoon of 9 November 2016, severe thunderstorms over Gauteng resulted in flash floods, primarily in the Ekurhuleni and City of Johannesburg Metropolitan Municipalities. Of the 89.6 mm of rain reported by the weather station at OR Tambo International Airport in 24 hours, 85.2 mm occurred within one hour and 10 minutes. This was the 5th highest rainfall in 24 hours recorded by this station. The resulting flash flood caused damage to houses, infrastructure and cars, with more than ten cars being swept off the road at the Linksfield off-ramp on the N3 highway in Bedfordview, Gauteng. Flight disruptions and flooding of the lower levels were also reported at OR Tambo International Airport. Once again, the severe weather event resulted in loss of life, disruption of business activities and the declaration of disaster areas in the most affected places.



Flooding in Gauteng, 2016

Not all of the further tornadoes and funnel clouds reported mainly in Gauteng and Mpumalanga resulted in damage, but a weak EF01 tornado on 14 November 2016 caused damage to 62 houses in Ennerdale, south of Johannesburg and a few injuries were reported.



Ennerdale tornado damage

Above-normal rainfall experienced over the summer rainfall region of the country during this period was linked with the weak La Niña global phenomenon in the Pacific. The influence of tropical weather systems was felt in the north-eastern parts of the country, where heavy rains were recorded and there were instances of severe damage to property and even loss of life. On 7 January 2017, two people died when a minibus was swept away by the raging river near Kwaggafontein in Mpumalanga. A further five people were reported dead in Limpopo, including people attempting to cross the Limpopo River from the north.

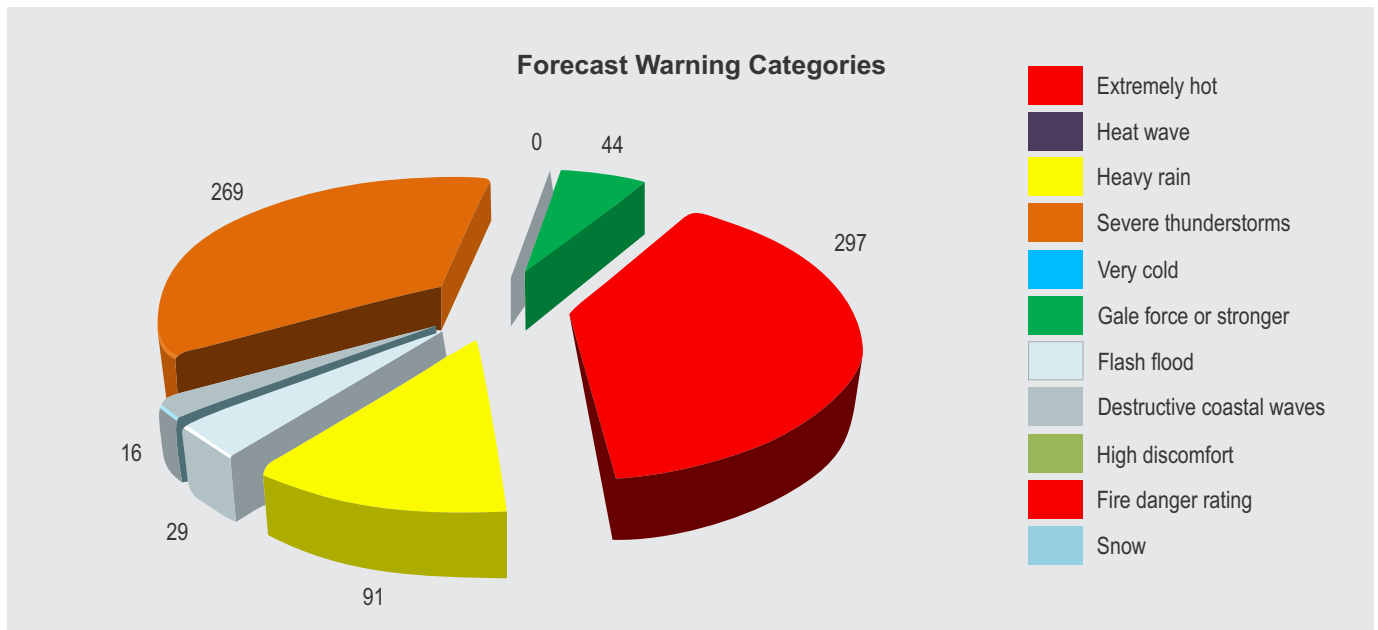
During February 2017, tropical cyclone Dineo (TC Dineo) made landfall over the southern parts of Mozambique and then continued on a westward track to affect the provinces of Limpopo and Mpumalanga. This was followed a few days later by a tropical temperate trough (TTT) which resulted in heavy rains in the Free State, KwaZulu-Natal, the eastern parts of Northern Cape, North West, Gauteng, Mpumalanga and Limpopo. Mozambique, southern Zimbabwe and Botswana were also affected. The impact of this weather system was such that some areas experienced widespread floods which resulted in many roads being completely cut off. Three people were also reported dead in North West Province.

• Severe Weather Warnings

SAWS continued to cooperate with disaster management authorities by issuing regular warnings and forecasts thereby contributing to enhanced societal resilience to severe weather events. A total of 746 warnings were issued for the year. This

excludes a number of advisories and watches which were also issued for the same period. (See Graph 1a below).

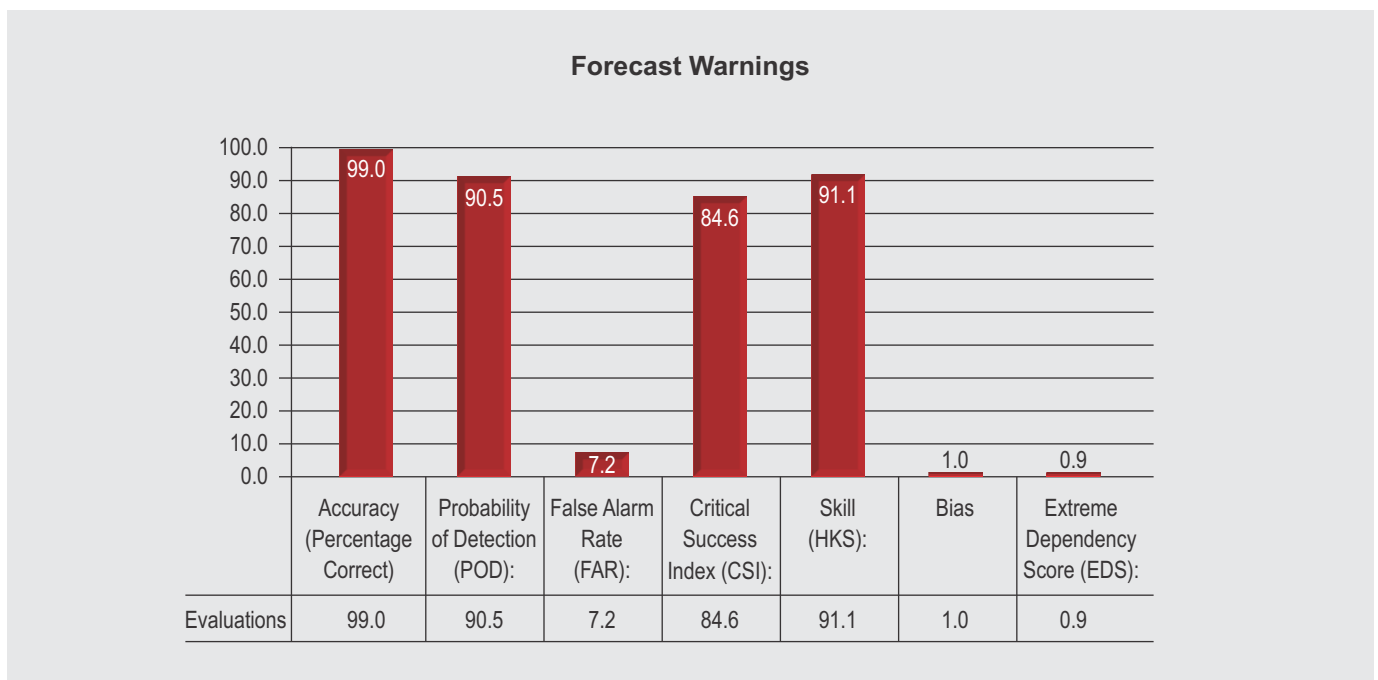
Most of the warnings issued were for the risk of fires, followed by warnings for severe thunderstorms and heavy rain.



Graph 1a: Forecast Warning Categories

These warnings are evaluated using a process called 2 x 2 contingency tables as recommended by the World

Meteorological Organization. The results of this assessment are captured in Graph 1b below:



Graph 1b: Forecast Warnings

The probability of detection was 90.5% and the false alarm rate 7.2%. Thus put in simple terms there is a 90.5% chance that the event will be accurately forecast and only a 7.2% chance that the event will be forecast but will not occur.

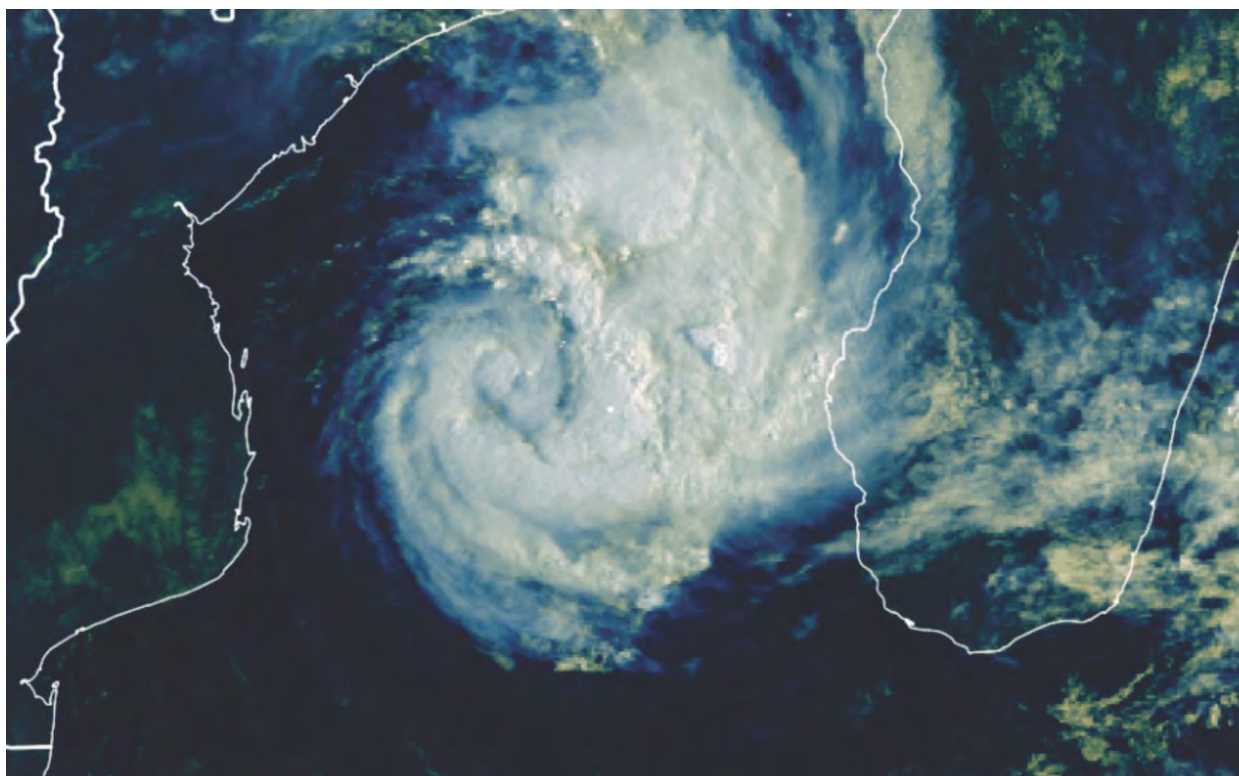
SAWS identified the initial development of Tropical Cyclone Dineo in the Mozambique Channel between 8 and 10 February 2017 and initiated communications with the National Disaster Management Centre (NDMC) early on 13 February at which point the weather system was still classified as a tropical disturbance. The timeous identification of the location and timing of the tropical cyclone's landfall near Inhambane in Mozambique made it possible for disaster management authorities to prepare in advance for possible disasters. SAWS' activities as a Regional Specialized Meteorological Centre (RSMC) during this period involved ongoing communications with the Mozambique national Meteorological Service in addition to providing guidance through the existing channels of the Severe Weather Forecasting Demonstration Project (SWFDP) of the WMO.

SAWS' successful monitoring of developing weather systems and forecasts has grown in leaps and bounds in recent years, making SAWS as a critical national partner in the fight against the enormous environmental threat of climate change. SAWS

provides valuable information (in the form of warnings, weather watches and advisories) to the nation that mitigates against natural catastrophes and ensures safety, protection of lives and property.

• **Services to the Aviation Sector**

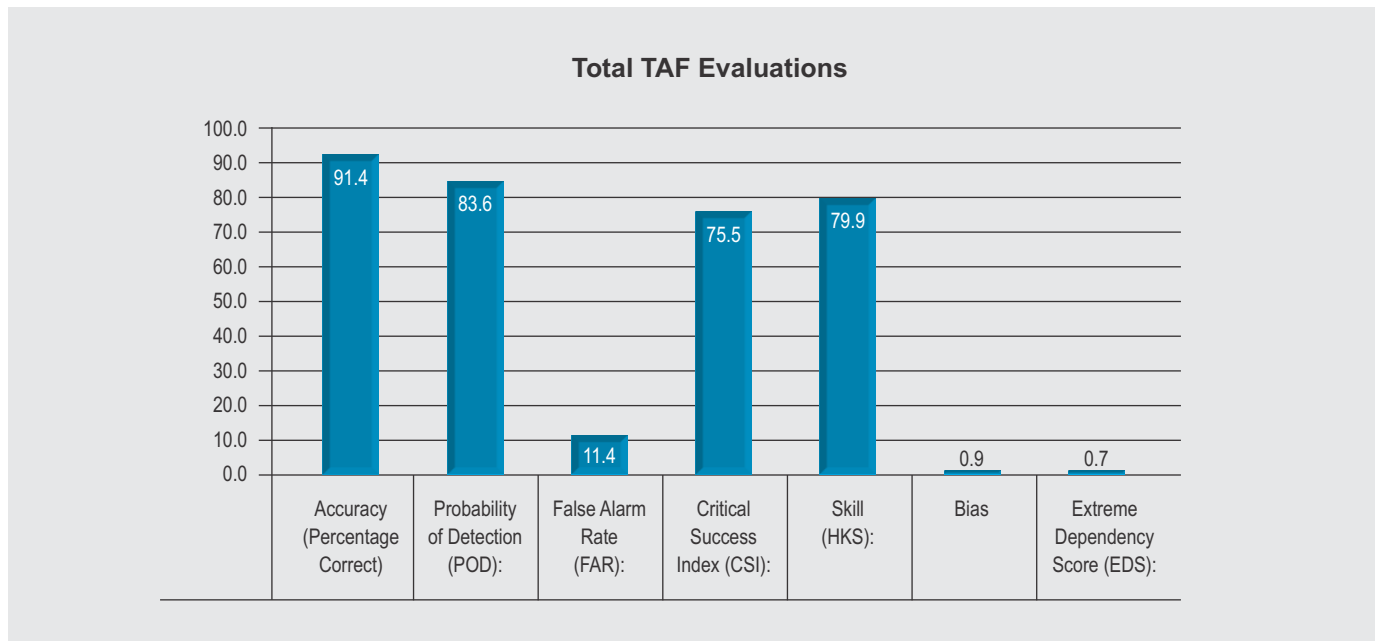
The Aviation Weather Centre, as the Meteorological Watch Office (MWO), assists with the maintenance of a national airspace that remains globally competitive and attractive to the global aviation industry by providing reputable aeronautical meteorological services that contribute towards safer skies. As the Aeronautical Meteorological Regional Bulletin Collection Centre and the Operational Meteorological Databank (OPMET), SAWS is responsible for the collection of quality data and ensuring that the availability of aviation information is maintained above 99%. In support of aviation safety and efficiency, SAWS continued to provide aeronautical meteorological services as defined by the International Civil Aviation Organization (ICAO) and industry through its aviation website. The upgraded website, launched towards the end of 2016, ensures that meteorological data can be easily decoded and made available as mobile applications. The website functions well and was well received, with pilots and flight information centres continuing to register for access to the site.



Satellite image: Tropical Cyclone Dineo

The frequency of severe thunderstorms and flooding over the summer months resulted in a particularly high influx of registration requests which temporarily affected the speed of the website's functioning until the queuing log files were cleared.

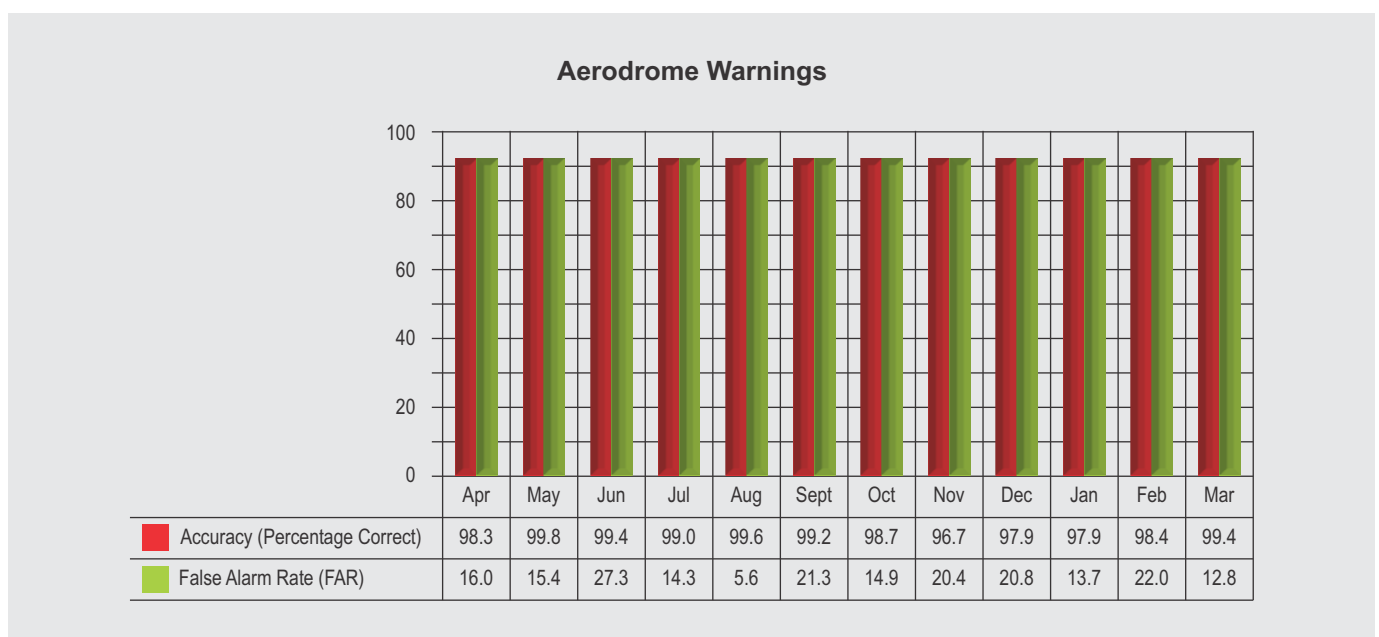
Terminal Aerodrome Forecasts (TAFs) are used for planning purposes by the Air Traffic Management (ATM) community. A total of 45 347 TAFs were issued with an overall on time availability on the aviation web site of 98.9%. The accuracy was 91.4%, with a probability of detection of 83.6% and a false alarm rate of 11.4% (see Graph 2 below).



Graph 2: Total TAF Evaluations

Aerodrome warnings are issued nationally as a critical and service enhancement product for safety at airports, especially during refuelling, boarding and disembarking of passengers. SAWS issued 11 919 aerodrome warnings which were also

statistically evaluated. The accuracy was 98.7%, the probability of detection was 81.6% and the false alarm rate was 17.4% (see Graph 3 below).



Graph 3: Aerodrome Warnings

A number of requests from the South African Civil Aviation Authority relating to aircraft accidents and incidents were attended to. More of these tend to happen during the summer season.

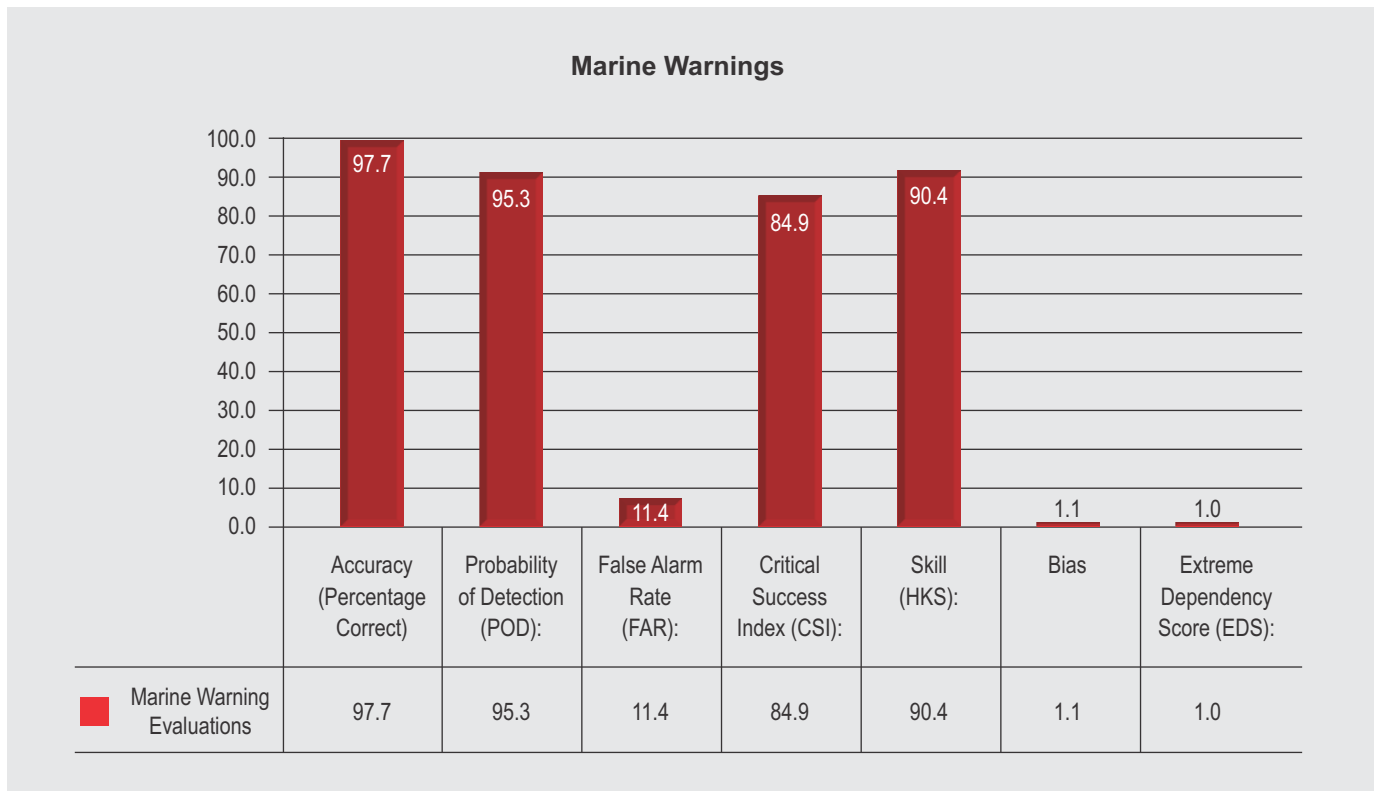
The Aviation Weather Centre (AWC) keeps a watch and issues weather advisories, SIGMET and AIRMET over a wide area referred to as Flight Information Route (FIR). These are severe or hazardous weather advisories that are critical for the safety of civil and international air navigation. The MWO has conducted a SIGMET test for the region on behalf of ICAO. The exercise was to ensure that Members within the region were alert and could respond promptly to imminent severe weather phenomena that could impact severely on air traffic movement and operations, leading to loss of lives and/or property.

The Global Air Navigation Plan (GANP) is an ICAO concept for the integration of meteorological information for air traffic management. The GANP has evolved to provide guidance on conceptual relationships between civil aviation's operational improvements and the aeronautical meteorological information.

One of the ICAO requirements supporting aeronautical meteorological information exchange and integration is to provide the data in the Extensible Mark-up Language (XML or GML). SAWS has progressed in developing this capability. This is to ensure that information is exchanged in the System Wide Information Management (SWIM) in support of the ICAO Weather Exchange Model (IWXXM).

• Services to the Marine Sector

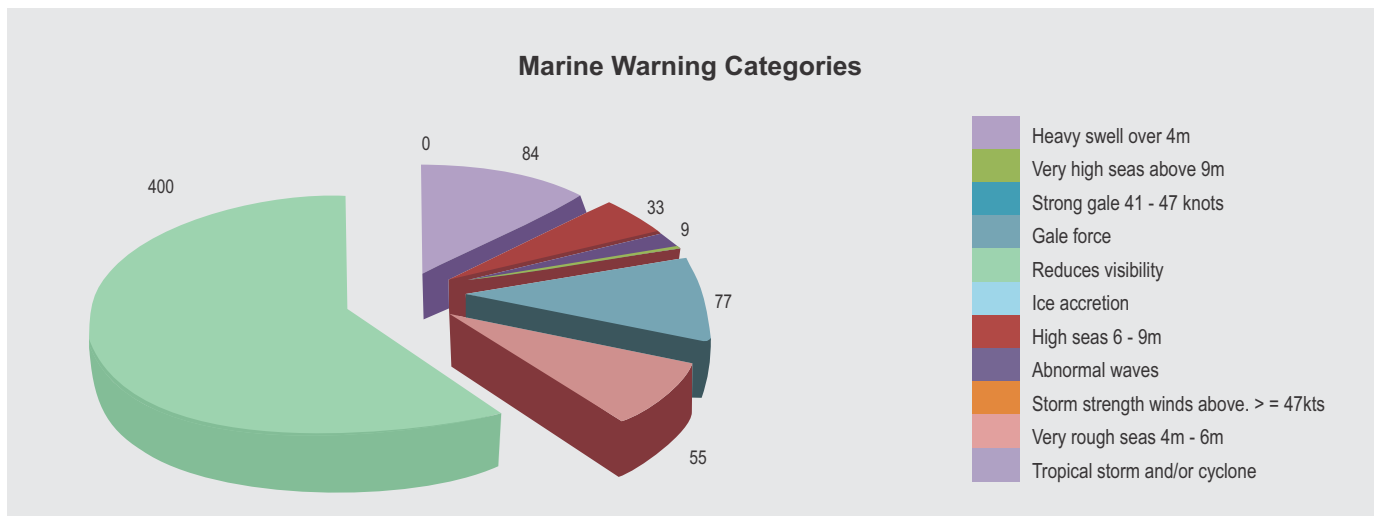
Marine warnings were issued in accordance with WMO and IMO requirements and SAWS' SOLAS responsibility along the South African coast. Only warnings for gale force winds and stronger, visibility and swell heights are evaluated due to the scarcity of data in coastal areas. By using the 2 x 2 contingency tables as recommended by the WMO, the following statistics on the marine warnings were recorded as provided in Graph 4 below: Accuracy = 97.7%, probability that an event would be accurately forecast = 95.3% and probability that an event would occur without being forecast = 11.4%



Graph 4: Marine Warnings

SAWS issued a total of 662 marine warnings with the majority providing information on reduced visibility (n=400) followed by warnings for heavy swell over 4m (n=84) and then for gale force

and stronger winds (n=77). (See Graph 5 on the following page).



Graph 5: Marine Warning Categories

Despite an unfunded marine strategy, SAWS continued to provide marine forecasts and warnings for METAREA VII, the second largest METAREA in the world after the United States of America. Specialised services were also provided for the *R/V SA Agulhas II* Research Vessel during her voyages in which all important drifting weather buoys were deployed as well as atmospheric research done *en route*. Through the provision of marine forecasts and warnings along the South African coast and surrounding ocean areas, SAWS contributed to the Blue Economy and has proven to be an extremely important partner in Operation Phakisa-Oceans Economy. SAWS will endeavour to source funding for the Marine Strategy in order to optimise services in the marine sector in the future. Further, SAWS will contribute to the identification and implementation of related action items under the existing SAWS-DEA Oceans and Coasts Memorandum of Understanding in the 2018/19 financial year.

• Seasonal Climate Forecast

SAWS has furthermore continued its production and maintenance of seasonal climate forecasts. This involved running and maintaining global climate models as well as a Multi-Model System for a regional and national seasonal outlook and the monthly climate watch advisory bulletin. SAWS also continued to make contributions to the WMO through its Global Production Centre for Long Range Forecasts (GPC-LRF). These seasonal forecast products and information continued to assist with socio-economic planning and decision-making by Government and various other sectors, in line with the SAWS vision to create “a WeatherSMART nation”.

• Historic Weather Reports

The lightning climatology product was updated to include data from 2016 and provided to the Climate Information Office for dissemination to clients. The product now covers an 11-year period (solar cycle) and can be used as the official SABS standard for lightning protection in South Africa, as shown in Figure 2 below. This information is extremely valuable given the relatively high number of lightning events in the country and the vulnerability of South Africa's key infrastructure e.g. electricity transmission, distribution and railway lines.

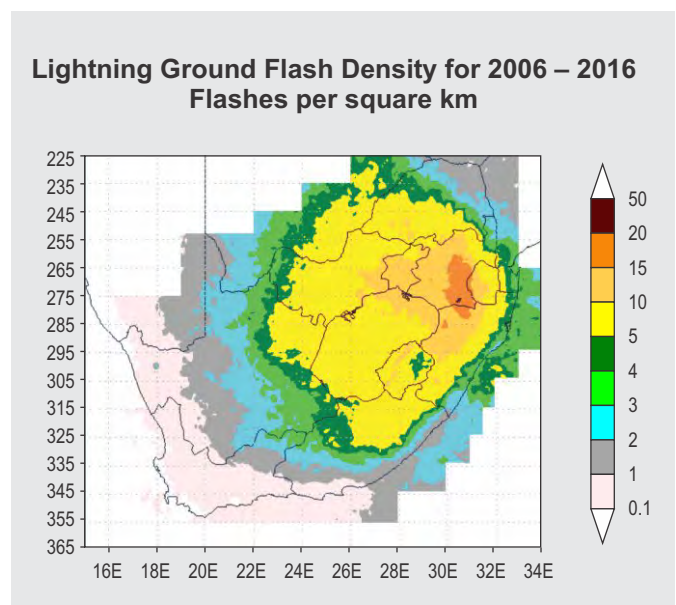


Figure 2: The Average Lightning Ground Flash Density Map of South Africa for the 11-year Period from 2006 to 2016

1.2 Product Development and Enhancement

As a result of increasing demands from users for the provision of meteorological products and services, SAWS has built strategic partnerships to develop and enhance some of its products. A new internal nowcasting website that contains all the nowcasting products was developed. The first operational version of the website was made available for forecasters to utilise. This development contributes to the monitoring of intense weather systems and also assist with early warnings.

The Water Research Commission project entitled “Optimising the Use of Updated and Additional Products from the Nowcasting Satellite Application Facility” was completed in March 2017. The output of the project is a new product that combines the Convective Rain Rate (CRR) and Unified Model output (CRR + UMS) satellite rainfall data files. This new product will replace the Hydro Estimator (HE) + UMS that feeds into the South African Flash Flood Guidance System (SAFFG) and the HydroNET portal. The data files are created hourly and are available for use.

The 4km Unified Model (UM) output was tested in the nowcasting Satellite Application Facility (SAF) software as well as the Lightning Threat Index. The test was successful and the 4km model will replace the 12km model output during the 2017/18 financial year. This will imply greater accuracy of forecast products and services and also the ability to provide detailed weather information at local level.

The Rapidly Developing Thunderstorm Interactive Display was improved by adding motion arrows to the display. The arrows indicate the direction of movement of the storm, while the length of the arrows indicate the speed of the storm. The lightning points and heat maps in the Lightning Interactive Display were enhanced to develop interactive displays of gridded data. Heat maps show the frequency of lightning strikes by means of different colours. The forecasting system for a new product to predict rainfall characteristics was developed and work on its refinement and improvement will continue into 2017/18.

Further development of the new Extended Range Forecast (ERF) product which offers a global extended prediction system continued. Despite the poor simulation of rainfall in the last weeks of November 2016, the overall improvement in results suggests that the model captures the upper-air circulation reasonably well, and SAWS started issuing extended range forecasts towards the end of 2016.

SAWS has made enormous strides in product development to improve nowcasting and forecast quality in line with its vision of creating “a WeatherSMART nation”. These products and services for specific sectors will improve quality of life, reduce fatalities and assist with planning and decision-making.

PROGRAMME TWO

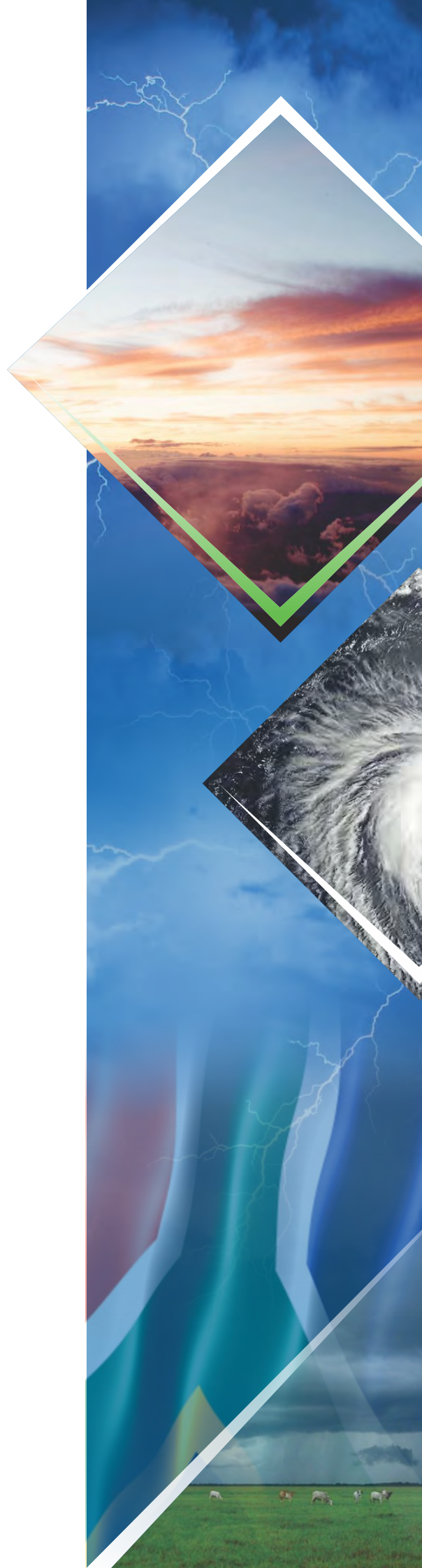
ENHANCING THE SOUTH AFRICAN WEATHER SERVICE INFRASTRUCTURE TO ENABLE GOVERNMENT AND DEVELOPMENTAL AGENCIES TO DELIVER THEIR SERVICES TO ALL SOUTH AFRICANS, BUT PRIMARILY THE VULNERABLE COMMUNITIES, WHILST INVESTING IN PEOPLE DEVELOPMENT

STRATEGIC GOAL 2: CAPABILITY AND CAPACITY DEVELOPMENT

The existence of an observations network and related data communications is the lifeblood of any national weather service. SAWS' extensive observations network allows for the collection of prevailing weather parameters that are then used to create forecast products and applications, deliver services and support climatological research.

SAWS continued to upgrade and expand its observations infrastructure with the goal of serving its users to the best of its ability as part of its vision of a WeatherSMART nation at a time when climate change and extreme weather phenomena pose ongoing environmental threats to society.

The operation and maintenance of the SAWS network of surface and upper-air observations continued successfully. The station types maintained by SAWS comprise automatic weather and rainfall stations (AWS and ARS) as well as rainfall, climate and upper-air monitoring stations.



SAWS OBSERVATIONS AND DETECTION NETWORKS

- **Automatic Weather Station (AWS) and Automatic Rainfall Station (ARS) network (including rainfall and climate stations)**

Table 1: Status of the Observations Network as at end March 2017

	End of FY	FY 2016/17	FY 2016/17	FY 2016/17	FY 2016/17
Station	2015/16	Q1	Q2	Q3	Q4
Type					
AWS	228	228	228	228	231
ARS	161	164	164	164	160
Rainfall	1166	1159	1160	1160	1125
Climate	11	11	11	11	8

Table 2: Status of the Upper-air Monitoring Network as at end March 2017

End of FY	FY 2016/17	FY 2016/17	FY 2016/17	FY 2016/17
2015/16	Q1	Q2	Q3	Q4
11	11	11	11	8

• Radar Network

The radar network availability for the year was 81.75% which is above the required 80%. The radar network is one of the most valuable elements of the SAWS infrastructure as it is vital for the monitoring of severe weather systems and issuing of weather warnings. The radar maintenance plan and supply chain management processes were improved in order to maintain and enhance the availability of radar data.

• Lightning Detection Network (LDN)

The SAWS LDN continued to provide valuable data on lightning strikes and their location. An impressive 96.03% LDN data availability was achieved in this year, exceeding the target of 95% and ensuring the provision of information and warnings for use by sectors such as electricity and transport.

• Solar Radiation Operational Activities and Calibration

Eight of the 13 solar radiation stations operated optimally with no interruptions or data loss, namely Cape Point, Upington, Irene, Mahikeng, Nelspruit, Polokwane, George and Bethlehem.



Upper-air balloon ascents are done on a daily basis

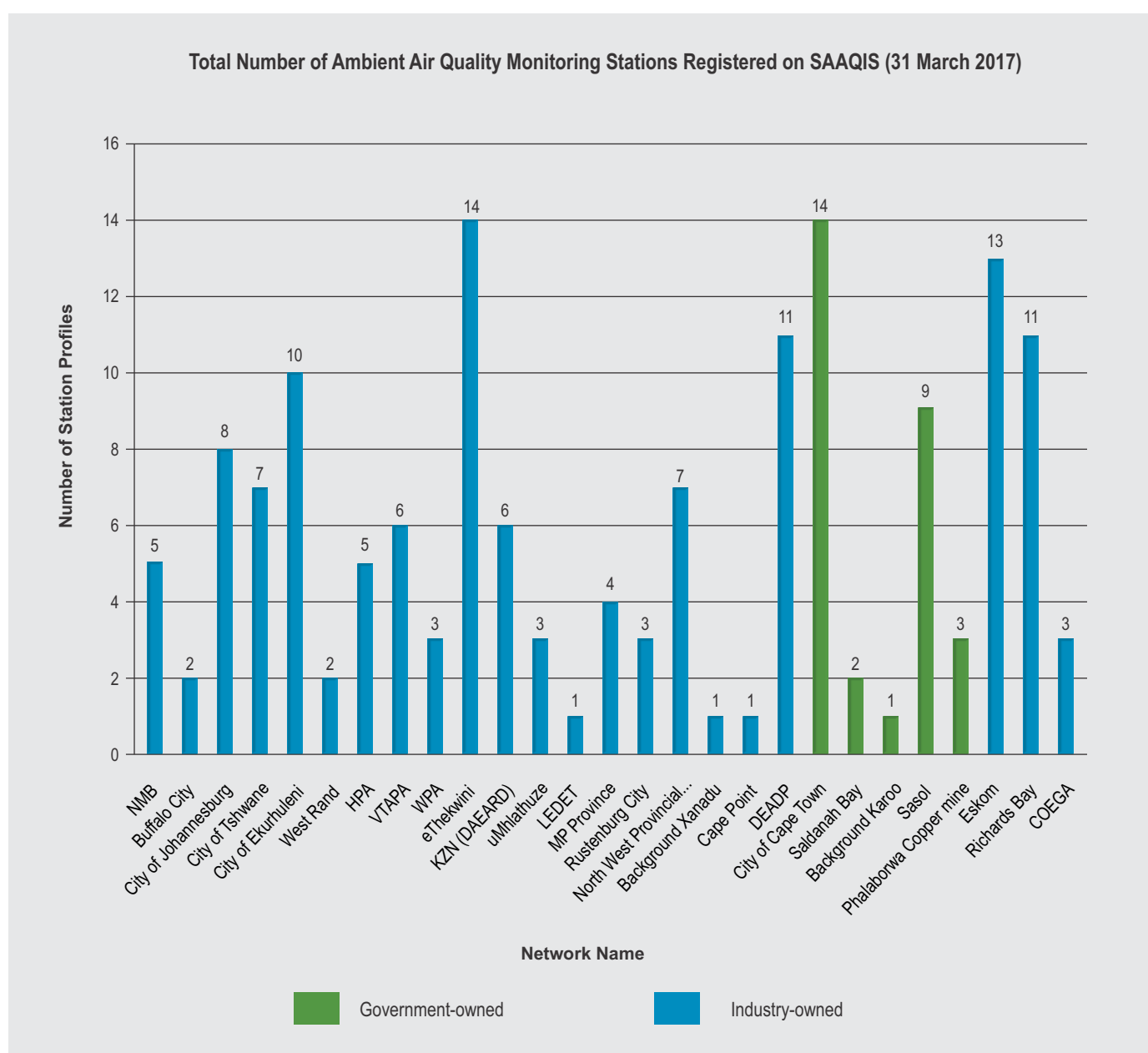
The efficiency of the monitoring process has been improved through system automation which limits human involvement and potential error. The solar information provided by SAWS is not only important for monitoring the population's exposure to harmful solar radiation but also for the sustainability of the renewable energy sector.

- **South African Air Quality Information System (SAAQIS) National Ambient Air Quality Monitoring Network (NAAQMN)**

The number of air quality monitoring stations registered as data

through providers with the SAAQIS Ambient Module (Phase 1) was brought to 149, of which 116 are government owned, and 33 are industry owned.

Graph 6 below provides an overview of the ownership of these stations as at 31 March 2017. A further 78 dust fallout monitoring stations from the mining company DRD-Gold are reporting to SAAQIS. Obtaining regular monthly data reports from network owners remains a challenge. While there are profiles for the monitoring stations, the majority have not submitted data to SAAQIS in many months.



Graph 6: Total Number of Ambient Air Quality Monitoring Stations Registered on SAAQIS (31 March 2017)

- **Priority area ambient air quality monitoring networks**

Atmospheric pollution has several impacts for climate, human health, atmospheric chemistry, agricultural systems, ecological resources, biogeochemical cycling and socio-economic activities. SAWS is conducting a trial simulation and computational tread upgrade of an interactively coupled RegCM4 chemistry model. Furthermore, an analysis of the technical needs for a multi-pollutant integrated near-real time air quality health index (AQHI) online computation has been performed. This is important for the creation of a near-real time local scale outdoor AQHI product to provide the public with timely updated information about air pollution levels that pose health risks in specific areas of the country and for risk management and exposure reconstruction.

In addition, the Numerical Atmospheric-Dispersion Modelling Environment (NAME III) air quality modelling system has been used at SAWS with the aim of providing air quality forecast products and related services. The air quality forecasts will assist in simulation accidental plume dispersion. An exercise will be run using an incident at the Koeberg nuclear power station to

demonstrate the use of the model to track a plume release. This plume dispersion exercise will form part of a SAWS presentation on information that can assist in disaster reduction decision-making.

- **Regional Telecommunications Hub**

In addition to running its observations network, SAWS has to ensure the regular and reliable communication of data between its equipment and the central database. As a WMO-designated Regional Telecommunications Hub (RTH) in southern Africa, SAWS is also responsible for data communications between national weather services in the sub-region and other RTHs globally. SAWS complied with all RTH requirements and GTS data were exchanged timeously in the organisation's area of responsibility (RA 1 and surrounding ocean areas).

GOAL 2.2 AND 2.3 POSITION SAWS AS EMPLOYER OF CHOICE

This is discussed under Part D: Human Resource Management.

PROGRAMME THREE

INCREASED COOPERATION AND RELATIONSHIPS WITH OUR PARTNERS, IN PARTICULAR GOVERNMENT DEPARTMENTS AND INDUSTRY FORA IN THE SADC REGION AND GLOBAL STRUCTURES

STRATEGIC GOAL 3: ENGAGED STAKEHOLDERS

In line with the SAWS vision of creating a WeatherSMART nation, the organisation continued to position itself as a relevant meteorological institution by providing essential services and support to weather sensitive sectors and the public at large as they dealt with the effects of the El Niño/La Niña episodes. Over the past two years, SAWS has emerged as a major role player in promoting public awareness and understanding of climate and weather related issues and a significant contributor to enhancing societal resilience to extreme weather at all levels and mitigating potential and real disasters associated with to the recent extreme weather episodes. The organisation played a significant role in disaster management planning and disaster risk reduction across the country by participating in pertinent planning fora and harnessing a variety of media to provide timeous advisories and warnings to as large an audience as possible.



3.1 CORPORATE COMMUNICATIONS

• Media Engagements

SAWS continued to interpret data and disseminate weather information to communities through various channels such as broadcast and print media and weather applications, and disaster management personnel were helped to make effective use of the warnings issued by SAWS in order to prevent loss of life and property.

SAWS hosted the National Press Club on 20 April 2016, presenting in particular on the impacts of the 2015/16 El Niño episode and the ongoing drought. The event was well attended by approximately 60 Press Club members.

The reporting period saw regular media releases to inform the public about expected severe weather conditions and to provide seasonal forecasts. Media conferences were hosted on 29 August and 20 October 2016 to brief the media on weather conditions in the spring and early summer seasons. It was emphasised that the predicted La Niña would be at best a weak episode and that higher than normal rainfall during the summer season could not yet be predicted with certainty. By joining forces with the Department of Water and Sanitation, SAWS successfully utilised its engagements with the media to warn South Africans that the country's water crisis was far from over.

• WeatherSMART News

Two editions of the SAWS publication WeatherSMART News, containing fifteen relevant articles, were published in August

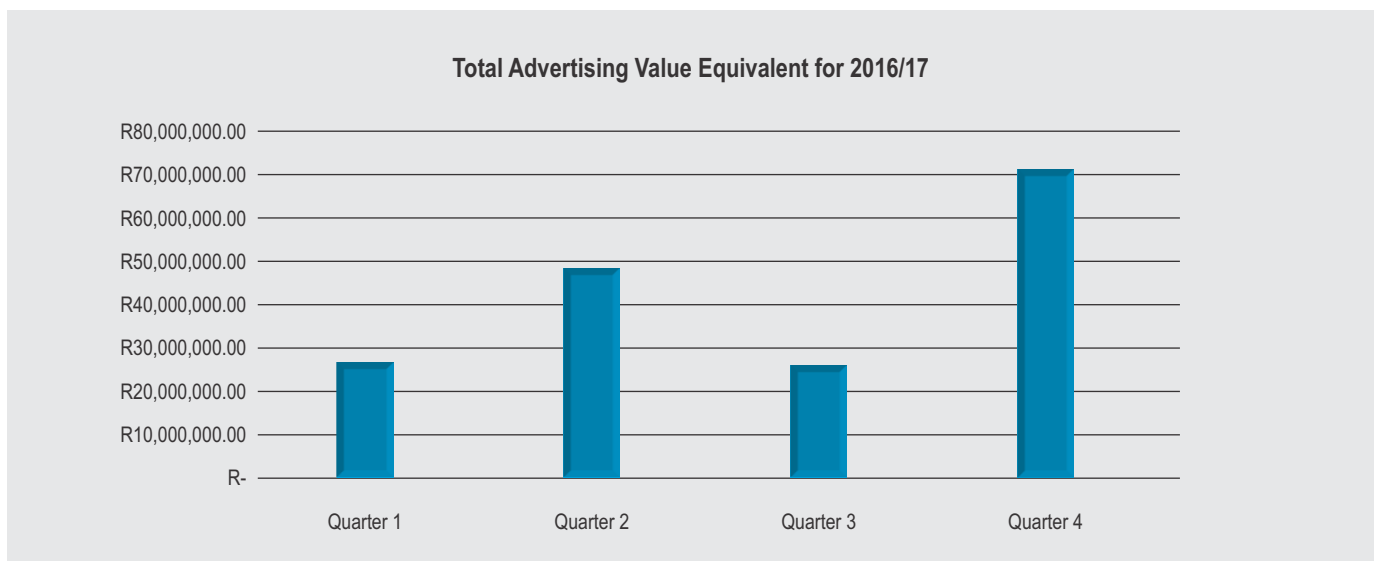
2016 and February 2017. The publications, under ISSN 2414-8644, can also be accessed via the SAWS website weathersa.co.za.



WeatherSMART News publication

• Growth of Advertising Value Equivalent by R22m

SAWS achieved a total Advertising Value Equivalent (AVE) of R172 455 162 during the period under review. The AVE expresses free advertising in terms of what an equivalent amount of paid advertising would have cost. SAWS exceeded its AVE goal of R22 million for the year, mainly due to the increased use of social media. SAWS' Twitter followers grew by close to 10 000 during the year. This was related to the impact of a number of severe weather events including the El Niño episode during Quarter 1 and tropical cyclone Dineo followed by a tropical temperate trough in Quarter 4. SAWS' AVE per quarter is indicated in Graph 7 below.



Graph 7: SAWS' Advertising Value Equivalent (AVE) for 2016/17

• World Meteorological Day

Together with other members of the World Meteorological Organization, SAWS celebrated World Meteorological Day 2017 on 23 March 2017 with the launch of the International Cloud Atlas. The SAWS website and Twitter were used to promote awareness of the Cloud Atlas. On 29 March, SAWS also launched the Climate Change Atlas. Both atlases received substantial publicity.

3.2 MANAGE AND LEVERAGE STRATEGIC RELATIONSHIPS

Research activities that are at the forefront of technology are an important part of positioning SAWS as a relevant meteorological institution. During the reporting period, SAWS researchers demonstrated their determination to retain the organisation's competitive edge by developing operational systems for the future. Activities in this regard are reported in detail under Programmes 1 and 4.

• Stakeholder Perception Survey

In the Stakeholder Perception Survey conducted in the reporting period SAWS achieved an overall satisfaction rating of 85%. A satisfaction rating of over 80% is considered to be an excellent organisational achievement in the industry. It is also important to note that in the ServQual Methodology developed by Berry, Parasuraman and Zeithaml at the Massachusetts Institute of Technology's Sloan School of Management, a rating of 83% or above is considered the desired performance score on components or activities that are classified as being highly significant for or impacting highly on organisations that deliver a superior service to customers. These are activities which continuously add value for the customer, enhance satisfaction and differentiate the organisation from its competitors.



Community Development Workers participated in the April 2016 event in Pretoria

As part of the SAWS vision of creating a WeatherSMART nation, an "As-is" study was commissioned to investigate the needs of communities in terms of SAWS services. Community Development Workers (CDWs) participated in the research by assisting in the distribution, completion and collection of questionnaires. The CDWs are a network of officials established by the Department of Public Service and Administration to understand societal needs at grass roots community level. They have a critical role to play in assessing community needs and advising on the accessibility of government services in communities.

The questionnaires investigated the following:

- The impact of weather on communities.
- Community access to weather and climate information.
- Weather awareness and educational needs.
- The use of indigenous knowledge for weather forecasting in communities.
- The reaction of communities to weather reports.
- Community suggestions on areas of improvement in weather information dissemination and awareness.

A sample of communities was randomly selected in four provinces (Eastern Cape, Western Cape, Gauteng and Limpopo) with due regard to the areas in which they were situated.

The report on "As-is" Community WeatherSMART Needs that emanated from the study will inform SAWS' community engagement strategies in order to improve service delivery, particularly in the most vulnerable areas of the country, and bodes well for SAWS' contributions to the enhancement of societal resilience to climate variability and change.

• International Collaborations

SAWS personnel attended several technical and administrative meetings and workshops abroad. The subjects of the technical meetings ranged from marine meteorology, aeronautical meteorology and severe weather forecasting to weather modelling and trace gas monitoring, while administrative meetings focused on global cooperation and standards within the WMO and ICAO. There were also international engagements around the development of the global weather enterprise (private sector, modern technology and sustained human resources) and regional cooperation between national weather services in the Southern African Development Community (SADC).

The costs of these international trips were borne by SAWS and external organisations, viz. the World Meteorological Organization (WMO), UNESCO Intergovernmental Oceanographic Commission (UNESCO-IOC), UK Met Office, Meteorological Association of Southern Africa (MASA), UN Campus and UN Environment Programme (UNEP).

The number of SAWS personnel who travelled abroad and the associated costs are tabulated below. It is important to note that by virtue of its sought-after expertise and membership of international organisation, SAWS has managed to source 54% of its international travel costs from external organisations as shown in Table 3 and 4 and Chart 1 below.

Table 3: SAWS' Staff Travel Abroad and Costs per Quarter

Reporting Period	No. of Staff Members who Travelled	SAWS Contribution	External Sponsorship
Quarter 1	36	R837 702.15	R1 024 299.61
Quarter 2	25	R605 585.63	R628 122.83
Quarter 3	35	R593 183.85	R722 140.70
Quarter 4	16	R247 495.27	R292 077.88
Total	112	R2 283 966.90	R2 666 641.02
GRAND TOTAL		R4 950 607.92	

Table 4: Distribution of International Travel Sponsorships

	SAWS Contribution	External Sponsorship	Total
Rand Value	R2 283 966.90	R2 666 641.02	R4 950 607.92
Percentage	46%	54%	100%

SAWS Contributions Versus External Sponsorship for the 2016/17FY

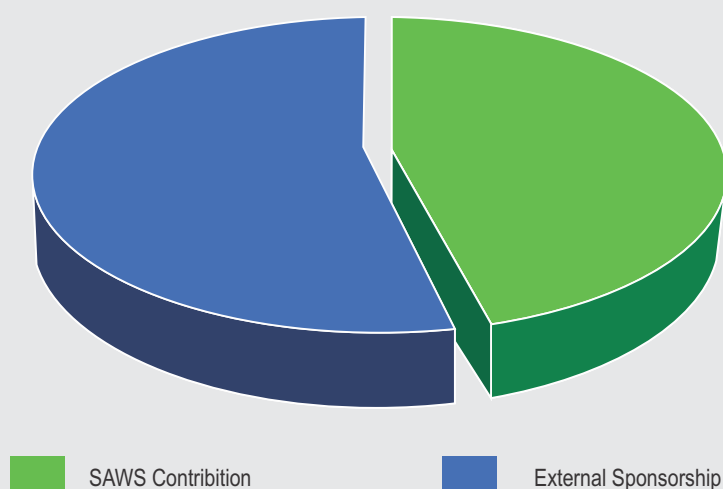


Chart 1: SAWS Contributions versus External Sponsorship

• Engagements with Weather-Sensitive Sectors

SAWS' stakeholder engagements are aimed at strengthening strategic links with stakeholders, partnering with allied bodies and organisations, and engaging in dynamic community outreach programmes, capacity building and information

sharing activities toward the vision of creating a WeatherSMART nation.

Activities relating to weather-sensitive sectors in the period under review are shown in Table 5 below.

Table 5: Activities relating to Weather-sensitive Sectors

Sector	Nature of Engagement	Details/Examples
Agriculture	An FAO funded project entitled "Supporting smallholder farmers in southern Africa to better manage climate-related risks to crop production and postharvest handling".	This project is aimed at improving and sustaining household and national food security in southern Africa through better management of climatic risks by smallholder farmers. SAWS is contributing data on historical and future temperature, precipitation and extreme weather trends across selected district municipalities in KwaZulu-Natal, namely Uthungulu, Umgungundlovu, Umzinyathi and Ugu.
	Study in collaboration with the Limpopo Department of Agriculture and Rural Development.	In order to strengthen the dissemination of weather and climate change information across Limpopo Province, the Limpopo Department of Agriculture and Rural Development (LDARD) embarked on a programme to enhance the understanding of and access to weather, climate change and agro-meteorological information of regional agricultural extension officers. A study of the agricultural sector in Limpopo Province was conducted to evaluate the crop, fruit and livestock production in each of the regions in the province with a view to providing agricultural extension officers with tailor-made information and relevant training material with examples. On the basis of the study results, SAWS scientists delivered a customised training programme on climate change and agro-meteorological applications to agricultural extension officers in the Sekhukhune, Mopane, Vhembe, Capricorn and Waterberg District Municipalities. The programme included interactive training on the impacts of weather and climate on agriculture and the dissemination of information about relevant products and services to assist in climate change adaptation and risk mitigation.
	Director-General Round Table discussion with stakeholders on financial mechanisms for drought relief (14 November 2016).	Issues discussed at the meeting included the impact of drought on the economy of the country, current disaster risk management funding arrangements, insurance and financial mechanisms for drought relief.
Aviation	Ongoing engagement between SAWS, ACSA and Disaster Management.	The Springbok weather office attended the Northern Cape SAPS Cluster meetings during the local election 2016 and made valuable contributions about the weather.
		The Aviation unit attended the ATNS OPSCOM 26 in July 2016. SAWS hosted the ACAMS meeting at SAWS' OR Tambo offices in August 2016. SAWS personnel attended an AASA business meeting in August 2016. SAWS facilitated a meeting between Aviation management and Lanseria Airport management about the new office development that will also host SAWS in September 2017. The new offices were due for completion by end March 2017.

Sector	Nature of Engagement	Details/Examples
	Engagements with the Aerodrome Management Centre (AMC)	SAWS engaged with the Aerodrome Management Centre (AMC) to assess the impact of weather events on OR Tambo International Airport in the context of the AvRDP project.
	South African Civil Aviation Authority (SACAA)	SAWS was one of a number of stakeholders invited by the South African Civil Aviation Authority (SACAA) to participate in the formulation of a 2017 safety campaign focusing on visual flight rules (VFR) for pilots and flying schools.
	Engagement with the African Planning and Regional Implementation Group (APIRG) for the Project Coordination Committee.	Aviation participated in the first meeting of the African Planning and Regional Implementation Group (APIRG) for the Project Coordination Committee. The project methodology that should be followed by the States towards the implementation of the modules for the Aviation System Block Upgrade as mandated by APIRG was discussed. Agreement was reached on the two projects for the aeronautical meteorology programme which should be implemented in a project-coordinated manner in the African region, namely the SIGMET and the OPMET. This will ensure seamless implementation of aeronautical meteorological services towards supporting international civil aviation as a requirement for fulfilling the deliverables for the ICAO exchange weather models. The data that should be exchanged in digital format by the OPMET databanks include the METAR, TAF, SPECI and SIGMET.
South African Agency for Science and Technology (SAASTA)	SAASTA Exhibition	SAWS participated in the SAASTA Exhibition day observatory in Johannesburg from 9 to 11 December 2016. The main aim was to emphasise the importance of collecting weather information and recording it in the GLOBE programme.
Marine	Training and preparation of the Marion Island overwintering team and the planning of equipment maintenance and/or replacement.	The Marine unit once again participated in the training and logistical preparation of the Marion Island overwintering team and the planning of equipment maintenance and/or replacement. The SA Agulhas II departed on 7 April 2016 and returned to Cape Town on 13 May 2016, stopping in Port Elizabeth on the way back to participate in a SAWS open day.
	SeaMester research and training cruise aboard the SA Agulhas II.	Three SAWS scientists participated in the 2016 SeaMester research and training aboard the SA Agulhas II. The purpose of the cruise was to complete outstanding work from the 2016 Agulhas System Climate Array (ASCA) cruise which was cut short due to bad weather and to offer Marine Science students an opportunity for practical training. The organisers of the cruise expressed their intention to invite SAWS representatives to participate again in 2017.
	Data Buoy Cooperation Panel Conference	The Marine unit presented the results of a research project as a poster at the Data Buoy Cooperation Panel conference in California, USA in October 2016. The study utilised the five SVP drifters handed over by SAWS to SAEON for the ASCA research cruise earlier in the year.

Sector	Nature of Engagement	Details/Examples
	WIGOS conference presentation.	A presentation on the SAWS marine infrastructure network was given at a WIGOS conference in order to update stakeholders in the marine sector on South Africa's current marine infrastructural capabilities in the context of Operation Phakisa development plans.
	Upgrading of thermometers used in the collection of SST data along the coast.	The Port Meteorological Officer embarked on the upgrading of the thermometers used in the collection of SST data along the coast. Following procurement of the equipment, the next step is to visit SST sites to provide ongoing training and hand over the new instrumentation. This is also in response to the scientific community's growing interest in SAWS' SST data.
	Engagements with students from the University of Cape Town participating in the 2017 Cape to Rio yacht race.	The Marine unit was approached by students from the University of Cape Town about the possible deployment of SVP drifters from their yacht during the 2017 Cape to Rio yacht race. Meetings were held to discuss logistics and structure the engagement in support of the theme of "Racing for Research". The student team included the interactions with SAWS in their promotional material which has subsequently been received internationally by, amongst others, JCOMM.
	South African Data Centre for Oceanography.	SAWS participated in the biannual meeting of the South African Data Centre for Oceanography (SADCO). The future of SADCO and which entity/ies should be responsible for oceanographic data stewardship going forward were discussed.
Disaster Management	Disaster Management Institute of Southern Africa (DMISA) annual conference.	SAWS was one of the main sponsors of the annual conference of the Disaster Management Institute of Southern Africa (DMISA) with the theme "Climate, Disaster Risk, Early Warning & Response: Re-evaluating Resilience" on 21 and 22 September 2016 in the Western Cape. SAWS was represented at the event by personnel dealing directly with aspects of disaster management. The conference consisted of plenary and breakaway sessions, with SAWS presenting several papers. Presentations covered amongst others weather and climate change; a national perspective on current disaster management issues; the Disaster Management Amendment Act of 2015; climate change response; an all-hazard response procedure, hazard classification and resilience; and whether we are focusing on the right issues.
	Disaster Management Indaba.	SAWS personnel gave a presentation on the SAWS' Early Warning System (EWS) and the latest technological developments to the newly elected leadership, disaster management stakeholders and other role players at a Disaster Management Indaba. The presentation focused on the impact-based early warning forecasting system and highlighted the extreme weather and climate events that pose a threat to districts/provinces, including record breaking temperatures, the winter tornado, and extremely low recorded rainfall and high rainfall events. The emphasis was on having a well-coordinated and effective EWS between SAWS and Disaster Management stakeholders, and on the responsibility for cascading warning messages to key remote areas. Since evaluating the level of service rendered by SAWS is key to ensuring that the needs of stakeholders are met, the importance of receiving feedback from stakeholders on weather impacts following alerts was emphasised at the meeting.



SAWS personnel participated in the Disaster Management Indaba

• Engagements with Universities

During the reporting period, SAWS also engaged with academia for the purpose of research collaboration, training and product development, as shown in Table 6 below.

Table 6: Engagements with Universities

University	Nature of Engagement
University of the Western Cape (UWC)	SAWS' Marine unit tested the reaction time of SST thermometers in a controlled laboratory at UWC. Discussions were held about standards at which readings will be taken and the training of observers.
University of the Western Cape (UWC) University of Bristol	A meeting was held between Mr Casper Labuschagne (SAWS Atmospheric group), Prof Mike Coleman-Davies (UWC) and Dr Dudley Schullcross (University of Bristol) to discuss ways of furthering their collaborative work. The possibility of closer collaboration between UWC's newly formed Atmospheric group and GAW on certain funded projects was explored.
University of KwaZulu-Natal (UKZN)	Prof Roland Schulze (UKZN) was invited to visit SAWS on 29 November 2016 to discuss opportunities for closer collaboration between the two organisations.

• Community Outreach and Educational Activities

SAWS strives to address the development needs of the country by exposing learners in the basic education system to career opportunities in the Sciences and promoting Science as a career choice. Career exhibitions held for this purpose are also aimed at empowering communities that have been affected by weather and climate related disasters.

In 2016/17, approximately 50 000 learners benefitted from career exhibitions held in Mpumalanga, Northern Cape, Eastern Cape and Gauteng.



Learners who attended the SAWS Career Day in Cofimvaba, Eastern Cape.

Table 7: Community Outreach and Educational Activities

Province	Event
Free State	To celebrate Nelson Mandela Day on 18 July 2016, SAWS' Bloemfontein weather office collaborated with ACSA at Bram Fischer Airport on an outreach event at Tswelang Primary School for physically challenged children. A total of 298 learners participated in the event.
Eastern Cape	In support of SANAP, the SA Agulhas II participated in an Open Day in Port Elizabeth where SAWS presented its day-to-day operations such as weather observations, forecasts and upper-air ascents to the Port Elizabeth community.
Mpumalanga	SAWS took part in the post-COP21 Climate Change Dialogue Workshop hosted by DEA in association with the Executive Mayor of Tshwete Municipality. The MEC of the Department of Agriculture, Rural Development and Land Administration (DARDLEA), councillors, provincial representatives and the South African Local Government Association (SALGA) were also in attendance.
KwaZulu-Natal	SAWS was invited to participate in a Career Expo hosted by the University of KwaZulu-Natal (UKZN) in Umzimkhulu and in Pietermaritzburg.
Limpopo	SAWS participated in the SAASTA Science Beyond Borders Exhibition in Thohoyandou.
Western Cape	SAWS was invited to give a presentation at Darling College in Darling in the Western Cape on subjects such as forecasting methods, long term forecasting and weather and climate change. The same presentation was given to the the Agricultural Research Council (ARC), the Women's Auxiliary at Plumstead Methodist Church and learners at Dirkie Uys High School in Moorreesburg.
Eastern Cape	SAWS participated in a Career Expo hosted by the Department of Science and Technology (DST) in Cofimvaba. Two thousand learners from 20 schools attended the event on 18 and 19 June 2016.
Gauteng	SAWS was invited to exhibit at the Discover Career Expo held at St Mary's Diocesan School for Girls in Pretoria on 9 June 2016.
Northern Cape	SAWS participated in the Maps and Mirrors Career Expo hosted by the Maths Centre in Postmasburg on 14 May 2016. The expo was aimed at Grade 12 learners from the area.
Western Cape	Fifteen MSc students involved in the African Climate Development Initiative (ACDI) at the University of Cape Town visited the Cape Point GAW station in February 2017. Dr Lynwill Martin presented on activities at the station.
North West	SAWS participated in an exhibition aimed at Grade 10 to 12 learners attending SAASTA's fifth Eding International Science Festival in Vryburg from 19 to 22 July 2016.

National Science Week 8- 13 August 2016	
Western Cape	SAWS participated in the launch of National Science Week in Cape Town. The event drew 5 000 visitors.
Mpumalanga	SAWS was part of the Science Festival held at the Mondi Science Centre in Piet Retief. The event was attended by 600 learners in Grades 9 to 11.
Mpumalanga	As part of the SAASTA supported Rural Education Festival (REDFEST) in Malamulele, SAWS exhibited and presented on meteorological and weather related subjects. Approximately 10 000 learners attended the event.
Southern Gauteng	SAWS exhibited at the National Science Week expo hosted by the ArcelorMittal Science Centre in Sebokeng which was attended by 600 learners from schools in the region.
Gauteng	Ten thousand Grade 9 to 11 learners visited the Sci-Bono Discovery Centre's Science Festival from 10 to 12 August 2016 in Newtown. SAWS was one of the exhibitors at the popular event.
Free State	Odendaalsrus celebrated National Science Week with a festival in the town hall from 10 to 12 August 2016. SAWS' exhibition on careers in meteorology and other weather-related fields was seen by 3 000 learners in Grade 7 and Grades 10 to 12.
KwaZulu-Natal	SAWS exhibited on careers in meteorology and weather-related fields at an event visited by 6 000 Grade 10 to 12 learners in Bergville from 10 to 12 August 2016.



Career Exhibition

PROGRAMME FOUR

A SCIENCE INSTITUTE THAT HAS A POWERFUL KNOWLEDGE BASE TO BE RECKONED WITH WORLD-WIDE

SAWS would be unable to deliver on its vision of creating a WeatherSMART nation without the backing of sound meteorological and climatological research. Knowledge generation is an essential tool in the development of adaptation strategies at local, provincial and national level. In recognition of SAWS' research output and its potential impact, the organisation was recently declared a national research institution with direct access to funding from the NRF.

In line with its Strategic Goal 4 (research and knowledge/intelligence creation), SAWS has continued to lead the way in building a strong scientific foundation for informed decision-making and innovative product design and in growing the weather and climate knowledge base. New scientific insights and collaborative evaluations served to enhance the significant existing knowledge base and intelligence relating to climate change.



4.1 STRATEGIC RESEARCH PARTNERSHIP AGREEMENTS

To support the implementation of the National Framework on Climate Services (NFCS), SAWS entered into strategic partnerships for the purpose of developing products for the key socio-economic sectors of energy, water, agriculture and health. The research conducted in the reporting period is summarised in Table 8 below.

Table 8: Strategic Partnerships

Sector	Research
Energy	Research was conducted for the development of a model for forecasting solar photovoltaic output (SVP_op) using the output of PV plants and weather variables. The model will significantly enhance the efficiency of solar photovoltaic plants and contribute to plant feasibility assessments and decision making around future investments in solar power projects.
Water	Research funded by the Water Research Commission (WRC) focused on streamflow projections in the Vaal River basin using two different climate change ensemble member averaging approaches. This research could contribute to improved planning in terms of industrial development and socio-economic growth, both of which rely on climate change related rainfall and streamflow projections. In another research project, data analyses were carried out to determine which of four variables (precipitation, runoff, evaporation and streamflow) has the biggest impact on dam levels. It was found that dam levels were affected most by streamflow variability, followed by variations in precipitation and evaporation.
Agriculture	Funded by FAO, a project was launched with the aim of improving and sustaining household and national food security in southern Africa through better management of climatic risks by smallholder farmers. Products for the agriculture sector were developed, with heat unit and chill unit models being applied to Automatic Weather Station (AWS) data to calculate the heat unit and chilling requirements of various clients.
Health	SAWS developed a malaria prediction product which uses multivariate analysis techniques to link incidents of malaria with remotely derived environmental/climatic variables. A model capable of predicting malaria incidents for early warning purposes will be operationalised by SAWS to assist in the prevention and control of the disease.

4.2 CLIMATE AND ENVIRONMENTAL RESEARCH AND MONITORING (CERM)

• Research for Improved Weather Prediction

With a view to creating a more weather and climate resilient nation, SAWS invested in research aimed at improving its nowcasting (0-12 hours) and forecasting tools.

Research was initiated to investigate the possibility of using satellite profiles to nowcast lightning later in the day. The existing SAWS lightning forecasting product uses Numerical Weather Prediction (NWP) model output.

A related nowcasting research study looked at using the small percentage of in-cloud lightning that is detected by the SAWS Lightning Detection Network (LDN) in conjunction with cloud-to-ground lightning to nowcast severe weather events such as tornadoes and hailstorms. Eight case studies were examined to determine whether this combination of lightning data could be useful for nowcasting. The results were very promising and research with further case studies is underway in order to develop an improved nowcasting tool.

SAWS researchers continued to investigate the Convection Rainfall Rate (CRR) based on cloud physical properties (CRPh). Previously only the rainfall rate was produced which overestimated the rainfall intensity compared to the Global Precipitation Measurement (GPM) products and CRR. This research will assist with rainfall nowcasting estimates and result in more accurate rainfall data, particularly during severe weather events.

Research also continued on the utilisation of radar data in operational situations. SAWS' participation in the WMO sponsored Aviation Research Demonstration Project (AvRDP) is a major milestone towards obtaining an aviation nowcasting system. OR Tambo International Airport was selected for inclusion in the study on the impact of severe weather events on operations at international airports. SAWS was given access to SWIRLS (Short-range Warning of Intense Rainstorms in Localised Systems) for use in the project. SWIRLS is a nowcasting system developed and operated by the Hong Kong Observatory since 1999 to forecast severe weather such as heavy rain, lightning, hail and thunderstorm induced gusts over a small area. The days of severe weather at OR Tambo selected as case studies were 26 July 2016, 26 October 2016 and 2 November 2016.

In short and medium range forecasting research, the improvement of radar data quality was investigated together with the statistical calculation of availability and the dissemination of this information on webpages created for the purpose. Radar data was also shared with the Newton Fund's Weather and Climate: Science to Service Project (WCSSP) for testing and evaluation of the convective scale models used by SAWS. The project is funded by the UKMO and is being conducted in collaboration with Reading University.

First steps were taken toward creating a sub-kilometre scale numerical model simulation with the Unified Model UM 10.4 tropical configuration at 300 metre resolution over the OR Tambo International domain. The model output generates diagnostics for blending with nowcasting tools to improve severe weather forecasts.

The Long Range Forecasting group focused its research efforts on quantifying the dynamical mechanism behind the active stratosphere and its wave driving which affects weather and climate on a seasonal timescale. The study first uses observation data as proxy to serve as a baseline for the SAWS coupled model to respond to recommendations on the development of an Earth System Model (ESM). The study reveals the dynamical mechanism behind the stratosphere, particularly during the months when it is active. The year 2002 was used to demonstrate the mechanism. This year is highlighted in the literature on the southern hemisphere (SH) stratosphere as being the year in which the stratosphere underwent major dynamical modulations as a result of the so-called Sudden Stratospheric Warming (SSW) which was the first warming event ever to occur in the SH.

• Climate Variability and Change

The SAWS Climate Change Reference Atlas was completed in the year under review and launched on 30 March 2017. The results of this project will be incorporated into the Rain for Africa and HydroNet projects and act as a basis for many further research opportunities in areas such as provincial projections. More than 80 similar maps will be included in the SAWS Global Warming Atlas. A comprehensive set of spatial maps was completed using two Representative Concentration Pathways (RCPs) (RCP 4.5 and 8.5) and two 30-year projection periods (2036-2065 and 2066-2095) generated through CORDEX dynamical downscaling from nine Global Circulation Models (GCMs) for inclusion in the Climate Change Reference Atlas.

Research continued on the preparation of temporal frequency graphs for each province and for Lesotho and Swaziland on average rainfall and temperature and extreme projections. This also involved the two RCPs (RCP 4.5 and 8.5) and two 30-year projection periods (2036-2065 and 2066-2095) generated through CORDEX dynamical downscaling from nine Global Circulation Models (GCMs). This work will support the provision of climate change scenarios as well as long term planning and socio-economic applications, particularly at provincial level.

Through a project funded by the Water Research Commission (WRC), the SAWS research team successfully determined the nature of present and future extreme heat conditions over southern Africa. Based on an analysis of the intensity and duration of heat wave patterns using four global climate models, more intense heat waves were projected for the period 2010 to 2040 in the Free State and certain parts of KwaZulu-Natal, followed by Gauteng, Mpumalanga, Limpopo and North West. While noticeable spatial and temporal differences were found in the magnitude of the linear trends (estimated using a time-varying location parameter), positive linear trends were projected for large parts of South Africa which indicate that maximum temperatures can be expected to continue increasing in the future.

- **Global Atmosphere Watch (GAW)**

As one of only 29 GAW stations measuring trace gases on the planet, SAWS continued to participate in the GAW programme by providing data on trace gases to the relevant World Data Centres (WDCs) for use in the global analysis of trace gases. SAWS also uses its trace gas data for trend analysis research and monitoring.

- **Applications**

Research was conducted on air quality modelling and forecasting using a fully coupled model. This work has great potential for socio-economic applications for agriculture and food security as well as water and human settlements. SAWS also compiled a report on the primary challenges facing the Air Quality Health Index (AQHI) which measures the impact of air quality on the health of the population. A better understanding of the AQHI will benefit further research on the impact of air quality on human life.

- **Socio-economic Benefits (SEB)**

SAWS developed a proposal and terms of reference for a study on the socio-economic value of weather and climate information. Limited funding was also secured for the project. This is a research area that is becoming extremely important globally and a number of national weather services and development banks have embarked on studies to evaluate the socio-economic value of meteorological services in order to promote resource investment in priority areas towards meeting development goals and achieving desired socio-economic returns. SAWS will continue with this research work in the 2017/18 financial year.

4.3 SCIENTIFIC PUBLICATIONS

In order to build the scientific knowledge base and promote ongoing collaboration with relevant stakeholders, SAWS scientists published 14 peer reviewed articles and contributed to 12 conference papers as indicated below.

2017 PEER REVIEWED ARTICLES

KRUGER, A. C. AND NXUMALO, M. 2017. Surface Temperature Trends from Homogenized Time Series in South Africa: 1931-2015. *International journal of climatology*, vol. 37, no. 5, pp. 2364-2377. <http://dx.doi.org/10.1002/joc.4851>

MARTIN, L. G., LABUSCHAGNE, C., BRUNKE, E.-G., WEIGELT, A., EBINGHAUS, R. AND SLEMR, F. 2017. Trend of Atmospheric Mercury Concentrations at Cape Point for 1995-2004 and since 2007. *Atmospheric Physics and Chemistry*, vol. 17, no. 3, pp. 2393-2399. <http://dx.doi.org/10.5194/acp-17-2393-2017>

SPROVIERI, F., PIRRONI, N., BENCARDINO, M., D'AMORE, F., ANGOT, H., BARBANTE, C., **BRUNKE, E.-G.**, ARCEGA-CABRERA, F., CAIRNS, W., COMERO, S., DIÉGUEZ, M. D., DOMMERGUE, A., EBINGHAUS, R., FENG, X. B., FU, X., GARCIA, P. E., GAWLIK, B. M., HAGESTRÖM, U., HANSSON, K., HORVAT, M., KOTNIK, J., **LABUSCHAGNE, C.**, MAGAND, O., **MARTIN, L.**, MASHYANOV, N., **MKOLOLO, T.**, MUNTHER, J., OBOLKIN, V., RAMIREZ ISLAS, M., SENA, F., SOMERSET, V., SPANDOW, P., VARDÉ, M., WALTERS, C., WÄNGBERG, I., WEIGELT, A., YANG, X. AND ZHANG, H. 2017. Five-Year Records of Mercury Wet Deposition Flux at GMOS Sites in the Northern and Southern Hemispheres. *Atmospheric Physics and Chemistry*, vol. 17, no. 4, pp. 2689-2708. <http://dx.doi.org/10.5194/acp-17-2689-2017>

2017 CONFERENCE ABSTRACTS/PAPERS (1 item)

MULOVHEDZI, N.E. VAN DER LAAN, M., **MENGISTU, M.G.**, FESSEHAZION, M.K., ARAYA, H.T. AND IBRAIMAO, N.A. 2017. Quantifying Sweet Potato (*Ipomoea Batatas*) Evapotranspirations Using the Eddy Covariance Technique. *Combined Crops, Soils, Horticulture and Weeds Congress 2017: Abstracts Oral*: 23 to 26 January, 2017, Klein Kariba, Bela Bela, Limpopo Province, South Africa, p. 111 of 160. <http://combinedcongress.org.za/wp-content/uploads/2016/05/Oral-Booklet2.pdf>

2016 PEER REVIEWED ARTICLES

BOTAI, C. M., BOTAI, J. O., DLAMINI, L. C., ZWANE, N. S. AND PHADULI, E. 2016. Characteristics of Droughts in South Africa: a Case Study of Free State and North West Provinces. *Water*, vol. 8, no. 10, Article# 439, 25 pp. <http://dx.doi.org/10.3390/w8100439>

FEIG, G., **NAIDOO, S.**, AND **NGCUKANA, N.** 2016. Assessment of Ambient Air Pollution in the Waterberg Priority Area 2012-2015. *Clean Air Journal = Tydskrif vir Skoon Lug*, vol. 26, no. 1, May/Jun, pp. 21-28. <http://dx.doi.org/10.17159/2410-972X/2016/v26n1a9>

KRUGER, A. AND MCBRIDE, C. 2016. South Africa [in "State of the Climate in 2015"]. *Bulletin of the American Meteorological Society*, vol. 97, no. 8, S193-S195. <http://dx.doi.org/10.1175/2016BAMSStateoftheClimate.1>

MASHABA, Z., CHIRIMA, G., **BOTAI, J.**, COMBRINCK, L. AND MUNGHEMEZULU, C. 2016. Evaluating Spectral Indices for Winter Wheat Health Status Monitoring in Bloemfontein using Lsat 8 data. *South African journal of geomatics*, vol. 5, no. 2, Sep, p. 227-243. <http://dx.doi.org/10.4314/sajg.v5i2.10>, <http://www.sajg.org.za/index.php/sajg/article/view/457>

MUNGHEMEZULU, C., COMBRINCK, L., **BOTAI, J.** AND MASHABA, Z. 2016. Mapping GPS Multipath: a Case Study for the Lunar Laser Ranger Timing Antenna at HartRAO. *South African journal of geomatics*, vol. 5, no. 2, Sep, p. 142-155. <http://dx.doi.org/10.4314/sajg.v5i2.4> , <http://www.sajg.org.za/index.php/sajg/article/view/451>

NISBET, G., DLUGOKENCKY, E. J., MANNING, M. R., LOWRY, D., FISHER, R. E., FRANCE, J. L., MICHEL, S. E., MILLER, J. B., WHITE, J. W. C., VAUGHN, B., BOUSQUET, P., PYLE, J. A., WARWICK, N. J., CAIN, M., BROWNLOW, R., ZAZZERI, G., LANOISELLÉ, M., MANNING, A. C., GLOOR, E., WORTHY, D. E. J., **BRUNKE, E.-G., LABUSCHAGNE, C.,** WOLFF, E. W. AND GANESAN, A. L. 2016. Rising Atmospheric Methane: 2007–2014 growth and isotopic shift. *Global Biogeochemical Cycles*, vol. 30, no. 9, Sep, pp. 1356–1370. <http://dx.doi.org/10.1002/2016GB005406>

PYLE, D.M. AND **JACOBS, T.L.** 2016. The Port Alfred Floods of 17–23 October 2012: a Case of Disaster (Mis)management? *Jambá: journal of disaster risk studies*, vol. 8, no. 1, 8 pp. <http://dx.doi.org/10.4102/jamba.v8i1.207>

SINGH, J. 2016. Ranking South African Provinces on the Basis of MERRA 2D Surface Incident Shortwave Flux. *Journal of Energy in Southern Africa*, vol. 27, no. 3, Aug, pp. 50–57. <http://ref.scielo.org/pc4s4f>

SINGH, J. AND KUMAR, M. 2016. Solar Radiation over four Cities of India: Trend Analysis Using Mann-Kendall Test. *International journal of renewable energy research*, vol. 6, no. 4, pp. 1385-1395. <http://www.ijrer.org/ijrer/index.php/ijrer/article/view/4572/pdf>

SPROVIERI, F., PIRONE, N., BENCARDINO, M., D'AMORE, F., CARBONE, F., CINNIRELLA, S., MANNARINO, V., LANDIS, M., EBINGHAUS, R., WEIGELT, A., **BRUNKE, E.-G., LABUSCHAGNE, C., MARTIN, L.,** MUNTHE, J., WÄNGBERG, I., ARTAXO, P., MORAIS, F., BARBOSA, H. D. M. J., BRITO, J., CAIRNS, W., BARBANTE, C., DIÉGUEZ, M. D. C., GARCIA, P. E., DOMMERGUE, A., ANGOT, H., MAGAND, O., SKOV, H., HORVAT, M., KOTNIK, J., READ, K. A., NEVES, L. M., GAWLIK, B. M., SENA, F., MASHYANOV, N., OBOLKIN, V., WIP, D., FENG, X. B., ZHANG, H., FU, X., RAMACHANDRAN, R., COSSA, D., KNOERY, J., MARUSCZAK, N., NERENTORP, M. AND NORSTROM, C. 2016. Atmospheric Mercury Concentrations Observed at Ground-Based Monitoring Sites Globally Distributed in the Framework of the GMOS Network. *Atmospheric Chemistry and Physics*, vol. 16, pp. 11915-11935. <http://dx.doi.org/10.5194/acp-16-11915-2016>

STANDER, J. H., DYSON, L. AND ENGELBRECHT, C. J. 2016. A Snow Forecasting Decision Tree for Significant Snowfall over the Interior of South Africa. *South African Journal of Science*, vol. 112, no. 9/10, Sep/Oct, Art. #2015-0221, 10 pp. <http://dx.doi.org/10.17159/sajs.2016/20150221>

2016 CONFERENCE ABSTRACTS/PAPERS

DE VOS, M., BACKEBERG, B. AND COUNILLON, F. 2016. Towards Understanding the Impact of Assimilating Along-Track SLA Data on Simulated Eddy Characteristics in the Agulhas System, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 21-24. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf

ENGELBRECHT, C. J., **LANDMAN, S.** AND MALHERBE, J. 2016. The 2015/16 Summer vs the Summers of the Last Decade, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 29-31. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf

- GIJBEN, M., MASEKO, B., VAN HEMERT, L. AND DE CONING, E.** 2016. Recent Improvements to the Rapidly Developing Thunderstorm Product: the Addition of Lightning data, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 45-49. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf
- KRUGER, A.C. AND LARSEN, X.G.** 2016. Estimation of the South African Extreme Wind Statistics Using Measured Data and Reanalysis Data Approaches, in *Proceedings of the 1st Wind Ac Africa conference*, 31 October to 1 November, Cape Town, 10 pp. <http://windac-africa.com/windac-2016/download-area/>
- LANDMAN, S., ENGELBRECHT, C. J., MASON, S. J. AND PEGRAM, G. G. S.** 2016. Evaluation of the Predictability of Rainfall over South Africa by Regional and Global Weather Prediction Models, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 64-68. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf
- MATHOLE, K., NDARANA, T., LANDMAN, W. A. AND BERAKI, A. F.** 2016. The Climatology of the Stratospheric zonal Wind and its Wave Driving in the SAWS Operation Seasonal Prediction System, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 83-86. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf
- MKOLOLO, T., LABUSCHAGNE, C., BRUNKE, E-G. and MARTIN, L.G.** 2016. Trace Gas Monitoring at Cape Point Global Atmosphere Watch (GAW) Station: South Africa, *Asia-Pacific GAW on Greenhouse gases newsletter*, 7, Dec, pp. 16-21, <http://www.wmo.int/pages/prog/arep/gaw/documents/FinalversionofNewsletterin2016.pdf>
- NCIPHA, X. AND VENKATARAMAN, S.** 2016. Influence of meteorology on carbon dioxide atmospheric loading in South Africa, in *V Congreso Colombiano y Conferencia Internacional de Calidad del Aire y Salud Pública, [5th Colombian Congress and International Conference of Air Quality and Public Health]*, 10-14 Aug. 2015, Bucaramanga, Agosto, pp. 97-106. http://casap.com.co/es/memorias/libro_memorias.pdf?v=2 (Last viewed: 10 June 2016)
- NCIPHA, X. G., SIVAKUMAR, V., SOLOFO, R AND BENCHERIF, H.** 2016. Comparison of Summer and Spring Carbon Dioxide Vertical and Spatial Distribution over the Southwest Indian Ocean Islands Using TES data, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 100-103. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf
- PHADULI, E.** 2016. Evaluation of the Convective Scale Configurations of the Unified Model, in *the 32nd Annual Conference of the South African Society for Atmospheric Sciences*, 31 October to 1 November 2016, Milnerton, Cape Town, pp. 108-111. http://www.csag.uct.ac.za/wp-content/uploads/2016/04/SASAS_2016_Conference_Proceedings_Final_18Nov_16.pdf
- TESFAYE, M., TSIDU, G.M. BOTAI, J., SIVAKUMAR, V. AND RAUTENBACH, C.J. deW.** 2016. Mineral Dust Aerosol Distributions, its Direct and Semi-Direct Effects over South Africa based on Regional Climate Model simulation, in *The 8th International Workshop on Sand/Dust storms and Associated Dust fall: Book of Abstracts*, Lisbon, Portugal, 1-4 May 2016, pp. 46. <http://www.dustworkshop8.ctn.tecnico.ulisboa.pt/Publications.html>

PROGRAMME FIVE

DIVERSIFYING OUR COMMERCIAL PORTFOLIO TO CREATE NEW REVENUE STREAMS, ESPECIALLY IN THE CONVERGED ICT SECTOR

The South African Weather Service (SAWS) is the primary provider of weather and climate-related information within South Africa, as legislated in the South African Weather Service Act, 2001 (No 8 of 2001 as amended).

SAWS supplies weather-related information to the public at large as part of its public good mandate of which a government grant is received to support this activity. It furthermore provides weather and climate-related information to commercial clients from industries such as mining, insurance, tourism and telecommunication as well as municipalities and international meteorological organisations and serves the aviation industry on a cost recovery basis through a regulated tariff. The Regulating Committee on Meteorological Services (RCMS) plays a pivotal role in ensuring that the recommended tariff is just and fair to all parties involved and making recommendations to the Minister of the Environmental Affairs for approval and subsequent promulgation in the Government Gazette.

According to the Act, SAWS is also the custodian of the South African Air Quality Information System, which includes the selling of ambient air-quality or meteorological information packages.

Part E: Financial Information provides a comprehensive overview in this regard.



PERFORMANCE INFORMATION BY STRATEGIC OBJECTIVE

SAWS' performance information for the 2016/17 financial year is aligned to the performance indicators and targets in the organisation's Annual Performance Plan 2016/17.

SAWS' performance against strategic targets is tabulated on the following pages.

STRATEGIC GOAL 1: PROVISION OF PRODUCTS AND SERVICES

Strategic Objective	Objective Statement	Key Performance Indicator	Means of Verification	Target 2016/17	Result	Comment on Deviation
1.1 Develop and provide meteorological and related products and services for targeted communities nationally	Provision of innovative meteorological and related products and services will serve targeted communities to empower them to become WeatherSMART (weather resilient) through the development and implementation of a community WeatherSMART products and service plan (2017-2020)	% completion of the 'As is' community WeatherSMART Needs Analysis Report across all targeted communities for the development of products and services to improve weather resilience	'As is' and community WeatherSMART Needs Analysis Report (16/17)	100% completion of 'As is' and community weather smart Needs Analysis Report across all targeted communities for the development of products and services to improve the weather resilience	Achieved 'As is' Report completed	N/A
	Provide targeted community segments with products and services to minimise weather risks on a day-to-day basis	Number of community segmented products and/or services provided (cumulative target)	Community segmented products and/or services in the market	1 new (not previously provided) product or service for a community segment Maintain the provision of 4 existing community segmented products and/or services	Achieved Climate Change Reference Atlas completed and launched during World Meteorology day on the 23 rd March 2017	N/A
1.2 Develop and market meteorological and related products and services for specific economic sectors	Provide sector specific decision-making products on weather and climate. These will assist targeted business sectors in decision-making to minimise weather risks on day-to-day business operations	Number of sector specific products provided (cumulative)	Sector specific products Product Release certificates Quarterly Reports	3 sector specific products provided into the market	Achieved One Water Sector Specific Product developed viz Precipitation Concentration Index (Indicator for Agro-hydro applications)	N/A
	Develop and implement 5-year marketing plans for sector specific products on weather and climate aimed at minimising weather risks on day-to-day business operations	% completion of 5-year marketing plans for sector specific products on weather and climate in targeted sectors	5-year marketing plans for sector specific products and services: 2016/17 Agriculture	100% completion of 5-year marketing plan for sector specific products on weather and climate for the agricultural sector	Not achieved Approved 5-year Agro Marketing Plan in place	The Approval process for the 5-year marketing plan was delayed. The plan was finally approved in May 2017
		% implementation of annual milestones for Sector specific 5-year marketing plan	Sector specific 5-year marketing plans 2016/17 agricultural sector	% Implementation of annual milestones for Sector specific 5-year marketing plans: 80%: agricultural sector	Not achieved	Current activities form part of the rollout of HydroNET and will continue into 2017/18 Revenue target achieved
1.3 Establish partnerships for products and services	Establish a number of strategic partnerships with relevant capabilities and expertise	Number of joint ventures and strategic alliances established (cumulative target)	Agreements of joint ventures and strategic alliances	1 joint venture & 1 strategic alliance established	Not achieved	Strategic Alliance contract with TAHMO concluded after reporting period. No Joint Venture Contract concluded

STRATEGIC GOAL 2: CAPABILITY AND CAPACITY DEVELOPMENT

Strategic Objective	Objective Statement	Key Performance Indicator	Means of Verification	Target 2016/17	Result	Comment on Deviation
2.1 Upgrade, expand and optimise infrastructure	Provide optimal infrastructure and systems support in the development of advanced technologies for observations, information dissemination and exchange that enables SAWS to achieve its mandate	% availability of radar data	Radar data availability report	Radar data availability = 80%	Achieved Annual target at 81.75%	N/A
		% Lightning Detection Network (LDN) data ⁵ availability	LDN data availability report	LDN data availability = 95%	Achieved LDN availability = 96.03% (records date March 27, 2017)	N/A
		% SAAQIS availability	SAAQIS availability report	SAAQIS availability = 90%	Achieved 99.69%	N/A
2.2 Position SAWS as an employer of choice	Develop programmes which create a supportive environment for high performance, employee wellness, career development, attraction and retention of core competencies	% implementation of annual milestones for the SAWS dual career pathing programme	Dual career pathing programme implementation report(s)	Implement 80% of annual plan/ targets of the dual career pathing programme	Partially achieved	The final stage of Dual Career Pathing was assessment, however its criteria had to be reviewed with consideration of organisational developments
		%(increase) in employee capability for core and critical skills (cumulative)	Employee capability programme proposal/concept Competency assessments report(s)	Establish baseline in employee capability	Achieved	N/A
		% increase in leadership competency index	Leadership development programme proposal/concept Competency assessments report(s)	5% increase in leadership competency index	Achieved	N/A
		% employee retention rate for core/critical skills	Employee retention reports	92% employee retention rate for core/critical skills	Achieved	N/A
	Develop programmes which create a supportive environment for high performance, employee wellness, career development, attraction and retention of core competencies in line with the transformation agenda	% achievement of Employment Equity (EE) targets as per the organisational EE plan	EE Plan EE Reports	74% Africans 3% People With Disabilities 40% women in core 42% women in management	Achieved The baseline was 67% and 2016/17 target 74% which is a target over a period of 5 years	N/A
2.3 Build a talent pool for atmospheric and related science as a national imperative	Build the talent pipeline for atmospheric and related sciences to address the national priorities of the country related to weather and climate	% completion of the phase of implementation of the National Educational Plan	NEP implementation reports	100% completion of phase 1 of the NEP	Achieved	N/A
		% Implementation of annual targets of the Regional Training Centre (RTC) Strategy	RTC Strategy implementation plan RTC APP	80% of the RTC APP targets achieved	Achieved	N/A

STRATEGIC GOAL 2: CAPABILITY AND CAPACITY DEVELOPMENT (continued)

Strategic Objective	Objective Statement	Key Performance Indicator	Means of Verification	Target 2016/17	Result	Comment on Deviation
		Number of bursaries awarded	Report on bursaries awarded	62 bursaries awarded	Achieved	N/A
		% of bursars absorbed by SAWS	Appointment letters of absorbed bursars Contracts of employment of absorbed bursars	60% of bursars absorbed	Achieved	N/A
		% completion of Doctoral programme plan % implementation of Doctoral programme milestones	Report on progress of implementation of the Doctoral programme	100% completion of Doctoral programme plan 10% of the Doctoral programme annual milestones achieved	Achieved	N/A

STRATEGIC GOAL 3: ENGAGED STAKEHOLDERS

Strategic Objective	Objective Statement	Key Performance Indicator	Means of Verification	Target 2016/17	Result	Comment on Deviation
3.1 Position SAWS as a relevant meteorological institution	Development and maintenance of various platforms ⁹ for engagement with stakeholders to extend the reach and increase awareness of the SAWS brand	% completion of annual targets as set out in the corporate communications strategy	Corporate communications strategy Progress reports on the implementation of the corporate communications strategy	Implementation of 80% of annual communications programmes for 2016/17 as per the communications strategy	Achieved	11.5 Programmes against (target of 14 programmes) were implemented 82% achieved (against 80%) of annual communications programmes for 2016/17 financial year
	Evaluation of the use of communication platforms used to promote SAWS programmes and brand	% (increase) in traffic volumes on media platforms (website/ Facebook, Twitter, YouTube)	Reports on traffic volumes/ hits (website/ Facebook, Twitter, YouTube)	Establish a baseline in traffic volumes on media platforms (website/ Facebook, Twitter, YouTube)	Achieved	N/A
	Evaluation of the use of communication platforms used to promote SAWS programmes and brand	Rand Value Advertising Value Equivalent (AVE) (cumulative)	Progress reports on AVE Media monitoring reports	Advertising Value Equivalent (AVE) - R22m	Achieved	Cumulative AVE exceeded due to additional exposure caused by severe weather, especially cyclone Dineo
3.2 Manage and leverage strategic relations	Engagement of stakeholders for mutual benefit	Number of engagement programmes for targeted stakeholder groups as per SES (2016/17) % implementation of stakeholder programmes for targeted stakeholder groups as per SES (2018-20)	Stakeholder engagement plans	Engagement programmes for 8 targeted stakeholder groups (SES)	Achieved	Additional stakeholder group engagements due to weather and climate anomalies experienced and advent of climate
		Overall stakeholder satisfaction rating (expressed as a percentage)	Overall stakeholder satisfaction rating as per stakeholder perception survey report	Overall stakeholder satisfaction rating - 86%	Partially achieved 85%	1% below target. A performance above 80% is already considered by the industry to be excellent

STRATEGIC GOAL 4: RESEARCH AND KNOWLEDGE / INTELLIGENCE CREATION

Strategic Objective	Objective Statement	Key Performance Indicator	Means of Verification	Target 2016/17	Result	Comment on Deviation
4.1 Grow weather and climate knowledge base	Generate new scientific insights and continuous evaluation in collaboration with relevant stakeholders Enhance the existing knowledge base and intelligence related to climate change Identify tangible socio-economic benefits to key sectors and society of a national weather service	% of funds secured for conducting SEB study	Funding proposals Funding commitments	25% of funds secured for conducting SEB study	Achieved Proposal was approved with the 25% funding	N/A
		National Framework for Climate Services (NFCS) implementation per key sector	NFCS Implementation report	Implementation of NFCS facilitated for 3 key climate sensitive sectors	Achieved One Water sector product (Catchment Rainfall Spatial Variability Indicator Suite (CRSVIS)) and one Health sector product (Malaria health prediction product) have been developed	N/A
		Number of partnership agreements for applications and/or products development for various socio-economic sectors in support of the NCCRP	Partnership agreement for applications and/or product development	1 partnership that translates into applications or products for decision-making in modelling	Achieved One Partnership Agreement (MoU) has been signed with CUT	N/A
		Number of peer-reviewed articles published in accredited national or international scientific journals where SAWS scientists are the leading author or co-author (cumulative target)	Peer-reviewed articles published in accredited national or international scientific journals where SAWS scientists are the leading author or co-author	14 publications	Achieved	14 peer reviewed articles achieved In addition, 12 conference presentations were made by SAWS personnel

STRATEGIC GOAL 5: GROWTH AND SUSTAINABILITY

Strategic Objective	Objective Statement	Key Performance Indicator	Means of Verification	Target 2016/17	Result	Comment on Deviation
5.1 Grow Revenue Streams	To secure adequate parliamentary grant funding for the execution of public good services as per the SAWS mandate	Parliamentary grant funding excluding SAAQIS	MTEF allocation letter Audited Financial Statements	R189,28m	Achieved	N/A
	Secure regulated commercial income from the aviation industry on a cost recovery basis as regulated by the Regulatory Committee on Meteorological Services	Growth in year-on-year aviation revenue	Audited Financial Statements	R108,37m	Achieved	N/A
	Secure non-regulated commercial income from specialised weather related services	Growth in commercial revenue as per set target (annual total revenue)	Audited Financial Statements	R18,00m	Achieved	N/A

PART C

GOVERNANCE



GOVERNANCE

PART C | GOVERNANCE

1. INTRODUCTION

During the period under review, the South African Weather Service Board ("the Board") continued to provide leadership and oversight in terms of the governance of SAWS. The responsibilities of the Board include but are not limited to ensuring that the organisation is well financially and otherwise managed, that operations are aligned with governance best practice and that all the necessary governance structures are in place.

2. MANDATE

SAWS derives its mandate from the South African Weather Service Act, 2001 (No 8 of 2001) as amended by the South African Weather Service Amendment Act, 2013 (No 48 of 2013). As a Schedule 3A public entity, SAWS is also governed by relevant provisions of the Public Finance Management Act, 1999 (No 1 of 1999) ("the PFMA"), as amended, associated Treasury Regulations and all other legislative prescripts and governance frameworks applicable to Schedule 3A public entities.

In addition, SAWS has international governance obligations as a representative of South Africa in various important international bodies such as the World Meteorological Organization (WMO), the Meteorological Association of Southern Africa (MASA) and the International Civil Aviation Organization (ICAO).

3. PORTFOLIO COMMITTEE ON ENVIRONMENTAL AFFAIRS

The Portfolio Committee on Environmental Affairs (PCEA) continued to provide oversight of SAWS' affairs by reviewing the SAWS Strategic and Annual Performance Plans and associated Quarterly Reports as well as the SAWS Annual Report for the 2015/16 financial year.

SAWS appears before the PCEA together with the Department of Environmental Affairs (DEA), and the Board is extremely appreciative of the ongoing guidance and support of DEA and the many opportunities for fruitful engagement.

4. EXECUTIVE AUTHORITY

The Minister of Environmental Affairs represents Government as the sole shareholder in and executive authority over SAWS. The Minister is assisted in her oversight role by the DEA and the SAWS Board.

Key reports and documents that were reviewed by the Board and approved and/or reviewed by the Minister during the

2016/17 financial year include:

- a) the SAWS Five-Year Strategic Plan and Annual Performance Plan and the associated Budget;
- b) Quarterly Performance Reports against the SAWS Annual Performance Plan for the 2016/17 financial year; and
- c) the SAWS Annual Report and audited Annual Financial Statements for the 2015/16 financial year.

As a Schedule 3A public entity, SAWS is not obliged to hold Annual General Meetings. Engagements between the Board and the Minister are scheduled as and when required, and the Minister's ongoing involvement and support in this regard are highly appreciated. On 8 June 2016, a bilateral meeting with the Minister was held.

5. THE ACCOUNTING AUTHORITY (THE BOARD)

5.1 Introduction

The South African Weather Service Board is appointed by the Minister in terms of the South African Weather Service Act, 2001 (No 8 of 2001), as amended by the South African Weather Service Amendment Act, 2013 (No 48 of 2013) ("the SAWS Act").

The mandate of the Board is derived from the same legislation as amended inter alia by the relevant provisions of the PFMA, the Treasury regulations issued in terms of the PFMA, and, to a certain extent, the King Report on Corporate Governance for South Africa.

The three year term of office of the current SAWS Board began on 1 September 2015 and will come to an end on 31 August 2018. SAWS highly appreciates the smoothness and continuity with which the appointment was effected, ensuring a good balance going forward between new and reappointed members.

5.2 Role of the Board

The primary responsibilities of the Board are as follows:

- Providing SAWS with the strategic direction and leadership required for long-term sustainability.
- Setting policies and standards and monitoring the execution of the SAWS Five-Year Strategic Plan, Annual Performance Plan and Budget.
- Ensuring that SAWS maintains an appropriate balance between its public good and commercial mandates and ensures that commercial projects and products do not compromise the delivery of public good services.

- Exercising all reasonable care to ensure the protection of SAWS' assets and records.
- Ensuring the implementation and maintenance of effective, efficient and transparent financial and risk management systems and internal controls.
- Ensuring Board and organisational compliance with all relevant provisions of the PFMA and any other legislation applicable to SAWS.
- Taking responsibility for the submission by SAWS of all reports, returns, notices and other information to Parliament, the Minister, National Treasury and the Auditor-General as may be required by the PFMA.
- Enforcing comprehensive corporate governance including, to the fullest extent possible, compliance with the recommendations and principles contained in the King Code of Governance for South Africa, particularly those relating to:
 - risk and information and communications technology (ICT), and
 - the management and integration of ethics into SAWS strategies and operations.

5.3 Board Charter ("the Charter")

The Board has an approved Charter which is reviewed annually and serves to guide the functioning of the Board. The Charter makes provision for the Board to establish and delegate functions to committees in order to assist the Board in the execution of its mandate. It also allows for the Board to delegate in writing any of the powers entrusted or delegated to it by the PFMA to an official of SAWS or to instruct an official to perform any of the duties assigned to the Board by the PFMA.

In compliance with applicable legislative and governance frameworks, the Board ensured that the following duties were, inter alia, executed within the prescribed timelines during the period under review:

- **Strategy, Annual Performance Plan and Budget Review**

The SAWS 2016/17 Five-Year Strategic Plan, Annual Performance Plan and Budget were reviewed and submitted to the Minister.

- **Performance Monitoring**

The implementation of the 2016/17 Annual Performance Plan was monitored through Board reviews of Quarterly Performance

Reports compiled by Management and the submission of the reports to the Minister at the end of each quarter as required.

The Board is also responsible for managing the performance of the CEO, and as such will review and conclude the CEO's Performance Agreement for the 2017/18 financial year and has conducted the annual assessment of the performance of the CEO for 2015/16 in July 2016.

- **Review of Policies and Governance Frameworks**

Several policies and governance frameworks, including the Board Charter and the Terms of Reference of the Board committees, must be reviewed for the purpose of strengthening internal controls and ensuring compliance with governance requirements. For the year under review, the revision of Governance Frameworks was delayed owing to the release of the King IV report which happened in November 2016. During March/April 2017 the Board held a Special Board Meeting to approve various policies.

5.4 Composition of the Board

The structure and composition of the Board are guided by Section 5 of the SAWS Act and are in compliance with corporate governance best practice. At the beginning of the 2016/17 financial year the Board had 13 members all of whom were non-executive members with the exception of the SAWS Chief Executive Officer. By the end of the financial year, one member had resigned leaving the Board with 12 members of which 11 are Non-Executive Directors plus one Executive Director, the SAWS Chief Executive Officer. The Board resolved to release the permanent CEO from her contract on 2 November 2016 and on the same date the Interim CEO was appointed pending the finalisation of the recruitment process for the new CEO.

5.5 Board Meetings

During the period under review, six Board meetings were held in accordance with the provisions of the Board Charter and in line with the Board Calendar and Annual Work Plan. Paragraph 6 of the Charter also makes provision for the Board to hold special meetings as and when the need arises.

Four scheduled Board meetings were held on 30 May 2016, 27 July 2016, 14 November 2016 and 30 January 2017, and two Strategic Sessions on 9 -10 June 2016 and 12 August 2016. In March 2017 Board committees convened an organisation-wide policy review and held workshops.

Table 1: Board and Committee Membership

Board Members	Qualifications	Audit and Risk Committee (ARC)	Human Resources and Remuneration Committee (HRRC)	Strategic programmes Committee (SPC)
Ms Ntsoaki Mngomezulu (Chairperson)	B.A (Social Science) Neuro-Linguistic Programme (NLP)		X	
Dr Lulama Gwagwa, PhD (Deputy Chair)	PhD; MSc (Cum Laude) MRTP, B.A	X Resigned on 13 January 2017		
Mr Rowan Nicholls (ARC Chair)	CA (SA); BComm; CIA and MICS (UK)	X		
Dr Jonty Tshipa, PhD (SPC Chair)	PhD (Financial Management Science), Masters Finance & Investment (Cum laude), MBA, Electrical Engineering, Project Management in IT, GRP		X	X
Mr David Lefutso (HRRC Chair)	BCom (Wits), MBA (Rhodes), MPhil (Stellenbosch)		X	
Prof Elizabeth Mokotong	B.A Social Science (social work); B.A (Hons) Social Science; Certificate course in adult education; Diploma in adult education			X
Ms Judy Beaumont	M. Phil, Environmental Science; B.A (Hons) African Studies Department and B.A (English and Industrial Psychology)			X
Adv Derick Block	Law Advocate	X Effective from 30 January 2017	X Effective from 01 September 2015 and reassigned on 30 January 2017	
Ms Nandipha Madiba	Hons BCompt;CTA (NDP); MSc Fin Management	X		
Ms Sally Mudly-Padayachie	B.Pharm; Masters Degree (Medical Science)	X		
Cllr Keabetswe Modimoeng	MBA; PMBOK;PR Diploma and Doctor of Technology: BA (incomplete)		X Effective from 30 January 2017	X
Dr Jasper Rees, DPhil	BA (Hons) Biochemistry; MA; DPhil			X
Executive Director(s)				
Dr Linda Makuleni (Until 02 November 2016)	MBA; Bachelor of Veterinary Medicine and Surgery; Management Advancement Programme and International Executive Advancement Programme	By invitation	By invitation	By invitation
Ms Mmapula Kgari (Appointed Interim CEO effective 03 November 2016)	B Com Economics & Business Management Executive Development Programme MBL	By invitation	By invitation	By invitation

Following a resignation by one of the Board members on 13 January 2017, the Board undertook to reconstitute its committees. The Board committees' membership and meeting attendance are reflected in the tables above.

Table 2: Attendance

Board Members	Board Meetings	Audit and Risk Committee (ARC)	Human Resources and Remuneration Committee (HRRC)	Strategic programmes Committee (SPC)
Ms Ntsoaki Mngomezulu (Chairperson)	"11/12		"7/8	
Dr Lulama Gwagwa, PhD (Deputy Chair)	"11/12	"3/5 Resigned on 13 January 2017		
Mr Rowan Nicholls (ARC Chair)	"8/12	"5/5		
Dr Jonty Tshipa, PhD (SPC Chair)	"11/12		"7/8	"5/5
Mr David Lefutso (HRRC Chair)	"12/12		"7/8	
Prof Elizabeth Mokotong	"11/12			"5/5
Ms Judy Beaumont	"11/12			"3/5
Adv Derick Block	"10/12	"1/5 Appointed on 30 January 2017	"6/8 Reassigned on 30 January 2017	
Ms Nandipha Madiba	"12/12	"5/5		
Ms Sally Mudly-Padayachie	"12/12	"4/5		
Cllr Keabetswe Modimoeng	"10/12		"1/8 Appointed on 30 January 2017	"5/5 Effective from 1 September 2015
Dr Jasper Rees, DPhil	"9/12			"4/5
Director(s)				
Dr Linda Makuleni	"11/12 (Released on 2 November 2016)	"3/5 (Released on 2 November 2016)	"6/8 (Released on 2 November 2016)	"4/5 (Released on 2 November 2016)
Ms Mmapula Kgari	"1/12 (Appointed Interim CEO on 2 November 2016)	"2/5 (Appointed Interim CEO on 2 November 2016)	"1/8 (Appointed Interim CEO on 2 November 2016)	"1/5 (Appointed Interim CEO on 2 November 2016)

Table 3: Attendance Split

Board Members	Scheduled Board Meetings	Special Board Meetings	Board Strategic Session	Board / Shareholder meetings	Scheduled ARC Meetings	ARC Policy Workshop	Scheduled HRRC Meetings	Special HRRC Meetings	HRRC Policy Workshop	Scheduled SPC Meetings	SPC Policy Workshop
Ms Ntsoaki Mngomezulu (Chairperson)	"4/4	"5/5	"1/2	"1/1			"4/4	"3/3	"1/1		
Dr Lulama Gwagwa, PhD (Deputy Chair)	"2/4	"4/5	"2/2	"1/1	"3/4	"0/1 Resigned					
Mr Rowan Nicholls (ARC Chair)	"3/4	"5/5	"1/2	"1/1	"4/4	"1/1					
Dr Jonty Tshipa, PhD (SPC Chair)	"4/4	"5/5	"2/2	"1/1			"4/4	"3/3	"1/1	"4/4	"1/1
Mr David Lefutso (HRRC Chair)	"3/4	"5/5	"2/2	"1/1			"4/4	"3/3	"1/1		
Prof Elizabeth Mokotong	"3/4	"4/5	"2/2	"1/1						"4/4	"1/1
Ms Judy Beaumont	"4/4	"4/5	"2/2	"1/1						"2/4	"1/1
Adv Derick Block	"3/4	"4/5	"2/2	"1/1		"1/1	"3/4	"3/3	"0/1		
Ms Nandipha Madiba	"4/4	"5/5	"2/2	"1/1	"4/4	"1/1					
Ms Sally Mudly-Padayachie	"4/4	"4/5	"2/2	"1/1	"3/4	"0/1					
Cllr Keabetswe Modimoeng	"3/4	"4/5	"2/2	"1/1			"1/4	"0/3	"1/1	"4/4	"1/1
Dr Jasper Rees, DPhil	"4/4	"2/5	"2/2	"1/1						"3/4	"1/1
Executive Directors											
Dr Linda Makuleni	"3/4	"2/5	"2/2	"1/1	"3/4	"0/1	"3/4	"1/3	"0/1	"3/4	"0/1
Ms Mmapula Kgari	"1/4	"2/5	"0/2	"0/1	"1/4	"1/1	"1/4	"0/3	"1/1	"1/4	"1/1

5.6 Board Committees (as per Table 1 above)

There are three Committees with clear Terms of Reference, namely the Audit and Risk Committee (ARC), the Human Resources and Remuneration Committee (HRRC) and the Strategic Programmes Committee (SPC).

• Audit and Risk Committee

The primary responsibility of the ARC is to assist the Board in discharging its duties with respect to monitoring SAWS' compliance with all applicable legislation, regulations and governance frameworks. This responsibility includes the following:

- Review of financial management processes and internal controls.
- Review of the Annual Financial Statements, the Annual Report and related regulatory filings to ensure the accuracy and completeness of the information prior to publication.
- Governance of risk and ICT.
- Oversight of internal and external audit functions and audit processes and ensuring that a risk-based approach is adopted.
- Review of compliance with performance management and reporting systems.
- Ensuring adherence to all disclosure and/or reporting requirements when reporting to the Board, the Minister, the National Treasury and the Auditor-General.

The ARC held four scheduled meetings on 20 May 2016, 22 July 2016, 17 October 2016 and 17 January 2017. No special or ad hoc meetings were required or held.

The committee membership and attendance of meetings are reflected in Table 2 above.

• Human Resources and Remuneration Committee

The HRRC assists the Board in discharging its duties with respect to human capital management by ensuring that:

- the SAWS Human Capital Management Strategy is aligned with the SAWS Vision, Mission and objectives;
- policies, frameworks and systems pertaining to human capital are in place and in compliance with all applicable legislative and governance frameworks, particularly those relating to performance management, succession planning and employee benefits; and
- SAWS' organisational ethics are managed appropriately.

The HRRC held four scheduled meetings during the 2016/17 financial year, on 16 May 2016, 22 July 2016, 17 October 2016 and 17 January 2017. The Committee held its special meetings on 5 May 2016, 31 August 2016 and 11 October 2016. Membership and attendance of meetings are reflected in Table 2 above.

• Strategic Programmes Committee

The SPC oversees SAWS strategic programmes and special projects. It assists the Board in ensuring that appropriate scientific research and technical and commercial programmes are undertaken and effectively managed, including those relating to infrastructure recapitalisation. The Committee also oversees matters relating to environmental sustainability.

The SPC held four scheduled meetings during the 2016/17 financial year on 19 May 2016, 12 July 2016, 19 October 2016 and 9 January 2017. No special meetings were held during the period under review. Membership and attendance are outlined in Table 2.

5.7 Board Remuneration

During the period under review, eligible Board members were remunerated and reimbursed for additional expenses incurred in the course of executing SAWS-related activities. This was done in accordance with the Remuneration Framework as determined annually by the Minister.

For the disclosure of Board fees and other related expenses, please refer to Note 30 - Related Parties of the Audited Annual Financial Statements.

5.8 Board Induction and Development

With a view to the ongoing development of its members, the Board approved the Board Development Plan in May 2016, the implementation of which was facilitated by the Company Secretary. The approved ongoing development includes the renewal of the Board's membership of the Institute of Directors for Southern Africa (IoDSA) which ensures that Board members receive regular updates on legislative and governance-related topics. Sessions on governance facilitated by IoDSA were attended by Board members.

Furthermore, Board members attended the King IV launch on 1 November 2016 with a view to keeping up to date with the code of good governance.

6. GOVERNANCE OF RISK AND ICT

As per governance best practice, the Board plays a key oversight role in the governance of risk and ICT. It is assisted in this role by the Audit and Risk Committee and other operational structures such as the Risk Management Committee chaired by the SAWS CEO and the ICT Steering Committee chaired by the General Manager: Operations.

Risk Management and ICT Reports were standing agenda items at all ARC and Board meetings.

At an operational level, the Executive Committee, the Risk Management Committee and the ICT Steering Committee were responsible for the oversight of their respective areas to ensure that all ICT and risk management-related matters were attended to and managed effectively.

6.1 Governance of Risk

During the period under review, SAWS adopted an Enterprise-wide Risk Management (ERM) model in order to enhance the alignment of strategy, processes and information technology.

The annual review of the SAWS risk profile that was conducted in November 2016 culminated in a review of the Strategic Risk Register which formed the basis for the development of a risk-based Internal Audit Plan and Divisional Risk Plans. Strategic risks were included in the review of the SAWS Strategic and Annual Performance Plans.

The SAWS risk profile review was also followed by a determination of risk appetite.

With a view to enhancing the effectiveness of risk management efforts, all risk management programmes, including business continuity management and total quality management elements, are integrated into the SAWS Risk Management Policy and Risk Management Plan.

6.2 Governance of ICT

ICT is a pivotal component of the SAWS value chain as it supports and enables mission-critical business processes. Any failure in terms of ICT governance and management could result in SAWS being so significantly exposed that the organisation is unable to meet its strategic objectives and fulfil its stakeholder obligations. Good Corporate Governance of ICT (CGICT) practice is therefore critical to the successful functioning of this aspect of the organisation.

The Board actively monitors CGICT through the following governance structures:

- Audit and Risk Committee
- Strategic Programmes Committee
- Executive Committee
- ICT Steering Committee

The SAWS ICT Governance Framework developed in 2012 was reviewed during the period under review and aligned with the Public Sector Corporate Governance of ICT Policy Framework. This exercise culminated in the development of a SAWS-specific CGICT Policy and Charter.

In addition to the above, SAWS Management monitors the implementation of AGSA recommendations and reports to the Board on a quarterly basis.

7. INTERNAL CONTROL UNIT

Through the Finance and Supply Chain Management Departments, the Office of the Chief Financial Officer ensures that internal control processes and systems are in place. This is complemented by the Quality Management Unit which ensures that processes and systems are in place in terms of compliance with ISO 9001 requirements.

Management reviews the findings of all audits conducted by relevant bodies in order to take corrective measures and enhance existing controls which in turn improves efficiencies.

8. INTERNAL AND EXTERNAL AUDIT

During the period under review, the internal audit function was outsourced to an independent firm, PricewaterhouseCoopers (PWC), while the external audit was conducted by the Auditor-General. Although there was no approved audit plan, the internal audit did perform work as per the risk areas identified by Management (as per ARC report on page 93).

The internal audit assists in the identification and assessment of significant organisational risks and gives the Board and the ARC the assurance that internal financial controls and systems are effective. The ARC reviewed the Internal Auditors' report.

The external auditors are responsible for independently auditing and reporting on SAWS' financial statements, in accordance with auditing standards and in line with the External Audit Strategy.

9. LEGISLATIVE AND REGULATORY COMPLIANCE

Monitoring of compliance with regulations is ongoing, with quarterly reporting to the Board through the Audit and Risk Committee. The results of a legal compliance audit initiated in the third quarter of the 2016/17 financial year will be made available to Management and the Board following analysis of the findings.

10. FRAUD AND CORRUPTION MANAGEMENT

Governance frameworks are in place for the management and minimisation of potential risks in this regard, inter alia, the Fraud Prevention Policy, the Risk Management Policy and the Code of Conduct and Ethics Policy. These policies govern the role and responsibilities of the Board and various staff categories with respect to fraud prevention, risk management and ethical conduct in general. Fraudulent activities can be reported through internal mechanisms as given in the Fraud Prevention Policy as well as through the national anti-corruption hotline 0800 701 701.

A few allegations of fraud were brought to the attention of the Board during the period under review, some by anonymous concerned employees and some through the Office of the Minister.

In March 2016, the Minister commissioned an investigation into allegations reported via the presidential hotline in the last quarter of the previous financial year. The investigation was finalised and presented to the Board. On 10 January 2017 the Board compiled a report for the Minister's consideration.

Reports of fraud by concerned SAWS employees were addressed to the Office of the Public Protector during the third quarter of 2015/16. The Office of the Public Protector requested certain information which was duly provided by SAWS. The outcome of the investigation is still awaited.

Other concerns were and continue to be addressed through internal mechanisms and structures.

11. GOVERNANCE OF ETHICS

The SAWS Code of Conduct and Ethics Policy includes a fraud prevention and ethics hotline that can be used by SAWS employees and stakeholders to report fraudulent activities and unethical conduct. A draft Ethics Management programme is due for approval in the first quarter of 2017/18.

12. MINIMISING CONFLICT OF INTEREST

Potential conflict of interest is managed throughout SAWS through various mechanisms. Members of the Board and SAWS employees are required to sign a Declaration of Interest upon appointment and at the beginning of each financial year.

Conflict of interest in terms of matters on the meeting agenda is also declared at all Board and Board Committee meetings. Meeting attendees are also required to declare whether they are aware of any fraudulent activities or allegations of fraud. Such reporting can also be done anonymously through mechanisms outside the meetings, including the national anti-corruption hotline.

12.1 Minimising Conflict of Interest in Supply Chain Management (SCM)

SAWS maintains a fair, equitable, transparent, competitive and cost-effective procurement and provisioning system in accordance with the PFMA, Treasury Regulation 16A and other applicable legislative frameworks.

The risk of conflict of interest in supply chain management is minimised through the training and development of SCM officials to ensure that they keep abreast of latest developments and best practice. In addition, the procurement of goods and services takes place by way of quotations or through a bidding process as determined by the National Treasury.

• Bidding Procedures

The SAWS SCM system provides for the establishment, composition and functioning of bid specification, evaluation and adjudication committees. Bidding documentation is in accordance with the relevant prescripts, duties and responsibilities are appropriately apportioned across the SCM process, and declaration of interest registers are circulated at relevant committee meetings. A Compliance Officer also attends SCM meetings for monitoring purposes.

• Compliance with Ethical Standards

All SCM officials are required to comply with the highest ethical standards as contained in the National Treasury's Code of Conduct for Supply Chain Management Practitioners. This is important for the promotion of mutual trust and respect and an environment where business can be conducted with integrity and in a fair and reasonable manner.

Supply chain management officials and other role players:

- a) must recognise and disclose any conflict of interest that may arise;
- b) must treat all suppliers and potential suppliers equitably;
- c) may not use their position for private gain or to improperly benefit another person;
- d) must ensure that they do not compromise the credibility or integrity of the supply chain management system through the acceptance of gifts or hospitality or any other act;
- e) must be scrupulous in their use of public property; and
- f) must assist the Accounting Authority in combating corruption and fraud in the supply chain management system.

Should a SCM official or other role player, or any close family member, partner or associate of such official or other role player, have any private or business interest in any contract to be awarded, they are required to disclose that interest and withdraw from participating in any manner whatsoever in the process relating to that contract.

An official who becomes aware of a breach of or failure to comply with any aspect of the supply chain management system must immediately report the breach or failure to the Accounting Authority or delegated official in writing.

• **Managing Abuse of the Supply Chain Management System**

The Accounting Authority or delegated officials take all reasonable steps to prevent abuse of the supply chain management system. Any allegation of corruption, improper conduct or failure to comply with SCM system regulations is investigated and appropriate steps are taken as necessary against the relevant official or other role player.

Prior to the awarding of any contract, the National Treasury's database is checked to ensure that a recommended bidder or any of its directors are not listed as companies or persons prohibited from doing business with the public sector.

Bids may not be accepted from suppliers who cannot provide written proof from the South African Revenue Service that they have no outstanding tax obligations or have made arrangements to meet outstanding tax obligations.

• **Internal Audit**

SAWS' Internal Auditors audit and report to the Accounting Authority on the internal controls within the organisation.

13. HEALTH, SAFETY AND ENVIRONMENTAL ISSUES

In keeping with its Strategic Goal 5 which relates to strategy-driven human capital as well as good governance, SAWS continuously strives to implement health and safety practices that promote a safe and healthy working environment whilst also complying with the regulations and standards of the Occupational Health and Safety Act, 1993 (No 85 of 1993) ("the OHSA").

During the period under review, SAWS continued to regularly consult with its employees in order to meet the legal requirements of the OHSA and section 24 of the Constitution of the Republic of South Africa, 1996 (No 108 of 1996), which proclaims that "everyone has the right to an environment that is not harmful to their health and well-being".

SAWS has an occupational health programme in place for the prevention and mitigation of all occupational health risks.

13.1 Responsibility for Occupational Health and Safety (OHS)

The OHSA dictates that the CEO is ultimately responsible for the health and safety of employees at SAWS. In accordance with section 16.2 of the OHSA, the CEO has delegated this responsibility to Human Capital Management where the OHS Committee has the duty of providing and maintaining, as far as reasonably practicable, a safe and healthy environment for employees, visitors and clients.

SAWS health and safety representatives regularly represent employees on health and safety related matters, and SAWS has trained in-house fire and evacuation marshals and first aiders. Regular team meetings are held to share experiences and/or health and safety information.

• **Injury on Duty**

Health and safety did not emerge as a major risk for SAWS in the period under review and there were no reports of disabling injury or fatality on duty.

The only two reported OHS-related incidents were a veld fire at the Irene Weather Office which resulted in damage to electrical wiring on the perimeter fence and an instance of a person falling on a slippery floor. Corrective and preventive measures were put in place following the reported incidents.

• OHS Risk and Mitigation

The SAWS fire marshals, first aiders and health and safety representatives submit monthly OHS reports. All SAWS office environments are carefully and continuously monitored for any potential hazards and if any are identified, they are reported, investigated and addressed through corrective action.

To further equip SAWS Management and health and safety representatives, legal liability training with an emphasis on OHS was provided during the period under review. In addition, safety bibs were issued to the evacuation marshals.

14. COMPANY SECRETARY

The Board is supported by the Company Secretary in ensuring the existence and effective functioning of appropriate Board governance structures that are in line with corporate governance best practice.

The Company Secretary resigned effective from 1 September 2016 and on 14 November 2016 the Board appointed an incumbent in an acting capacity with full delegations of the Company Secretary effective from 1 September 2016.

The responsibilities of the Company Secretary include:

- a) ensuring Board compliance with all applicable legislative and governance frameworks;
- b) providing procedural guidance to the various Board structures in the execution of their duties;
- c) facilitating the development and implementation of the Board Development Plan;
- d) coordinating and attending Board and committee meetings and strategic sessions;
- e) facilitating the Board evaluation process;
- f) acting as custodian of statutory records;
- g) serving as point of contact between SAWS and the Portfolio Committee, between SAWS and the Shareholder (Ministry and DEA) and between the Board and SAWS Management and staff;
- h) managing resources allocated to the Board and the Secretariat; and
- i) assuming the role of Chief Risk Officer in the coordination of SAWS risk management processes.

The Board Charter also makes provision for the Board to seek paid independent professional advice on OHS matters should this be deemed necessary.

Note: SAWS is not subject to the Companies Act, 2008 (No 71 of 2008), and the reports and annual returns required in terms of this Act are not applicable to SAWS. However, all reports and returns required by the PFMA and Treasury regulations were submitted to the relevant authorities during the period under review.

15. SOCIAL RESPONSIBILITY

SAWS is committed to the socio-economic development of South Africa and the southern African region. The organisation strives to be a good corporate citizen through complying with the relevant regulatory framework, investing in people, conducting business ethically and being environmentally and socially sensitive. Employees are encouraged to participate and invest in social investment programmes and initiatives that could have a positive impact on the environment, consumers, employees, communities and all members of the public who could be considered SAWS stakeholders.

SAWS adopts a holistic approach to the empowerment of communities and all corporate social investment (CSI) programmes are aligned with national priorities focusing on contributions to education and related initiatives. As part of its operations, SAWS also provides opportunities for the development of sustainable economic viability in communities.

During the period under review, SAWS' participation in community projects, severe weather campaigns and school outreach programmes, partnerships with provincial Disaster Management Centres and engagements with other stakeholders were all aimed at moving the country towards becoming a WeatherSMART nation.

SAWS' CSI initiatives are also in line with its mandate to provide public good services. These are discussed in more detail in Part B of this report.

16. AUDIT & RISK COMMITTEE REPORT

The finalised Report of the Audit & Risk Committee is included in the Annual Financial Statements for 2016/17.

17. ENVIRONMENTAL SUSTAINABILITY REPORT

SAWS continued to be committed to sustainable development during the year under review.

Green ICT

• Centralised Printing

The introduction of centrally controlled printing facilities led to a significant and quantifiable decrease in the number of documents printed by SAWS. To further optimise the benefits of centralisation, a number of technologies and practices were implemented during the period under review, such as document management systems and electronic approvals.

• Videoconferencing

During the period under review, the use of SAWS' in-house videoconferencing facilities helped to reduce the number of local and international trips required for internal and external engagements, and thereby also carbon emissions.

• Virtualisation

Since 2010, SAWS has been consolidating its server hardware through the use of virtualisation technologies. Storage virtualisation makes it possible for systems to access shared storage facilities. This has helped SAWS reduce the number of storage devices needed as well as the associated energy requirements and heat produced by servers.

PART D

HUMAN RESOURCE MANAGEMENT



HUMAN RESOURCE MANAGEMENT



Youth Day 2016 – SAWS staff became learners again



Labour and Management had intensive meetings to address burning issues



Heritage Day 2016 – Exploring the various South African cultures



Awards function 2016 – Acknowledging excellence



SAWS conducted various national and international training sessions

PART D | HUMAN RESOURCE MANAGEMENT

OVERVIEW OF HUMAN CAPITAL MATTERS AT SAWS IN THE 2016/17 FINANCIAL YEAR

The HR strategic goal is underpinned by the objective of attracting, retaining and developing employees to meet the growth needs of the organisation in line with the SAWS vision of building a WeatherSMART nation. Human resources form the backbone of any scientific institution, particularly those which deliver an essential service on a daily basis.

With the ultimate goal of making SAWS an employer of choice, the HCM Division played a pivotal role in creating a harmonious working environment and improving working relations between employees and management. During the period under review, considerable efforts were also made to attract, recruit and retain employees with critical skills in order to deliver on the organisation's mandate. SAWS experienced challenges at the end of the year with high turnover at senior management and executive level which posed a risk to the operations and strategic direction of the organisation. As an interim measure, employees were redeployed in an acting capacity. Some of the positions have since been filled and the recruitment of a new Chief Executive Officer was finalised for the new financial year.

The primary strategic objective of Human Capital Management is to leverage human capital competitiveness as a core driver and differentiator for business performance in this demanding and highly competitive industry. HCM plays a pivotal role in facilitating an institutional people framework that is conducive to attracting and retaining the best talent and a workforce that will continue to be enthused and excited about the challenges SAWS provides.

HIGHLIGHTS IN 2016/17

SAWS continued to experience a strong union presence with issues being addressed at ongoing monthly meetings between unions and Management.

A Labour Management Task Team was formed to align the conditions of service of all collective labour agreements and to review company policies to ensure that they do not conflict with settlement agreements.

Notwithstanding resource constraints, SAWS achieved the following in terms of its "people pillar" in the reporting period:

- a) The empowerment of women in core business and managerial positions.
- b) A transformed workforce that aspires to reflect the demographics of the country.
- c) The retention of scarce and critical skills.
- d) The development of the Doctoral programme.

- e) Forecaster and Meteorological Technician training that meets international standards.
- f) An average aviation competency rating of 97%.
- g) The inclusion of core SAWS skills in the national Scarce and Critical Skills List.
- h) The absorption of 80% of bursars as SAWS employees.

Attracting top talent remained a key driver of the human capital agenda in 2016/17 and in comparison to the previous year, significant progress was made in attracting and promoting African talent. This achievement should not be underestimated given the organisation's resource constraints as clearly delineated in the ICT Master Plan and the SETI Review which analysed the capacity of the organisation to optimally deliver on its mandate. The scarcity of scientists in South Africa remains a national concern that negatively impacts on efforts to make appointments in line with employment equity targets.

CHALLENGES FACED IN 2016/17

The 2016/2017 financial year was an exciting period for the organisation and SAWS remained committed to building better and more rewarding relations with all key stakeholders including employees. Management continued to engage with employees on all issues of concern. The competition for talent within the market remains a risk for the organisation given the nature of its business, but through the development and implementation of various talent management and attraction and retention initiatives, SAWS aims to create an environment that will enhance the level of employee engagement and realise its ambition to be an employer of choice.

SAWS has developed a National Education Plan was developed in order to address the scarcity of weather- and climate-related skills within the country through capacity and skills development. The plan is expected to be implemented over of 10 year period and will require a cash injection of at least R 500 m if it is to succeed. SAWS continues to engage with key strategic stakeholders with a view to securing funding. Resource mobilisation for the purposes of implementation poses a risk to the extent that the timeframes are in line with the country's Vision 2030 priorities. In essence SAWS may not achieve them due to current funding constraints.

The challenge of historical remuneration disparities within the organisation was discussed extensively with all key stakeholders. Every effort is being made to address this issue through and align SAWS' remuneration strategy with the DEA Reporting Entities' Remuneration Strategy that is currently being developed by business management consultant 21st Century.

KEY FOCUS AREAS FOR HCM IN 2017/18 AND BEYOND

South Africa's economic challenges, the convergence of technologies and the growth in meteorological offices globally are just a few of the external factors that continue to present SAWS with numerous challenges and opportunities. In this competitive environment the branding of SAWS as an employer of choice and offering an attractive working environment are as important as ensuring customer satisfaction. Without access to

the best available talent, the organisation will be unable to deliver on its strategic objectives and the focus of the Human Resources function is therefore on implementing an integrated approach to the management of SAWS' human capital.

Human Capital Management is committed to the creation and delivery of value for SAWS' customers in the 2017/18 financial year and beyond, and to moving from a transactional level to true value-add as shown below.

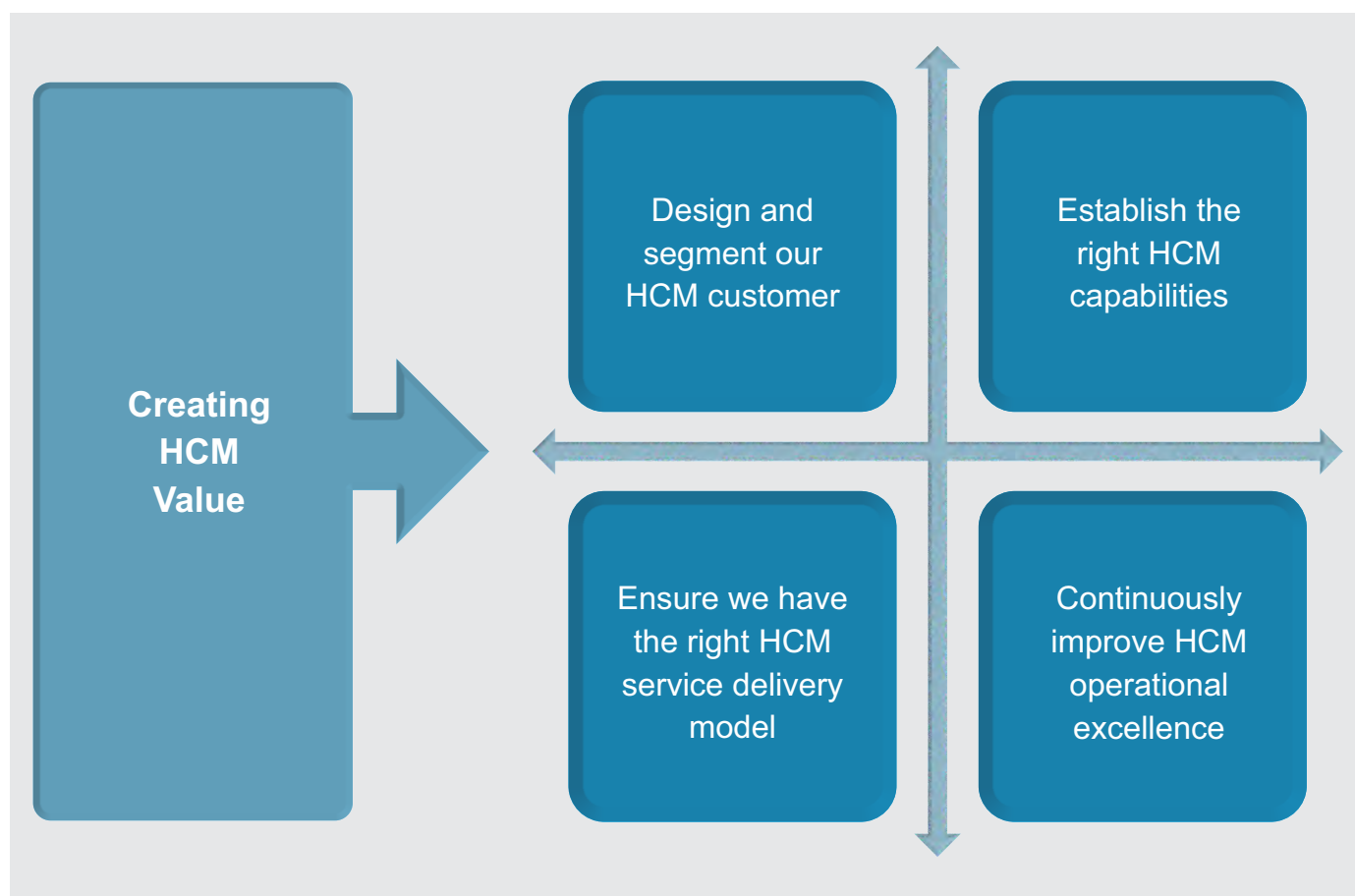


Figure 1: Creating HCM Value

In terms of HCM strategic programmes, the key focus areas will be as follows:

- Alignment of competencies with strategy.
- Resource mobilisation for the implementation of the National Educational Plan.
- Leadership development.
- Integration of processes.
- Remuneration and benefits.
- Development and implementation of programmes to promote innovation.

HCM ACHIEVEMENTS IN 2016/17 AS PER STRATEGIC OBJECTIVES

Retention and Succession Planning

While the retention target of 98% for scarce and critical skills was achieved, a high turnover rate was experienced at senior and executive management level, including the departure of the Chief Executive Officer. Reasons for terminations included retirement, ill health, the expiry of contracts, resignations and opportunities to pursue better prospects. The realignment of competencies is underway and will assist with the identification of key skills required for SAWS' operations.

Succession planning has achieved relatively good results in terms of building the leadership pipeline and organisational bench strength. Candidates who participated in the programme experienced growth in meeting their development needs and some had the opportunity to move into more senior positions within the organisation. At total of 23 employees were promoted in the reporting period, 65% of whom were Africans.

SAWS remains committed to the development and implementation of key retention strategies to ensure talent growth and the availability of strategy-driven human capital.

Career-Pathing

In previous years, SAWS' Dual Career-Pathing programme has proven to be very successful in terms of skills development and the retention of scarce and critical skills in the organisation. The approach is driven by compelling business reasons and its primary objective is to ensure the availability of strategy-driven human capital through the attraction, development and retention of people with the requisite skills, qualifications and experience. The intention is to achieve this through an established employee value proposition, an effective performance-driven culture and the recognition and rewarding of sustained effort.

In light of the current skills shortage as well historical salary disparities, the programme would be twofold so as to address both short and longterm challenges. The stakeholder engagement phase as well as resource mobilisation were achieved for the year under review, while 2017/18 will be focussed on addressing salary disparities. Dual Career-Pathing continues to be an integral part of the organisation's Five Year Strategy.

Leadership Development

Constant change and a competitive environment make doing business more challenging and demanding. Within this context, there is a need for masterful leadership that engages people and nurtures an understanding of both strategy and implementation processes. Requisite leadership competencies were reviewed against the SAWS' Five Year Strategy Plan and current Performance Plan, and Deloitte South Africa was contracted to assist with the development of competencies which will form an integral part of SAWS' competency development strategy from junior to executive level.

Feedback-intensive programmes are viewed as best practice and in general incorporate research on effective leadership behaviours and learning processes. This enables individuals to develop a deeper understanding of their leadership strengths and development needs and to develop action plans to leverage

that knowledge for greater organisational effectiveness. A formal three year Leadership Development Programme is to be run in partnership with an approved business school.

Workforce Demographics

We continue to manage headcount to ensure operational effectiveness and efficiencies and to contain administration overheads.

The gender distribution in the SAWS workforce remained stable in the period under review, with 61.7% male and 38.3% female employees at the end of the financial year. The total workforce increased marginally by 5.1% year-on-year as compared to 4.46% in 2016. By end March 2017, SAWS had made progress towards achieving its employment equity target at management level in an environment characterised by high senior and executive management turnover, a young executive profile and prevailing headcount constraints. To facilitate the achievement of Employment Equity Plans, the SAWS profile was increased to 447 employees (as compared to 426 in 2016), with 85% of new appointments coming from previously disadvantaged groups.

SAWS is confident that with the emphasis on the implementation of its Employment Equity Plan, succession planning, leadership development, targeted resourcing and stretch assignments, the organisation will meet its objectives.

Employment Equity

The Employment Equity Act, 1998 (No 55 of 1998) continues to be an integral part of the SAWS HCM strategy and a driving force in ensuring that SAWS increases its competitive edge in the market place. Given that understanding, accepting and embracing diversity has become a clear strategic business imperative in the South African business environment, the management of diversity also receives considerable emphasis in SAWS.

Employees attended disability training workshops aimed at developing an understanding of the importance and benefits of the placement of people with disabilities and the need to deal with prejudices and stereotypes. New employees also underwent the SAWS corporate induction programme.

The organisation's Employment Equity Plan was reviewed and approved for the next three years with consideration of SAWS' workforce needs, employment equity profile and other external factors. It is expected that successfully responding to this vital imperative will maximise future opportunities for the organisation and shareholder value in the long term.

SAWS made good progress in achieving employment equity targets during 2016/17, particularly in the placement of women at management level and in core business functions. Targets in terms of Africans and people with disabilities continue to be a challenge due to employee attrition but there have been some improvements, with the majority of new employees in 2016/17 being Africans and the recent appointment of a person with

disabilities. Progress towards meeting the targets set out in SAWS' Employment Equity Plan for the period October 2016 to September 2019 is being closely monitored.

The Department of Labour's Director-General Employment Equity Review was finalised in 2016 and the recommendations implemented accordingly.

Table 4: Employment Equity

Occupational Level	Africans		Coloureds		Indians		Whites		Foreigners	Grand Total
	F	M	F	M	F	M	F	M		
Junior Management	36	60	5	4	2	5	16	24	1	152
Middle Management	19	39	1	4	-	1	9	23	6	96
Semi-Skilled	48	50	7	11	1	-	3	7	1	127
Senior Management	2	9	-	-	-	1	2	-	-	14
Temporary Employees	11	13	-	-	-	-	-	1	-	25
Top Management	2	1	-	-	-	-	1	-	-	4
Unskilled	4	12		5	-	-	-	-	-	21
Grand Total	122	184	13	24	3	7	31	55	8	447

Table 5: Comparison of SAWS and National Demographic Profiles

Race	National Demographics	Baseline: 31/03/2016	SAWS Target (by 2019)	SAWS Stats (31/03/2017)	Deviation from Targets
Africans	80.50%	67%	74%	68.4%	-5.60%
White	8.30%	20.19%	14.70%	19.2%	4.50%
Coloured	8.80%	8.45%	8.80%	8.2%	-0.60%
Indians	2.50%	2.35%	2.50%	2.2%	-0.30%
Foreigners	-	2.11%	0%	1.8%	1.80%
Total	100%	100%	100%	100%	-5.60%
Persons with Disabilities	2%	2%	3%	1.55%	-1.45%

Learnerships, Internships and Bursaries

To promote the principle of life-long learning and address the skills shortage challenges as set out in the SETI Review report

and the National Development Plan of the country, SAWS extends educational funding assistance to full-time students and to employees for part-time studies. In the year ended 31 March 2016, SAWS provided R3.8 million in funding compared to R 2.3

million in the previous financial year, and 35 full time and 30 part time bursaries were awarded. The SAWS bursary scheme has been in operation for many years and demonstrates the premium the organisation places on learning and the acquisition of skills.

Ten full time bursars completed their studies and of these 80% were absorbed and appointed within the organisation. SAWS takes pride in the fact that, by employing young people, it

contributes to the alleviation of poverty in South Africa and promotes respect for qualifications.

SAWS partnered with the Transport Education and Training Authority (TETA) to offer learnerships and bursaries to previously disadvantaged school leavers and unemployed graduates.

In this period, 19 SAWS internships were offered through TETA programmes.

Table 6: Internships

Male				Female				Foreigners	Total
A	C	I	W	A	C	I	W		
10	0	0	1	8	0	0	0	0	19

Note: African = A, Coloured = C, Indian = I, White = W

Talent Management

• Employee Rewards

SAWS' rewards strategy is integral to and harmonised with the organisation's overall business strategy of creating a high performance workforce which ultimately contributes to shareholder value in the long term. The rewards strategy is one of the challenges on which SAWS plans to focus over the next five years. A remuneration specialist has been appointed to assist in the development of a remuneration strategy and framework for the organisation that is aligned with its business strategy.

In line with SAWS' corporate value of "Recognising Excellence", an Employee Awards function was held on 25 November 2016 at the Protea Fire & Ice Hotel in Menlyn, Pretoria to recognise employees who have performed at the highest level.

• Employee Learning and Development

With a view to fulfilling the SAWS mandate, remaining competitive as an employer in the scientific field and helping to meet the skills needs of the country, specifically in the weather and climate arena, SAWS continued to prioritise the development and retention of skills within the organisation.

Every effort has been made to create an enabling learning

culture in the organisation as a way of supporting employees in their personal development and achievement of their full potential. This was achieved through various collaborations, including some with external stakeholders, in order to offer a diversity of experience, knowledge and competencies in the weather and climate sphere. During the 2016/17 financial year, R 673 739 was received from the TETA for the implementation of these programmes. SAWS absorbs the remainder of the considerable programme costs, as well as by ploughing straight back the mandatory grants received from the TETA.

Overall, SAWS spent R 1.24 million on training activities, the majority of which focused on historically disadvantaged groups. We continue to invest in the skills development of our talent pool in the service of the SAWS mandate and the needs of the country.

Employee Relations

SAWS strives to create a stable and working environment that fosters good relations between employees and management. The goal is to have a professional, engaged and flexible workforce operating successfully in a positive environment.

In salary negotiations for 2016/17, both Management and employee representatives displayed commitment to resolve the stumbling blocks to negotiations which resulted in salary adjustment negotiations finalised in August 2016.

SAWS embarked on the following activities during the 2016/2017 financial year:

Table 7: Employment Relations Workshops

Activity	Target Group	Service Provider/ Facilitator	Goal
Relationship Building Workshop	Management & Labour Unions	CCMA	Relationship building
Policy Review Workshop	Labour Unions	Management	Consultative process on reviewed / developed policies
Breakfast Session	Management and Shift Workers	Internal facilitated by Management	Creating a platform to engage shift workers
Employee Relations Training	Employees and Supervisors	Internal – facilitated by ER ¹ Office	Empowering individuals to deal effectively with minor work discipline violations

Of the six CCMA disputes in the 2016/2017 financial year, five were awarded in favour of SAWS and one was resolved through conciliation (see below). The organisation takes comfort in the

fact that it has sound employee policies that are aligned with all relevant South African legislation and regulations.

Table 8: CCMA Disputes

Matter	Referred by	Date Heard	Comment
Condonation application	PSA ² obo employee	17 May 2016	Condonation not granted
Overtime dispute	PSA obo members	08 August 2016	Awarded in favour of SAWS
Unfair labour practice	PSA obo employee	11 August 2016	Awarded in favour of SAWS
Unfair labour practice	Employee	29 August 2016	Awarded in favour of SAWS
Dismissal	Employee	10 October 2016	Awarded in favour of SAWS
Unfair termination	Employee	27 March 2017	Settled at arbitration

Union Membership

SAWS is affiliated with three trade unions of which two are recognised in the Recognition Agreement, namely the National Education, Health and Allied Workers' Union (NEHAWU) and the Public Servants Association of South Africa (PSA). These two organised labour unions have collective rights as they meet the minimum recognition threshold as defined in the said agreement.

Of the 418 SAWS employees who fall within the bargaining scope of the unions, 253 (60.5%) were union members in the period under review. Union membership increased with 2,9% from the previous year and shows a representation split of 149 NEHAWU members, 99 PSA members and 5 Solidarity members.

¹ ER – Employee Relations; ² PSA – Public Service Association

HUMAN RESOURCE OVERSIGHT STATISTICS

Table 9: Employee Costs – as at 31 March 2017

Strategic Goal*	Total Expenditure for SAWS	Personnel Expenditure	Personnel Expenditure versus Total Expenditure	Number of Employees	Average Personnel Cost per Employee
	(R'000)	(R'000)	(%)	(#)	(R'000)
(Operations Division)	219 291	148 866	48%	397	375
Goal 3 (Office of the CEO)	18 795	9 477	3%	6	1 580
Goals 2 & 4 (Corporate Affairs Division)	12 681	4 087	1%	7	584
Goal 5 (Human Capital Management Division)	44 377	11 533	4%	15	769
Goal 3 (Finance Division)	9 981	12 800	4%	16	800
Goal 3 (Commercial Division)	7 121	3 907	1%	8	488
Total	312 246	190 670	61%	449	425³

Table 10: Employee Costs by Salary Level – as at 31 March 2017

Occupational Levels	Personnel Expenditure	% of Personnel Expenditure to Total Personnel Cost	Number of Employees	Average Personnel Cost per Employee
	(R'000)	(%)	(R'000)	(R'000)
Top Management	8 796	5%	4	2 199
Senior Management	15 480	8%	14	1 106
Professionally qualified	55 157	29%	103	536
Skilled	81 661	43%	180	454
Semi-skilled	24 529	13%	124	198
Unskilled	5 048	3%	24	210
Total	190 670	100%	449	425⁴

³ The number excludes interns; ⁴ The number excludes interns

Table 11: Performance Bonuses – 2015/16 Financial Year Performance

Occupational Levels	Performance Rewards	Personnel Expenditure*	% of Performance Rewards to Total Personnel Cost
	(R'000)	(R'000)	(%)
Top Management	1 472	8 796	0.77%
Senior Management	1 742	15 480	0.91%
Professional qualified	4 798	55 157	2.52%
Skilled	3 148	81 661	1.65%
Semi-skilled	1 155	24 529	0.61%
Unskilled	452	5 048	0.24%
Total	12 768	190 670	6.70%

Table 12: Training Costs as at 31 March 2017

Objective*	Personnel Expenditure	Training Expenditure	Training Expenditure as a % of Personnel Cost	Number of Employees Trained	Average Training Cost per Employee
	(R'000)	(R'000)	(%)	(#)	(R)
Operations	155 084	923	0.60%	150	6 153
Office of the CEO	9 477	60	0.63%	4	15 000
Corporate Affairs	4 087	35	0.86%	5	7 000
Finance	12 800	87	0.68%	11	7 909
Human Capital Management	5 315	110	2.07%	13	8 462
Commercial	3 907	31	0.79%	7	4 429
Total	190 670	1 246	0.65%	190	6 558

Table 13: Employment and Vacancies

Programme	2015/16 No. of Employees	2015/16 Approved Posts	2016/17 No. of Employees	2016/17 Vacancies	% of Vacancies
All offices	426	519	447	72	13.87
Top Management	5	6	4	2	33.33
Senior Management	16	15	14	1	6.67
Professionally qualified	100	121	102	19	15.7
Skilled	150	188	153	35	18.62
Semi-skilled	118	134	128	6	4.48
Unskilled	37	55	46	9	16.36
Total	426	519	447	72	13.87

Table 14: Reasons for Staff Leaving

Reason	Number of Employees	% of Total No. of Staff Leaving
Death	0	0%
Resignation	30	67%
Dismissal	1	2.22%
Discharged	1	2.22%
Retirement	1	2.22%
Ill Health	0	0%
End of Contract	12	27%
Other	0	0%
Total	45	100%

It should be noted that 40% of the terminations during the period were involuntary (retirement, ill-health, discharge, expiry of contracts) while 60% were voluntary. The reasons for voluntary

termination of employment ranged from emigration to career advancement and career change.

PART E

FINANCIAL INFORMATION



FINANCIAL INFORMATION

REPORT BY THE AUDIT AND RISK COMMITTEE

For the financial year ended 31 March 2017, the Committee complied with its responsibilities, arising from section 77 of the Public Finance Management Act, 1999 (No. 1 of 1999 as amended) (PFMA) and Treasury Regulation 27.1.8 including the review and adoption of the Charter that regulates the Committee's mandate and the execution thereof.

Audit and Risk Committee Membership and Attendance of Meetings

The composition of the Committee and the attendance of meetings during the period under review are listed under the Governance Section of the Annual Report.

Audit and Risk Committee's Responsibilities

The main responsibilities of the Committee, as outlined in the Committee's Charter include amongst others:

- a review of the financial management processes and the adequacy of internal controls;
- a review of the Annual Financial Statements, the Annual Report and related regulatory reports before these are released, in order to consider the accuracy and completeness of the information;
- the governance of risk;
- the governance of Information Communication Technology (ICT);
- overseeing the effectiveness of the organisation's assurance functions and services, with particular focus on combined assurance arrangements, including external service providers, the internal and external audit functions and related audit processes;
- a review of SAWS' compliance with the performance management and reporting systems; and
- ensuring that all the disclosures and/or reporting requirements to the Board, the Shareholder, the National Treasury and the Auditor-General are adhered to.

The Effectiveness of Internal Control

The implementation of effective and efficient internal controls and procedures is an ongoing process. During the year under review, the Committee encountered challenges with appointment of the Internal Audit Service Provider. The contract of the Internal Auditors expired on 30 March 2016 and management was requested to extend that contract within the given National Treasury Regulations. The contract was subsequently extended to 31 March 2017. Notwithstanding that, an Annual Audit Plan was not prepared for the year under review, but the Audit and Risk Committee was able to guide the Internal Auditors on areas that were identified as high risk to the organisation.

The Committee reviewed the reports from both Internal and External Auditors notes, the systems of internal control for the year under review needed attention. Where weaknesses were identified, corrective measures were put in place. All other areas of weaknesses in relation to internal control deficiencies emanating from the final report of the Auditor-General were discussed by the members and internal audit and will be included as part of the Annual Internal Audit Plan for 2017/18.

Review and Monitoring of Monthly/ Quarterly/ Annual Performance Information

The Committee reviewed the actual performance of SAWS against the strategic objectives and targets set in the Annual Performance Plan for 2016/17 and was satisfied with the content and quality of the quarterly performance reports prepared and issued by the Chief Financial Officer (CFO) and Chief Executive Officer (CEO) during the year under review. Where required, the Committee made recommendations for enhancements of the reports.

Evaluation of the audited Annual Financial Statements

The Committee reviewed and discussed the audited Annual Financial Statements to be included in the Annual Report in consultation with the Accounting Officer (the CEO), the Internal Auditor and the Auditor-General.

Summary of Main Activities undertaken by the Committee during the Financial Year under Review

The Audit & Risk Committee attended to the following matters:

- The quarterly review of performance (SAWS' Financial Report) against the 2016/17 budget and a review of the annual budget for 2017/18 financial year for the Board's consideration and approval;
- A review of the Annual Financial Statements for the year ended 31 March 2017;
- A review of Financial Management and Supply Chain Management Policies;
- The review of governance frameworks, such as SAWS Risk Profile (Strategic Risk Register), the determination of SAWS' Risk Appetite and monitoring the implementation thereof;
- Review of the Internal Auditors' report;
- Monitoring the implementation of the Risk Management, Information Communication Technology Strategy and Legal activities, with reports on these submitted as standing items at all Committee meetings; and
- Keeping the Board informed of key issues within the Committee's scope, with Committee Reports submitted and presented at all Board meetings.

Governance and Risk Management

The committee notes that the annual audit revealed weaknesses in governance which the organisation will address in the new year. The organisation did not have a risk officer in place in the year under review which affect this aspect of management negatively.

Internal Audit

The Committee encountered challenges with appointment of the Internal Audit Service Provider, during the year under review. The three years contract of the Internal Auditors expired on 30 March 2016 and management was requested to extend that contract within the given National Treasury Regulations and the contract was subsequently extended to 31 March 2017. Notwithstanding that, an Annual Audit Plan was not prepared for the year under review, however, the Audit and Risk Committee was able to guide the Internal Auditors on areas that were identified as high risk to the organisation.

The internal audit service provider (PWC) was an effective independent firm that provides assurance on the effectiveness of the SAWS's system of internal control. The internal audit service provider was staffed by qualified and experienced personnel.

During the year under review the committee considered and approved the internal audit charter.

At the end of the 2016/17 financial year, the Internal Auditors reported that they had executed all the activities expected of them as directed by the Committee and management. (to be completed once the Internal Audit Report for Q4 has been reviewed).

External Audit

The audit findings issued by the Auditor-General (AG) from the 2015/16 audits were to the extent possible addressed by SAWS; and some findings either partially resolved or not resolved and the associated risks were accepted by SAWS. The report of the Auditor General confirmed that there were no material repeat audit findings emanating from the previous financial year.

Other Audits

It came to the attention of the Committee and the Board that some allegations of fraud with regard to the Radar contract Performance Guarantees has been reported. A high level investigation was conducted by PWC in the 4th quarter of 2016/2017. The results of the investigation led to a further full investigation. The process of procuring a service provider to conduct a full investigation is still in progress.

It came to the attention of the Committee and the Board that some allegations of fraud had been reported by a group of concerned employees to the office of the Public Protector of South Africa (PPSA) last year; and that the PPSA allocated the allegations for investigation in Quarter 3 of the 2015/16 financial year. At the date of this Report the investigation had not been finalised.

Remedial recommendations will be implemented, where applicable, once the investigation has been concluded and the associated Report obtained by SAWS.

Date the Audit and Risk Committee recommended AFS be approved

The Committee recommended the approval of the audited Annual Financial Statements at the Board meeting held on 31 July 2017 for submission thereof to National Treasury; the Department of Environmental Affairs; the Accountant General; and the Auditor-General.



Mr Rowan (Nick) Nicholls

Chairperson of the Audit and Risk Committee

Date: 31 July 2017

REPORT OF THE AUDITOR-GENERAL TO PARLIAMENT ON SOUTH AFRICAN WEATHER SERVICE

REPORT ON THE AUDIT OF THE FINANCIAL STATEMENTS

Opinion

1. I have audited the financial statements of the South African Weather Service set out on pages 98 to 144, which comprise the statement of financial position as at 31 March 2017, the statement of financial performance, statement of changes in net assets, and cash flow statement for the year then ended, as well as the notes to the financial statements, including a summary of significant accounting policies.
2. In my opinion, the financial statements present fairly, in all material respects, the financial position of the South African Weather Service as at 31 March 2017, and its financial performance and cash flows for the year then ended in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (PFMA).

Basis for opinion

3. I conducted my audit in accordance with the International Standards on Auditing (ISAs). My responsibilities under those standards are further described in the auditor-general's responsibilities for the audit of the financial statements section of my report.
4. I am independent of the entity in accordance with the International Ethics Standards Board for Accountants' *Code of ethics for professional accountants* (IESBA code) together with the ethical requirements that are relevant to my audit in South Africa. I have fulfilled my other ethical responsibilities in accordance with these requirements and the IESBA code.
5. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Emphasis of matter

6. I draw attention to the matter below. My opinion is not modified in respect of this matter.

Restatement of corresponding figures

7. As disclosed in note 36 to the financial statements, the corresponding figures for 31 March 2016 have been restated as a result of an error in the financial statements of the entity at, and for the year ended, 31 March 2017.

Responsibilities of the accounting authority

8. The accounting authority is responsible for the preparation and fair presentation of the financial statements in accordance with South African Standards of Generally Recognised Accounting Practice (SA Standards of GRAP) and the requirements of the Public Finance Management Act of South Africa, 1999 (Act No. 1 of 1999) (PFMA) and for such internal control as the accounting authority determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.
9. In preparing the financial statements, the accounting authority is responsible for assessing the South African Weather Service's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless the accounting authority either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor-general's responsibilities for the audit of the financial statements

10. My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.
11. A further description of my responsibilities for the audit of the financial statements is included in the annexure to the auditor's report.

REPORT ON THE AUDIT OF THE ANNUAL PERFORMANCE REPORT

Introduction and Scope

12. In accordance with the Public Audit Act of South Africa, 2004 (Act No. 25 of 2004) (PAA) and the general notice issued in terms thereof I have a responsibility to report material findings on the reported performance information against predetermined objectives for selected objectives presented

13. My procedures address the reported performance information, which must be based on the approved performance planning documents of the entity. I have not evaluated the completeness and appropriateness of the performance indicators included in the planning documents. My procedures also did not extend to any disclosures or assertions relating to planned performance strategies and information in respect of future periods that may be included as part of the reported performance information. Accordingly, my findings do not extend to these matters.
14. I evaluated the usefulness and reliability of the reported performance information in accordance with the criteria developed from the performance management and reporting framework, as defined in the general notice, for the following selected objectives presented in the annual performance report of the entity for the year ended 31 March 2017:

Objectives	Pages in the annual performance report
Strategic Goal 1: Provision of products and services	64
Strategic Goal 3: Engaged stakeholders	66
Strategic Goal 4: Research and knowledge/ intelligence creation	67

15. I performed procedures to determine whether the reported performance information was properly presented and whether performance was consistent with the approved performance planning documents. I performed further procedures to determine whether the indicators and related targets were measurable and relevant, and assessed the reliability of the reported performance information to determine whether it was valid, accurate and complete.
16. I did not identify any material findings on the usefulness and reliability of the reported performance information for the following objectives:
- Provision of products and services
 - Engaged stakeholders
 - Research and knowledge/intelligence creation

Other matters

17. I draw attention to the matters below.

Achievement of planned targets

18. Refer to the annual performance report on pages 64 to 68 for information on the achievement of planned targets for the year and explanations provided for the under/overachievement of a significant number of targets.

Adjustment of material misstatements

19. I identified material misstatements in the annual performance report submitted for auditing. These material misstatements were on the reported performance information of Strategic goal 1: Provision of products and services, Strategic goal 3: Engaged stakeholders and Strategic goal 4: Research and knowledge/intelligence creation. As management subsequently corrected the misstatements, I did not report any material findings on the usefulness and reliability of the reported performance information.

REPORT ON AUDIT OF COMPLIANCE WITH LEGISLATION

Introduction and Scope

20. In accordance with the PAA and the general notice issued in terms thereof, I have a responsibility to report material findings on the compliance of the entity with specific matters in key legislation. I performed procedures to identify findings but not to gather evidence to express assurance.
21. The material findings in respect of the compliance criteria for the applicable subject matters are as follows:

Annual financial statements

22. The financial statements submitted for auditing were not prepared in accordance with the prescribed financial reporting framework as required by section 55(1)(b) of the PFMA.
23. Material misstatements identified by the auditors in the submitted financial statements were corrected and the supporting records were provided subsequently, resulting in the financial statements receiving an unqualified audit opinion with findings.

Procurement and contract management

24. Goods and services of a transaction value above R500 000 were procured without inviting competitive bids, as required by treasury regulation 16A6.1.
25. Contracts were awarded to bidders who did not submit a declaration on whether they are employed by the state or

connected to any person employed by the state, which is prescribed in order to comply with treasury regulation 16A8.3.

Expenditure management

26. Payments were made before receipt of goods or services, in contravention of treasury regulation 31.1.2(c).

OTHER INFORMATION

27. The South African Weather Service accounting authority is responsible for the other information. The other information comprises the information included in the annual report. The other information does not include the financial statements, the auditor's report thereon and those selected objectives presented in the annual performance report that have been specifically reported on in the auditor's report.
28. My opinion on the financial statements and findings on the reported performance information and compliance with legislation do not cover the other information and I do not express an audit opinion or any form of assurance conclusion thereon.
29. In connection with my audit, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements and the selected objectives presented in the annual performance report, or my knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work I have performed on the other information obtained prior to the date of this auditor's report, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

INTERNAL CONTROL DEFICIENCIES

30. I considered internal control relevant to my audit of the financial statements, reported performance information and compliance with applicable legislation; however, my objective was not to express any form of assurance thereon. The matters reported below are limited to the significant internal control deficiencies that resulted in the findings on the annual performance report and the findings on compliance with legislation included in this report:

Leadership

31. Management did not adequately monitor the entity's compliance with laws and regulations.

Financial and performance management

32. Management did not adequately review the financial statements, resulting in material corrections to the financial statements.
33. Management did not adequately review documentation supporting reported performance information resulting in material corrections to the annual performance report.

OTHER REPORTS

34. I draw attention to the following engagements conducted by various parties that had, or could have, an impact on the matters reported in the entity's financial statements, reported performance information, compliance with applicable legislation and other related matters. These reports did not form part of my opinion on the financial statements or my findings on the reported performance information or compliance with legislation.
35. Internal audit conducted a review of the management of the radar contract. Internal audit recommended that management conduct an in-depth review of the SAWS radar contract management. The entity is in the process of appointing a firm to conduct a forensic investigation into the radar management project.

Auditor - General

Pretoria
31 July 2017



Auditing to build public confidence

STATEMENT OF FINANCIAL POSITION

as at 31 March 2017

	Note(s)	2017 R	2016 Restated R
Assets			
Current Assets			
Inventories	3	2 487 200	3 863 970
Receivables from exchange transactions	4	11 633 275	2 694 040
Statutory receivables	5	14 194 455	12 875 124
Prepayments and advances	6	9 130 886	4 824 087
Cash and cash equivalents	7	90 224 298	43 842 491
		127 670 114	68 099 712
Non-Current Assets			
Investment property	8	65 614 150	57 813 509
Property, plant and equipment	9	312 430 176	348 402 576
Intangible assets	10	16 866 906	21 018 226
		394 911 232	427 234 311
Total Assets		522 581 346	495 334 023
Liabilities			
Current Liabilities			
Trade and other payables from exchange transactions	11	21 108 062	19 390 290
Short term employee benefits	12	4 274 569	3 095 938
Unfulfilled conditional non-exchange revenue	14	10 289 828	3 528 065
Provisions	15	13 500 000	15 764 000
Revenue received in advance	16	-	2 200
		49 172 459	41 780 493
Non-Current Liabilities			
Operating lease liability	17	3 528 881	2 807 702
Employee benefits	13	11 319 964	8 321 964
Provisions	15	442 548	430 882
		15 291 393	11 560 548
Total Liabilities		64 463 852	53 341 041
Net Assets		458 117 494	441 992 982
Reserves			
Revaluation reserve		51 710 858	59 460 462
Accumulated surplus		406 406 636	382 532 520
Total Net Assets		458 117 494	441 992 982

STATEMENT OF FINANCIAL PERFORMANCE

as at 31 March 2017

	Note(s)	2017 R	2016 Restated R
Revenue			
Revenue from exchange transactions			
Commercial revenue		162 287 683	147 001 126
Other revenue		738 593	1 257 223
Interest received	18	3 912 133	1 792 934
Total revenue from exchange transactions		166 938 409	150 051 283
Revenue from non-exchange transactions			
Transfer revenue			
Government grants	19	204 985 000	160 434 311
Contributions and donations	20	3 002 177	7 099 722
Total revenue from non-exchange transactions		207 987 177	167 534 033
Total revenue	21	374 925 586	317 585 316
Expenditure			
Employee related costs	22	(202 480 457)	(187 183 858)
Administration	23	(7 070 095)	(9 335 086)
Depreciation and amortisation	24	(34 640 531)	(30 201 044)
Operating expenses	25	(112 653 793)	(102 028 417)
Total expenditure		(356 844 876)	(328 748 405)
Operating surplus (deficit)		18 080 710	(11 163 089)
Gain on disposal of assets and liabilities		45 000	47 750
Gain / (Loss) on foreign exchange		57 865	(559 510)
Fair value adjustments - Investment property	27	7 801 541	1 029 739
Actuarial gains / (losses) - Post retirement medical aid	13	(2 111 000)	1 596 000
		5 793 406	2 113 979
Surplus (deficit) for the year		23 874 116	(9 049 110)

STATEMENT OF CHANGES IN NET ASSETS

as at 31 March 2017

	Revaluation reserve R	Accumulated surplus R	Total net assets R
Opening balance as previously reported adjustments	59 735 037	384 236 634	443 971 671
Prior year adjustments	-	7 345 000	7 345 000
Balance at 01 April 2015 as restated*	59 735 037	391 581 634	451 316 671
Changes in net assets			
Revaluation of land and buildings - (decrease)	(179 992)	-	(179 992)
Aircraft revaluation - (decrease)	(94 583)	-	(94 583)
Net income (losses) recognised directly in net assets	(274 575)	-	(274 575)
Surplus / (Deficit) for the year	-	(9 049 110)	(9 049 110)
Total recognised income and expenses for the year	(274 575)	(9 049 110)	(9 323 685)
Total changes	(274 575)	(9 049 110)	(9 323 685)
Balance at 01 April 2016	59 460 462	382 532 520	441 992 982
Changes in net assets			
Revaluation of land and buildings - (decrease)	(7 160 155)	-	(7 160 155)
Aircraft revaluation - (decrease)	(589 449)	-	(589 449)
Net income (losses) recognised directly in net assets	(7 749 604)	-	(7 749 604)
Surplus / (Deficit) for the year	-	23 874 116	23 874 116
Total recognised income and expenses for the year	(7 749 604)	23 874 116	16 124 512
Total changes	(7 749 604)	23 874 116	16 124 512
Balance at 31 March 2017	51 710 858	406 406 636	458 117 494

CASH FLOW STATEMENT

as at 31 March 2017

	Note(s)	2017 R	2016 Restated R
Cash flows from operating activities			
Receipts			
Commercial and other income		144 771 436	142 420 796
Grants		207 987 177	164 448 824
Interest income		3 912 133	1 792 934
		356 670 746	308 662 554
Payments			
Employee costs		(189 830 000)	(188 661 706)
Suppliers		(118 454 642)	(121 593 064)
		(308 284 642)	(310 254 770)
Net cash flows from operating activities	26	48 386 104	(1 592 216)
Cash flows from investing activities			
Proceeds from sale of property, plant and equipment	9	83 658	47 750
Purchase of property, plant and equipment		(2 087 955)	(11 252 141)
Net cash flows from investing activities		(2 004 297)	(11 204 391)
Net increase/(decrease) in cash and cash equivalents		46 381 807	(12 796 607)
Cash and cash equivalents at the beginning of the year		43 842 491	56 639 098
Cash and cash equivalents at the end of the year	7	90 224 298	43 842 491

STATEMENT OF COMPARISON OF BUDGET AND ACTUAL AMOUNTS

as at 31 March 2017

Budget on Accrual Basis	Approved budget R	Adjustments R	Final Budget R	Actual amounts on comparable basis R	Difference between final budget and actual R	Reference
Statement of Financial Performance						
Revenue						
Revenue from exchange transactions						
Sale of goods	126 961 000	-	126 961 000	162 287 683	35 326 683	
Other income	6 794 000	-	6 794 000	738 593	(6 055 407)	
Interest received - investment	1 116 000	-	1 116 000	3 912 133	2 796 133	
Total revenue from exchange transactions	134 871 000	-	134 871 000	166 938 409	32 067 409	
Revenue from non-exchange transactions						
Transfer revenue						
Government grants	205 485 000	-	205 485 000	204 985 000	(500 000)	
Contributions and donations	1 000 000	-	1 000 000	3 002 177	2 002 177	
Total revenue from non-exchange transactions	206 485 000	-	206 485 000	207 987 177	1 502 177	
Total revenue	341 356 000	-	341 356 000	374 925 586	33 569 586	
Expenditure						
Employee cost	(222 763 000)	-	(222 763 000)	(202 480 457)	20 282 543	
Depreciation and amortisation	(28 892 000)	-	(28 892 000)	(34 640 531)	(5 748 531)	
General Expenses	(118 593 000)	-	(118 593 000)	(119 723 888)	(1 130 888)	
Total expenditure	(370 248 000)	-	(370 248 000)	(356 844 876)	13 403 124	
Operating surplus	(28 892 000)	-	(28 892 000)	18 080 710	46 972 710	
Gain on disposal of assets and liabilities	-	-	-	45 000	45 000	
Gain on foreign exchange	-	-	-	57 865	57 865	
Fair value adjustments	-	-	-	7 801 541	7 801 541	
Actuarial gains/losses	-	-	-	(2 111 000)	(2 111 000)	
	-	-	-	5 793 406	5 793 406	
Surplus before taxation	(28 892 000)	-	(28 892 000)	23 874 116	52 766 116	
Actual Amount on Comparable Basis as Presented in the Budget and Actual Comparative Statement	(28 892 000)	-	(28 892 000)	23 874 116	52 766 116	

ACCOUNTING POLICIES

as at 31 March 2017

1. Presentation of Annual Financial Statements

The annual financial statements have been prepared in accordance with the Standards of Generally Recognised Accounting Practice (GRAP), issued by the Accounting Standards Board in accordance with section 91(1) of the Public Finance Management Act, 1999 (No. 1 of 1999).

These annual financial statements have been prepared on an accrual basis of accounting and are in accordance with historical cost convention as the basis of measurement, unless specified otherwise. They are presented in South African Rand.

Assets, liabilities, revenues and expenses were not offset, except where offsetting is either required or permitted by a Standard of GRAP.

A summary of the significant accounting policies, which have been consistently applied in the preparation of these annual financial statements, are disclosed below.

These accounting policies are consistent with the previous period.

1.1 Presentation currency

These annual financial statements are presented in South African Rand, which is the functional currency of the entity.

1.2 Going concern assumption

These annual financial statements have been prepared based on the expectation that the entity will continue to operate as a going concern for at least the next 12 months.

1.3 Significant judgements and sources of estimation uncertainty

In preparing the annual financial statements, management is required to make estimates and assumptions that affect the amounts represented in the annual financial statements and related disclosures. Use of available information and the application of judgement is inherent in the formation of estimates. Actual results in the future could differ from these estimates which may be material to the annual financial statements. Significant judgements include:

Trade receivables

The entity assesses its trade receivables for impairment at the end of each reporting period. In determining whether an impairment loss should be recorded in surplus or deficit, the surplus makes judgements as to whether there is observable data indicating a measurable decrease in the estimated future cash flows from a financial asset.

The impairment for trade receivables is calculated on a portfolio basis, based on historical loss ratios, adjusted for national and industry-specific economic conditions and other indicators present at the reporting date that correlate with defaults on the portfolio. These annual loss ratios are applied to loan balances in the portfolio and scaled to the estimated loss emergence period.

Fair value estimation

The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair values. The fair value of financial liabilities for disclosure purposes is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the entity for similar financial instruments.

Impairment testing

The recoverable amounts of cash-generating units and individual assets have been determined based on the higher of value in-use calculations and fair values less costs to sell. These calculations require the use of estimates and assumptions. It is reasonably

ACCOUNTING POLICIES

as at 31 March 2017

1.3 Significant judgements and sources of estimation uncertainty (continued)

possible that the assumption may change which may then impact our estimations and may then require a material adjustment to the carrying value of goodwill and tangible assets.

Provisions

Provisions were raised and management determined an estimate based on the information available. Additional disclosure of these estimates of provisions are included in note 15 - Provisions.

Post retirement benefits

The present value of the post retirement obligation depends on a number of factors that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost (income) include the discount rate. Any changes in these assumptions will impact on the carrying amount of post retirement obligations.

The entity determines the appropriate discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the pension obligations. In determining the appropriate discount rate, the entity considers market yields at the reporting date on government bonds. Where there is no deep market in government bonds with a sufficiently long maturity to match the estimated maturity of all the benefit payments, the entity uses current market rates of the appropriate term to discount short term payments, and estimates the discount rate for longer maturities by extrapolating current market rates along the yield curve.

Other key assumptions for pension obligations are based on current market conditions. Additional information is disclosed in Note 13.

Allowance for doubtful debts

Trade receivables which are past due are not automatically considered to be impaired. Management's judgement is used to impair amounts that are past due based on being satisfied that all reasonable steps have been taken to recover the debt or that the recovery of the debt would be uneconomical; or the recovery would cause undue hardship to the debtor or his or her dependents; or it would be to the advantage of the state to effect a settlement or waive the claim.

Revaluations

Significant assumptions, in determining fair values of revalued items of Property, Plant and Equipment; and investment property are applied using industry methodologies to determine valuations based on the entity specific or observable market input coupled with assumptions on future expectations.

Useful lives of property, plant and equipment

The entity's management determines the estimated useful lives and related depreciation charges for property, plant and equipment and other assets. This estimate is based on industry norm. This estimate is based on the pattern in which an asset's future economic benefits or service potential is expected to be consumed by the entity.

1.4 Investment property

Investment property is property (land or a building - or part of a building - or both) held to earn rentals or for capital appreciation or both, rather than for:

- use in the production or supply of goods or services or for
- administrative purposes, or
- sale in the ordinary course of operations.

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1.4 Investment property (continued)

Owner-occupied property is property held for use in the production or supply of goods or services or for administrative purposes.

Investment property is recognised as an asset when, it is probable that the future economic benefits or service potential that are associated with the investment property will flow to the entity, and the cost or fair value of the investment property can be measured reliably.

Investment property is initially recognised at cost. Transaction costs are included in the initial measurement.

Where investment property is acquired through a non-exchange transaction, its cost is its fair value as at the date of acquisition.

Costs include costs incurred initially and costs incurred subsequently to add to, or to replace a part of, or service a property. If a replacement part is recognised in the carrying amount of the investment property, the carrying amount of the replaced part is derecognised.

Fair value

Subsequent to initial measurement investment property is measured at fair value.

The fair value of investment property reflects market conditions at the reporting date.

Again or loss arising from a change in fair value is included in net surplus or deficit for the period in which it arises.

If the entity determines that the fair value of an investment property under construction is not reliably determinable but expects the fair value of the property to be reliably measurable when construction is complete, it measures that investment property under construction at cost until either its fair value becomes reliably determinable or construction is completed (whichever is earlier). If the entity determines that the fair value of an investment property (other than an investment property under construction) is not reliably determinable on a continuing basis, the entity measures that investment property using the cost model (as per the accounting policy on Property, plant and equipment). The residual value of the investment property is then assumed to be zero. The entity applies the cost model (as per the accounting policy on Property, plant and equipment) until disposal of the investment property.

Once the entity becomes able to measure reliably the fair value of an investment property under construction that has previously been measured at cost, it measures that property at its fair value. Once construction of that property is complete, it is presumed that fair value can be measured reliably. If this is not the case, the property is accounted for using the cost model in accordance with the accounting policy on Property, plant and equipment.

1.5 Property, plant and equipment

Property, plant and equipment are tangible non-current assets (including infrastructure assets) that are held for use in the production or supply of goods or services, rental to others, or for administrative purposes, and are expected to be used during more than one period.

The cost of an item of property, plant and equipment is recognised as an asset when:

- it is probable that future economic benefits or service potential associated with the item will flow to the entity; and
- the cost of the item can be measured reliably.

Property, plant and equipment is initially measured at cost.

The cost of an item of property, plant and equipment is the purchase price and other costs attributable to bring the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Trade discounts and rebates are deducted in arriving at the cost.

Where an asset is acquired through a non-exchange transaction, its cost is its fair value as at date of acquisition.

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1.5 Property, plant and equipment (continued)

Where an item of property, plant and equipment is acquired in exchange for a non-monetary asset or monetary assets, or a combination of monetary and non-monetary assets, the asset acquired is initially measured at fair value (the cost). If the acquired item's fair value was not determinable, it's deemed cost is the carrying amount of the asset(s) given up.

When significant components of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

Costs include costs incurred initially to acquire or construct an item of property, plant and equipment and costs incurred subsequently to add to, replace part of, or service it. If a replacement cost is recognised in the carrying amount of an item of property, plant and equipment, the carrying amount of the replaced part is derecognised.

The initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located is also included in the cost of property, plant and equipment, where the entity is obligated to incur such expenditure, and where the obligation arises as a result of acquiring the asset or using it for purposes other than the production of inventories.

Recognition of costs in the carrying amount of an item of property, plant and equipment ceases when the item is in the location and condition necessary for it to be capable of operating in the manner intended by management.

Items such as spare parts, standby equipment and servicing equipment are recognised when they meet the definition of property, plant and equipment.

Major inspection costs which are a condition of continuing use of an item of property, plant and equipment and which meet the recognition criteria above are included as a replacement in the cost of the item of property, plant and equipment. Any remaining inspection costs from the previous inspection are derecognised.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses except for Land and Buildings and Aircraft which is carried at revalued amount being the fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Property, plant and equipment is carried at revalued amount, being the fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

Revaluations are made with sufficient regularity such that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period.

When an item of property, plant and equipment is revalued, any accumulated depreciation at the date of the revaluation is eliminated against the gross carrying amount of the asset and the net amount restated to the revalued amount of the asset.

Any increase in an asset's carrying amount, as a result of a revaluation, is credited directly to a revaluation surplus. The increase is recognised in surplus or deficit to the extent that it reverses a revaluation decrease of the same asset previously recognised in surplus or deficit.

Any decrease in an asset's carrying amount, as a result of a revaluation, is recognised in surplus or deficit in the current period. The decrease is debited directly to a revaluation surplus to the extent of any credit balance existing in the revaluation surplus in respect of that asset.

The revaluation surplus in equity related to a specific item of property, plant and equipment is transferred directly to retained earnings when the asset is derecognised.

ACCOUNTING POLICIES

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1.5 Property, plant and equipment (continued)

Property, plant and equipment are depreciated on the straight line basis over their expected useful lives to their estimated residual value.

Property, plant and equipment is carried at cost less accumulated depreciation and any impairment losses.

Property, plant and equipment is carried at revalued amount, being the fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations are made with sufficient regularity such that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period.

Any increase in an asset's carrying amount, as a result of a revaluation, is credited directly to a revaluation surplus. The increase is recognised in surplus or deficit to the extent that it reverses a revaluation decrease of the same asset previously recognised in surplus or deficit.

Any decrease in an asset's carrying amount, as a result of a revaluation, is recognised in surplus or deficit in the current period. The decrease is debited in revaluation surplus to the extent of any credit balance existing in the revaluation surplus in respect of that asset.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Years
Buildings	50
Fence	10
Furniture and fittings	10-15
Motor vehicles	5-20
Office equipment	15-20
IT equipment	5-10
Library books and equipment	10-20
Leasehold improvements	10-15
Aircraft - Airframes	20
Aircraft - Engines	5400 hours
Aircraft - Propellers	5-20
Meteorological equipment	10-15
Radar equipment	25
Air quality equipment	10-15
Tools and equipment	10-15

The depreciable amount of an asset is allocated on a systematic basis over its useful life.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The depreciation method used reflects the pattern in which the asset's future economic benefits or service potential are expected to be consumed by the entity. The depreciation method applied to an asset is reviewed at least at each reporting date and, if there has been a significant change in the expected pattern of consumption of the future economic benefits or service potential embodied in the asset, the method is changed to reflect the changed pattern. Such a change is accounted for as a change in an accounting estimate.

The entity assesses at each reporting date whether there is any indication that the entity expectations about the residual value and the useful life of an asset have changed since the preceding reporting date. If any such indication exists, the entity revises the expected useful life and/or residual value accordingly. The change is accounted for as a change in an accounting estimate.

The depreciation charge for each period is recognised in surplus or deficit unless it is included in the carrying amount of another asset.

ACCOUNTING POLICIES

as at 31 March 2017

1.5 Property, plant and equipment (continued)

Items of property, plant and equipment are derecognised when the asset is disposed of or when there are no further economic benefits or service potential expected from the use of the asset.

The gain or loss arising from the derecognition of an item of property, plant and equipment is included in surplus or deficit when the item is derecognised. The gain or loss arising from the derecognition of an item of property, plant and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

Assets which the entity holds for rentals to others and subsequently routinely sell as part of the ordinary course of activities, are transferred to inventories when the rentals end and the assets are available-for-sale. Proceeds from sales of these assets are recognised as revenue. All cash flows on these assets are included in cash flows from operating activities in the cash flow statement.

The entity separately discloses expenditure to repair and maintain property, plant and equipment in the notes to the financial statements (see note 25).

1.6 Intangible assets

An asset is identifiable if it either:

- is separable, i.e. is capable of being separated or divided from an entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable assets or liability, regardless of whether the entity intends to do so; or
- arises from binding arrangements (including rights from contracts), regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

A binding arrangement describes an arrangement that confers similar rights and obligations on the parties to it as if it were in the form of a contract.

An intangible asset is recognised when:

- it is probable that the expected future economic benefits or service potential that are attributable to the asset will flow to the entity; and
- the cost or fair value of the asset can be measured reliably.

The entity assesses the probability of expected future economic benefits or service potential using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset.

Where an intangible asset is acquired through a non-exchange transaction, its initial cost at the date of acquisition is measured at its fair value as at that date.

Expenditure on research (or on the research phase of an internal project) is recognised as an expense when it is incurred.

An intangible asset arising from development (or from the development phase of an internal project) is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale.
- there is an intention to complete and use or sell it.
- there is an ability to use or sell it.
- it will generate probable future economic benefits or service potential.
- there are available technical, financial and other resources to complete the development and to use or sell the asset.
- the expenditure attributable to the asset during its development can be measured reliably.

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

An intangible asset is regarded as having an indefinite useful life when, based on all relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows or service potential. Amortisation is not provided for these intangible assets, but they are tested for impairment annually and whenever there is an indication that the asset may be impaired.

ACCOUNTING POLICIES

as at 31 March 2017

1.6 Intangible assets (continued)

For all other intangible assets amortisation is provided on a straight line basis over their useful life.

The amortisation period and the amortisation method for intangible assets are reviewed at each reporting date.

Reassessing the useful life of an intangible asset with a finite useful life after it was classified as indefinite is an indicator that the asset may be impaired. As a result the asset is tested for impairment and the remaining carrying amount is amortised over its useful life.

Internally generated brands, mastheads, publishing titles, customer lists and items similar in substance are not recognised as intangible assets.

Internally generated goodwill is not recognised as an intangible asset.

Amortisation is provided to write down the intangible assets, on a straight line basis, to their residual values as follows:

Item	Years
Computer software, other	5-10
Servitude	25

Intangible assets are derecognised:

- on disposal; or
- when no future economic benefits or service potential are expected from its use or disposal.

The gain or loss arising from the derecognition of an intangible assets is included in surplus or deficit when the asset is derecognised (unless the Standard of GRAP on leases requires otherwise on a sale and leaseback).

1.7 Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or a residual interest of another entity.

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectibility.

A concessionary loan is a loan granted to or received by an entity on terms that are not market related.

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation.

Currency risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.

Derecognition is the removal of a previously recognised financial asset or financial liability from an entity's statement of financial position.

A derivative is a financial instrument or other contract with all three of the following characteristics:

- Its value changes in response to the change in a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index, or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract (sometimes called the 'underlying').

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1.7 Financial instruments (continued)

- It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors.
- It is settled at a future date.

The effective interest method is a method of calculating the amortised cost of a financial asset or a financial liability (or group of financial assets or financial liabilities) and of allocating the interest income or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, an entity shall estimate cash flows considering all contractual terms of the financial instrument (for example, prepayment, call and similar options) but shall not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate (see the Standard of GRAP on Revenue from Exchange Transactions), transaction costs, and all other premiums or discounts. There is a presumption that the cash flows and the expected life of a group of similar financial instruments can be estimated reliably. However, in those rare cases when it is not possible to reliably estimate the cash flows or the expected life of a financial instrument (or group of financial instruments), the entity shall use the contractual cash flows over the full contractual term of the financial instrument (or group of financial instruments).

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable willing parties in an arm's length transaction.

A financial asset is:

- cash;
- a residual interest of another entity; or
- a contractual right to:
 - receive cash or another financial asset from another entity; or
 - exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity.

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument.

A financial liability is any liability that is a contractual obligation to:

- deliver cash or another financial asset to another entity; or
- exchange financial assets or financial liabilities under conditions that are potentially unfavourable to the entity.
- Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates.

Liquidity risk is the risk encountered by an entity in the event of difficulty in meeting obligations associated with financial liabilities that are settled by delivering cash or another financial asset.

Loan commitment is a firm commitment to provide credit under pre-specified terms and conditions.

Loans payable are financial liabilities, other than short-term payables on normal credit terms.

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk and other price risk.

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or currency risk), whether those changes are caused by factors specific to the individual financial instrument or its issuer, or factors affecting all similar financial instruments traded in the market.

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as at 31 March 2017

1.7 Financial instruments (continued)

A financial asset is past due when a counterparty has failed to make a payment when contractually due.

A residual interest is any contract that manifests an interest in the assets of an entity after deducting all of its liabilities. A residual interest includes contributions from owners, which may be shown as:

- equity instruments or similar forms of unitised capital;
- a formal designation of a transfer of resources (or a class of such transfers) by the parties to the transaction as forming part of an entity's net assets, either before the contribution occurs or at the time of the contribution; or
- a formal agreement, in relation to the contribution, establishing or increasing an existing financial interest in the net assets of an entity.

Transaction costs are incremental costs that are directly attributable to the acquisition, issue or disposal of a financial asset or financial liability. An incremental cost is one that would not have been incurred if the entity had not acquired, issued or disposed of the financial instrument.

Financial instruments at amortised cost are non-derivative financial assets or non-derivative financial liabilities that have fixed or determinable payments, excluding those instruments that:

- the entity designates at fair value at initial recognition; or
- are held for trading.

Financial instruments at cost are investments in residual interests that do not have a quoted market price in an active market, and whose fair value cannot be reliably measured.

Financial instruments at fair value comprise financial assets or financial liabilities that are:

- derivatives;
- combined instruments that are designated at fair value;
- instruments held for trading. A financial instrument is held for trading if:
 - it is acquired or incurred principally for the purpose of selling or repurchasing it in the near-term; or
 - on initial recognition it is part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short term profit-taking;
 - non-derivative financial assets or financial liabilities with fixed or determinable payments that are designated at fair value at initial recognition; and
 - financial instruments that do not meet the definition of financial instruments at amortised cost or financial instruments at cost.

Classification

The entity has the following types of financial assets (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Trade and other receivables from exchange transactions	Financial asset measured at amortised cost
Cash and cash equivalents	Financial asset measured at amortised cost

The entity has the following types of financial liabilities (classes and category) as reflected on the face of the statement of financial position or in the notes thereto:

Class	Category
Trade and other payables from exchange transactions	Financial liability measured at amortised cost

Initial Recognition

The entity recognises a financial asset or a financial liability in its statement of financial position when the entity becomes a party to the contractual provisions of the instrument.

ACCOUNTING POLICIES

as at 31 March 2017

1.7 Financial instruments (continued)

The entity recognises financial assets using trade date accounting.

Initial measurement of financial assets and financial liabilities

The entity measures a financial asset and financial liability initially at its fair value plus transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.

The entity measures a financial asset and financial liability initially at its fair value.

The entity first assesses whether the substance of a concessionary loan is in fact a loan. On initial recognition, the entity analyses a concessionary loan into its component parts and accounts for each component separately. The entity accounts for that part of a concessionary loan that is:

- a social benefit in accordance with the Framework for the Preparation and Presentation of Financial Statements, where it is the issuer of the loan; or
- non-exchange revenue, in accordance with the Standard of GRAP on Revenue from Non-exchange Transactions (Taxes and Transfers), where it is the recipient of the loan.

Subsequent measurement of financial assets and financial liabilities

The entity measures all financial assets and financial liabilities after initial recognition using the following categories:

- Financial instruments at fair value.
- Financial instruments at amortised cost.
- Financial instruments at cost.

All financial assets measured at amortised cost, or cost, are subject to an impairment review.

Fair value measurement considerations

The best evidence of fair value is quoted prices in an active market. If the market for a financial instrument is not active, the entity establishes fair value by using a valuation technique. The objective of using a valuation technique is to establish what the transaction price would have been on the measurement date in an arm's length exchange motivated by normal operating considerations. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. If there is a valuation technique commonly used by market participants to price the instrument and that technique has been demonstrated to provide reliable estimates of prices obtained in actual market transactions, the entity uses that technique. The chosen valuation technique makes maximum use of market inputs and relies as little as possible on entity-specific inputs. It incorporates all factors that market participants would consider in setting a price and is consistent with accepted economic methodologies for pricing financial instruments. Periodically, an entity calibrates the valuation technique and tests it for validity using prices from any observable current market transactions in the same instrument (i.e. without modification or repackaging) or based on any available observable market data.

The fair value of a financial liability with a demand feature (e.g. a demand deposit) is not less than the amount payable on demand, discounted from the first date that the amount could be required to be paid.

Reclassification

The entity does not reclassify a financial instrument while it is issued or held unless it is:

- combined instrument that is required to be measured at fair value; or
- an investment in a residual interest that meets the requirements for reclassification.

Where the entity cannot reliably measure the fair value of an embedded derivative that has been separated from a host contract that is a financial instrument at a subsequent reporting date, it measures the combined instrument at fair value. This requires a reclassification of the instrument from amortised cost or cost to fair value.

ACCOUNTING POLICIES

as at 31 March 2017

1.7 Financial instruments (continued)

If fair value can no longer be measured reliably for an investment in a residual interest measured at fair value, the entity reclassifies the investment from fair value to cost. The carrying amount at the date that fair value is no longer available becomes the cost.

If a reliable measure becomes available for an investment in a residual interest for which a measure was previously not available, and the instrument would have been required to be measured at fair value, the entity reclassifies the instrument from cost to fair value.

Gains and losses

A gain or loss arising from a change in the fair value of a financial asset or financial liability measured at fair value is recognised in surplus or deficit.

For financial assets and financial liabilities measured at amortised cost or cost, a gain or loss is recognised in surplus or deficit when the financial asset or financial liability is derecognised or impaired, or through the amortisation process.

Impairment and uncollectibility of financial assets

The entity assess at the end of each reporting period whether there is any objective evidence that a financial asset or group of financial assets is impaired.

Financial assets measured at amortised cost:

If there is objective evidence that an impairment loss on financial assets measured at amortised cost has been incurred, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate. The carrying amount of the asset is reduced directly OR through the use of an allowance account. The amount of the loss is recognised in surplus or deficit.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed directly OR by adjusting an allowance account. The reversal does not result in a carrying amount of the financial asset that exceeds what the amortised cost would have been had the impairment not been recognised at the date the impairment is reversed. The amount of the reversal is recognised in surplus or deficit.

Financial assets measured at cost:

If there is objective evidence that an impairment loss has been incurred on an investment in a residual interest that is not measured at fair value because its fair value cannot be measured reliably, the amount of the impairment loss is measured as the difference between the carrying amount of the financial asset and the present value of estimated future cash flows discounted at the current market rate of return for a similar financial asset. Such impairment losses are not reversed.

Derecognition

Financial assets

The entity derecognises financial assets using trade date accounting.

The entity derecognises a financial asset only when:

- the contractual rights to the cash flows from the financial asset expire, are settled or waived;
- the entity transfers to another party substantially all of the risks and rewards of ownership of the financial asset; or
- the entity, despite having retained some significant risks and rewards of ownership of the financial asset, has transferred control of the asset to another party and the other party has the practical ability to sell the asset in its entirety to an unrelated third party, and is able to exercise that ability unilaterally and without needing to impose additional restrictions on the transfer.

ACCOUNTING POLICIES

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1.7 Financial instruments (continued)

In this case, the entity :

- derecognise the asset; and
- recognise separately any rights and obligations created or retained in the transfer.

The carrying amounts of the transferred asset are allocated between the rights or obligations retained and those transferred on the basis of their relative fair values at the transfer date. Newly created rights and obligations are measured at their fair values at that date. Any difference between the consideration received and the amounts recognised and derecognised is recognised in surplus or deficit in the period of the transfer.

If the entity transfers a financial asset in a transfer that qualifies for derecognition in its entirety and retains the right to service the financial asset for a fee, it recognise either a servicing asset or a servicing liability for that servicing contract. If the fee to be received is not expected to compensate the entity adequately for performing the servicing, a servicing liability for the servicing obligation is recognised at its fair value. If the fee to be received is expected to be more than adequate compensation for the servicing, a servicing asset is recognised for the servicing right at an amount determined on the basis of an allocation of the carrying amount of the larger financial asset.

If, as a result of a transfer, a financial asset is derecognised in its entirety but the transfer results in the entity obtaining a new financial asset or assuming a new financial liability, or a servicing liability, the entity recognise the new financial asset, financial liability or servicing liability at fair value.

On derecognition of a financial asset in its entirety, the difference between the carrying amount and the sum of the consideration received is recognised in surplus or deficit.

If the transferred asset is part of a larger financial asset and the part transferred qualifies for derecognition in its entirety, the previous carrying amount of the larger financial asset is allocated between the part that continues to be recognised and the part that is derecognised, based on the relative fair values of those parts, on the date of the transfer. For this purpose, a retained servicing asset is treated as a part that continues to be recognised. The difference between the carrying amount allocated to the part derecognised and the sum of the consideration received for the part derecognised is recognised in surplus or deficit.

If a transfer does not result in derecognition because the entity has retained substantially all the risks and rewards of ownership of the transferred asset, the entity continue to recognise the transferred asset in its entirety and recognise a financial liability for the consideration received. In subsequent periods, the entity recognises any revenue on the transferred asset and any expense incurred on the financial liability. Neither the asset, and the associated liability nor the revenue, and the associated expenses are offset.

Financial liabilities

The entity removes a financial liability (or a part of a financial liability) from its statement of financial position when it is extinguished — i.e. when the obligation specified in the contract is discharged, cancelled, expires or waived.

An exchange between an existing borrower and lender of debt instruments with substantially different terms is accounted for as having extinguished the original financial liability and a new financial liability is recognised. Similarly, a substantial modification of the terms of an existing financial liability or a part of it is accounted for as having extinguished the original financial liability and having recognised a new financial liability.

The difference between the carrying amount of a financial liability (or part of a financial liability) extinguished or transferred to another party and the consideration paid, including any non-cash assets transferred or liabilities assumed, is recognised in surplus or deficit. Any liabilities that are waived, forgiven or assumed by another entity by way of a non-exchange transaction are accounted for in accordance with the Standard of GRAP on Revenue from Non-exchange Transactions (Taxes and Transfers).

Presentation

Interest relating to a financial instrument or a component that is a financial liability is recognised as revenue or expense in surplus or deficit.

ACCOUNTING POLICIES

as at 31 March 2017

1.7 Financial instruments (continued)

Losses and gains relating to a financial instrument or a component that is a financial liability is recognised as revenue or expense in surplus or deficit.

A financial asset and a financial liability are only offset and the net amount presented in the statement of financial position when the entity currently has a legally enforceable right to set off the recognised amounts and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

In accounting for a transfer of a financial asset that does not qualify for derecognition, the entity does not offset the transferred asset and the associated liability.

1.8 Statutory receivables

Identification

Statutory receivables are receivables that arise from legislation, supporting regulations, or similar means, and require settlement by another entity in cash or another financial asset.

Carrying amount is the amount at which an asset is recognised in the statement of financial position.

The cost method is the method used to account for statutory receivables that requires such receivables to be measured at their transaction amount, plus any accrued interest or other charges (where applicable) and, less any accumulated impairment losses and any amounts derecognised.

Nominal interest rate is the interest rate and/or basis specified in legislation, supporting regulations or similar means.

The transaction amount (for purposes of this Standard) for a statutory receivable means the amount specified in, or calculated, levied or charged in accordance with, legislation, supporting regulations, or similar means.

Recognition

The entity recognises statutory receivables as follows:

- if the transaction is an exchange transaction, using the policy on Revenue from exchange transactions;
- if the transaction is a non-exchange transaction, using the policy on Revenue from non-exchange transactions (Taxes and transfers); or
- if the transaction is not within the scope of the policies listed in the above or another Standard of GRAP, the receivable is recognised when the definition of an asset is met and, when it is probable that the future economic benefits or service potential associated with the asset will flow to the entity and the transaction amount can be measured reliably.

Initial measurement

The entity initially measures statutory receivables at their transaction amount.

Subsequent measurement

The entity measures statutory receivables after initial recognition using the cost method. Under the cost method, the initial measurement of the receivable is changed subsequent to initial recognition to reflect any:

- interest or other charges that may have accrued on the receivable (where applicable);
- impairment losses; and
- amounts derecognised.

ACCOUNTING POLICIES

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1.8 Statutory receivables (continued)

Accrued interest

Where the entity levies interest on the outstanding balance of statutory receivables, it adjusts the transaction amount after initial recognition to reflect any accrued interest. Accrued interest is calculated using the nominal interest rate.

Interest on statutory receivables is recognised as revenue in accordance with the policy on Revenue from exchange transactions or the policy on Revenue from non-exchange transactions (Taxes and transfers), whichever is applicable.

Other charges

Where the entity is required or entitled in terms of legislation, supporting regulations, by-laws or similar means to levy additional charges on overdue or unpaid amounts, and such charges are levied, the entity applies the principles as stated in "Accrued interest" above, as well as the relevant policy on Revenue from exchange transactions or the policy on Revenue from non-exchange transactions (Taxes and transfers).

Impairment losses

The entity assesses at each reporting date whether there is any indication that a statutory receivable, or a group of statutory receivables, may be impaired.

In assessing whether there is any indication that a statutory receivable, or group of statutory receivables, may be impaired, the entity considers, as a minimum, the following indicators:

- Significant financial difficulty of the debtor, which may be evidenced by an application for debt counselling, business rescue or an equivalent.
- It is probable that the debtor will enter sequestration, liquidation or other financial re-organisation.
- A breach of the terms of the transaction, such as default or delinquency in principal or interest payments (where levied).
- Adverse changes in international, national or local economic conditions, such as a decline in growth, an increase in debt levels and unemployment, or changes in migration rates and patterns.

If there is an indication that a statutory receivable, or a group of statutory receivables, may be impaired, the entity measures the impairment loss as the difference between the estimated future cash flows and the carrying amount. Where the carrying amount is higher than the estimated future cash flows, the carrying amount of the statutory receivable, or group of statutory receivables, is reduced, either directly or through the use of an allowance account. The amount of the losses are recognised in surplus or deficit.

In estimating the future cash flows, an entity considers both the amount and timing of the cash flows that it will receive in future. Consequently, where the effect of the time value of money is material, the entity discounts the estimated future cash flows using a rate that reflects the current risk free rate and, if applicable, any risks specific to the statutory receivable, or group of statutory receivables, for which the future cash flow estimates have not been adjusted.

An impairment loss recognised in prior periods for a statutory receivable is revised if there has been a change in the estimates used since the last impairment loss was recognised, or to reflect the effect of discounting the estimated cash flows.

Any previously recognised impairment loss is adjusted either directly or by adjusting the allowance account. The adjustment does not result in the carrying amount of the statutory receivable or group of statutory receivables exceeding what the carrying amount of the receivable(s) would have been had the impairment loss not been recognised at the date the impairment is revised. The amount of any adjustment is recognised in surplus or deficit.

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1.8 Statutory receivables (continued)

Derecognition

The entity derecognises a statutory receivable, or a part thereof, when:

- the rights to the cash flows from the receivable are settled, expire or are waived;
- the entity transfers to another party substantially all of the risks and rewards of ownership of the receivable; or
- the entity, despite having retained some significant risks and rewards of ownership of the receivable, has transferred control of the receivable to another party and the other party has the practical ability to sell the receivable in its entirety to an unrelated third party, and is able to exercise that ability unilaterally and without needing to impose additional restrictions on the transfer.

In this case, the entity:

- derecognise the receivable; and
- recognise separately any rights and obligations created or retained in the transfer.

The carrying amounts of any statutory receivables transferred are allocated between the rights or obligations retained and those transferred on the basis of their relative fair values at the transfer date. The entity considers whether any newly create rights and obligations are within the scope of the Standard of GRAP on Financial Instruments or another Standard of GRAP. Any difference between the consideration received and the amounts derecognised and, those amounts recognised, are recognised in surplus or deficit in the period of the transfer.

1.9 Tax

Tax expenses

No provision has been made for taxation, as the entity is exempt from income tax in terms of Section 10 of the Income Tax Act, 1962 (No. 58 of 1962).

1.10 Leases

A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership. A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership.

When a lease includes both land and buildings elements, the entity assesses the classification of each element separately.

Operating leases - lessor

Operating lease revenue is recognised as revenue on a straight-line basis over the lease term.

Initial direct costs incurred in negotiating and arranging operating leases are added to the carrying amount of the leased asset and recognised as an expense over the lease term on the same basis as the lease revenue.

The aggregate cost of incentives is recognised as a reduction of rental revenue over the lease term on a straight-line basis.

The aggregate benefit of incentives is recognised as a reduction of rental expense over the lease term on a straight-line basis.

Income for leases is disclosed under revenue in statement of financial performance.

Operating leases - lessee

Operating lease payments are recognised as an expense on a straight-line basis over the lease term. The difference between the amounts recognised as an expense and the contractual payments are recognised as an operating lease asset or liability.

The aggregate cost of incentives is recognised as a reduction of rental revenue over the lease term on a straight-line basis.

The aggregate benefit of incentives is recognised as a reduction of rental expense over the lease term on a straight-line basis.

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1.11 Inventories

Inventories are initially measured at cost except where inventories are acquired through a non-exchange transaction, then their costs are their fair value as at the date of acquisition.

Subsequently inventories are measured at the lower of cost and net realisable value.

Inventories are measured at the lower of cost and current replacement cost where they are held for;

- distribution at no charge or for a nominal charge; or
- consumption in the production process of goods to be distributed at no charge or for a nominal charge.

Net realisable value is the estimated selling price in the ordinary course of operations less the estimated costs of completion and the estimated costs necessary to make the sale, exchange or distribution.

Current replacement cost is the cost the entity incurs to acquire the asset on the reporting date.

The cost of inventories comprises of all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

The cost of inventories of items that are not ordinarily interchangeable and goods or services produced and segregated for specific projects is assigned using specific identification of the individual costs.

The cost of inventories is assigned using the weighted average cost formula. The same cost formula is used for all inventories having a similar nature and use to the entity.

When inventories are sold, the carrying amounts of those inventories are recognised as an expense in the period in which the related revenue is recognised. If there is no related revenue, the expenses are recognised when the goods are distributed, or related services are rendered. The amount of any write-down of inventories to net realisable value or current replacement cost and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realisable value or current replacement cost, are recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

1.12 Impairment of cash-generating assets

Cash-generating assets are assets managed with the objective of generating a commercial return. An asset generates a commercial return when it is deployed in a manner consistent with that adopted by a profit-oriented entity.

Impairment is a loss in the future economic benefits or service potential of an asset, over and above the systematic recognition of the loss of the asset's future economic benefits or service potential through depreciation (amortisation).

Carrying amount is the amount at which an asset is recognised in the statement of financial position after deducting any accumulated depreciation and accumulated impairment losses thereon.

A cash-generating unit is the smallest identifiable group of assets managed with the objective of generating a commercial return that generates cash inflows from continuing use that are largely independent of the cash inflows from other assets or groups of assets.

Costs of disposal are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expense.

Depreciation (Amortisation) is the systematic allocation of the depreciable amount of an asset over its useful life.

Fair value less costs to sell is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal.

Recoverable amount of an asset or a cash-generating unit is the higher its fair value less costs to sell and its value in use.

ACCOUNTING POLICIES

as at 31 March 2017

1.12 Impairment of cash-generating assets (continued)

Useful life is either:

- (a) the period of time over which an asset is expected to be used by the entity; or
- (b) the number of production or similar units expected to be obtained from the asset by the entity.

Identification

When the carrying amount of a cash-generating asset exceeds its recoverable amount, it is impaired.

The entity assesses at each reporting date whether there is any indication that a cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also test a cash-generating intangible asset with an indefinite useful life or a cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset was tested for impairment before the end of the current reporting period.

Value in use

Value in use of a cash-generating asset is the present value of the estimated future cash flows expected to be derived from the continuing use of an asset and from its disposal at the end of its useful life.

When estimating the value in use of an asset, the entity estimates the future cash inflows and outflows to be derived from continuing use of the asset and from its ultimate disposal and the entity applies the appropriate discount rate to those future cash flows.

Basis for estimates of future cash flows

In measuring value in use the entity:

- base cash flow projections on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that will exist over the remaining useful life of the asset. Greater weight is given to external evidence;
- base cash flow projections on the most recent approved financial budgets/forecasts, but excludes any estimated future cash inflows or outflows expected to arise from future restructuring's or from improving or enhancing the asset's performance. Projections based on these budgets/forecasts covers a maximum period of five years, unless a longer period can be justified; and
- estimate cash flow projections beyond the period covered by the most recent budgets/forecasts by extrapolating the projections based on the budgets/forecasts using a steady or declining growth rate for subsequent years, unless an increasing rate can be justified. This growth rate does not exceed the long-term average growth rate for the products, industries, or country or countries in which the entity operates, or for the market in which the asset is used, unless a higher rate can be justified.

Composition of estimates of future cash flows

Estimates of future cash flows include:

- projections of cash inflows from the continuing use of the asset;
- projections of cash outflows that are necessarily incurred to generate the cash inflows from continuing use of the asset (including cash outflows to prepare the asset for use) and can be directly attributed, or allocated on a reasonable and consistent basis, to the asset; and
- net cash flows, if any, to be received (or paid) for the disposal of the asset at the end of its useful life.

Estimates of future cash flows exclude:

- cash inflows or outflows from financing activities.

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1.12 Impairment of cash-generating assets (continued)

The estimate of net cash flows to be received (or paid) for the disposal of an asset at the end of its useful life is the amount that the entity expects to obtain from the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the estimated costs of disposal.

Foreign currency future cash flows

Future cash flows are estimated in the currency in which they will be generated and then discounted using a discount rate appropriate for that currency. The entity translates the present value using the spot exchange rate at the date of the value in use calculation.

Discount rate

The discount rate is a pre-tax rate that reflects current market assessments of the time value of money, represented by the current risk-free rate of interest and the risks specific to the asset for which the future cash flow estimates have not been adjusted.

Recognition and measurement (individual asset)

If the recoverable amount of a cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

Any impairment loss of a revalued cash-generating asset is treated as a revaluation decrease.

When the amount estimated for an impairment loss is greater than the carrying amount of the cash-generating asset to which it relates, the entity recognises a liability only to the extent that is a requirement in the Standard of GRAP.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the cash-generating asset is adjusted in future periods to allocate the cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Cash-generating units

If there is any indication that an asset may be impaired, the recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the entity determines the recoverable amount of the cash generating unit to which the asset belongs (the asset's cash-generating unit).

If an active market exists for the output produced by an asset or group of assets, that asset or group of assets is identified as a cash-generating unit, even if some or all of the output is used internally. If the cash inflows generated by any asset or cash generating unit are affected by internal transfer pricing, the entity use management's best estimate of future price(s) that could be achieved in arm's length transactions in estimating:

- the future cash inflows used to determine the asset's or cash-generating unit's value in use; and
- the future cash outflows used to determine the value in use of any other assets or cash-generating units that are affected by the internal transfer pricing.

Cash-generating units are identified consistently from period to period for the same asset or types of assets, unless a change is justified.

The carrying amount of a cash-generating unit is determined on a basis consistent with the way the recoverable amount of the cash-generating unit is determined.

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1.12 Impairment of cash-generating assets (continued)

An impairment loss is recognised for a cash-generating unit if the recoverable amount of the unit is less than the carrying amount of the unit. The impairment is allocated to reduce the carrying amount of the cash-generating assets of the unit on a pro rata basis, based on the carrying amount of each asset in the unit. These reductions in carrying amounts are treated as impairment losses on individual assets.

In allocating an impairment loss, the entity does not reduce the carrying amount of an asset below the highest of:

- its fair value less costs to sell (if determinable);
- its value in use (if determinable); and
- zero.

The amount of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other cash-generating assets of the unit.

Where a non-cash-generating asset contributes to a cash-generating unit, a proportion of the carrying amount of that non cash-generating asset is allocated to the carrying amount of the cash-generating unit prior to estimation of the recoverable amount of the cash-generating unit.

Reversal of impairment loss

The entity assess at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable amount of that asset.

An impairment loss recognised in prior periods for a cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable amount. The increase is a reversal of an impairment loss. The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a cash-generating asset is recognised immediately in surplus or deficit.

Any reversal of an impairment loss of a revalued cash-generating asset is treated as a revaluation increase.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the cash-generating asset is adjusted in future periods to allocate the cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

A reversal of an impairment loss for a cash-generating unit is allocated to the cash-generating assets of the unit pro rata with the carrying amounts of those assets. These increases in carrying amounts are treated as reversals of impairment losses for individual assets. No part of the amount of such a reversal is allocated to a non-cash-generating asset contributing service potential to a cash-generating unit.

In allocating a reversal of an impairment loss for a cash-generating unit, the carrying amount of an asset is not increased above the lower of:

- its recoverable amount (if determinable); and
- the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior periods.

The amount of the reversal of the impairment loss that would otherwise have been allocated to the asset is allocated pro rata to the other assets of the unit.

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1.12 Impairment of cash-generating assets (continued)

Redesignation

The redesignation of assets from a cash-generating asset to a non-cash-generating asset or from a non-cash-generating asset to a cash-generating asset only occur when there is clear evidence that such a redesignation is appropriate.

1.13 Impairment of non-cash-generating assets

Cash-generating assets are assets managed with the objective of generating a commercial return. An asset generates a commercial return when it is deployed in a manner consistent with that adopted by a profit-oriented entity.

Non-cash-generating assets are assets other than cash-generating assets.

Identification

When the carrying amount of a non-cash-generating asset exceeds its recoverable service amount, it is impaired.

The entity assesses at each reporting date whether there is any indication that a non-cash-generating asset may be impaired. If any such indication exists, the entity estimates the recoverable service amount of the asset.

Irrespective of whether there is any indication of impairment, the entity also test a non-cash-generating intangible asset with an indefinite useful life or a non-cash-generating intangible asset not yet available for use for impairment annually by comparing its carrying amount with its recoverable service amount. This impairment test is performed at the same time every year. If an intangible asset was initially recognised during the current reporting period, that intangible asset was tested for impairment before the end of the current reporting period.

Value in use

Value in use of non-cash-generating assets is the present value of the non-cash-generating assets remaining service potential.

The present value of the remaining service potential of a non-cash-generating assets is determined using the following approach:

Service units approach

The present value of the remaining service potential of the asset is determined by reducing the current cost of the remaining service potential of the asset before impairment, to conform to the reduced number of service units expected from the asset in its impaired state. The current cost of replacing the remaining service potential of the asset before impairment is determined as the depreciated reproduction or replacement cost of the asset before impairment, whichever is lower.

Recognition and measurement

If the recoverable service amount of a non-cash-generating asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable service amount. This reduction is an impairment loss.

An impairment loss is recognised immediately in surplus or deficit.

Any impairment loss of a revalued non-cash-generating asset is treated as a revaluation decrease.

When the amount estimated for an impairment loss is greater than the carrying amount of the non-cash-generating asset to which it relates, the entity recognises a liability only to the extent that is a requirement in the Standards of GRAP.

After the recognition of an impairment loss, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

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1.13 Impairment of non-cash-generating assets (continued)

Reversal of an impairment loss

The entity assess at each reporting date whether there is any indication that an impairment loss recognised in prior periods for a non-cash-generating asset may no longer exist or may have decreased. If any such indication exists, the entity estimates the recoverable service amount of that asset.

An impairment loss recognised in prior periods for a non-cash-generating asset is reversed if there has been a change in the estimates used to determine the asset's recoverable service amount since the last impairment loss was recognised. The carrying amount of the asset is increased to its recoverable service amount. The increase is a reversal of an impairment loss.

The increased carrying amount of an asset attributable to a reversal of an impairment loss does not exceed the carrying amount that would have been determined (net of depreciation or amortisation) had no impairment loss been recognised for the asset in prior periods.

A reversal of an impairment loss for a non-cash-generating asset is recognised immediately in surplus or deficit.

Any reversal of an impairment loss of a revalued non-cash-generating asset is treated as a revaluation increase.

After a reversal of an impairment loss is recognised, the depreciation (amortisation) charge for the non-cash-generating asset is adjusted in future periods to allocate the non-cash-generating asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

Redesignation

The redesignation of assets from a cash-generating asset to a non-cash-generating asset or from a non-cash-generating asset to a cash-generating asset only occur when there is clear evidence that such a redesignation is appropriate.

1.14 Employee benefits

Employee benefits are all forms of consideration given by an entity in exchange for service rendered by employees.

A qualifying insurance policy is an insurance policy issued by an insurer that is not a related party (as defined in the Standard of GRAP on Related Party Disclosures) of the reporting entity, if the proceeds of the policy can be used only to pay or fund employee benefits under a defined benefit plan and are not available to the reporting entity's own creditors (even in liquidation) and cannot be paid to the reporting entity, unless either:

- the proceeds represent surplus assets that are not needed for the policy to meet all the related employee benefit obligations; or
- the proceeds are returned to the reporting entity to reimburse it for employee benefits already paid.

Termination benefits are employee benefits payable as a result of either:

- an entity's decision to terminate an employee's employment before the normal retirement date; or
- an employee's decision to accept voluntary redundancy in exchange for those benefits.

Other long-term employee benefits are employee benefits (other than post-employment benefits and termination benefits) that are not due to be settled within twelve months after the end of the period in which the employees render the related service.

Vested employee benefits are employee benefits that are not conditional on future employment.

Composite social security programmes are established by legislation and operate as multi-employer plans to provide post-employment benefits as well as to provide benefits that are not consideration in exchange for service rendered by employees.

A constructive obligation is an obligation that derives from an entity's actions where by an established pattern of past practice, published policies or a sufficiently specific current statement, the entity has indicated to other parties that it will accept certain

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responsibilities and as a result, the entity has created a valid expectation on the part of those other parties that it will discharge those responsibilities.

Short-term employee benefits

Short-term employee benefits are employee benefits (other than termination benefits) that are due to be settled within twelve months after the end of the period in which the employees render the related service.

Short-term employee benefits include items such as:

- wages, salaries and social security contributions;
- short-term compensated absences (such as paid annual leave and paid sick leave) where the compensation for the absences is due to be settled within twelve months after the end of the reporting period in which the employees render the related employee service;
- bonus, incentive and performance related payments payable within twelve months after the end of the reporting period in which the employees render the related service; and
- non-monetary benefits (for example, medical care, and free or subsidised goods or services such as housing, cars and cellphones) for current employees.

When an employee has rendered service to the entity during a reporting period, the entity recognise the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service:

- as a liability (accrued expense), after deducting any amount already paid. If the amount already paid exceeds the undiscounted amount of the benefits, the entity recognise that excess as an asset (prepaid expense) to the extent that the prepayment will lead to, for example, a reduction in future payments or a cash refund; and
- as an expense, unless another Standard requires or permits the inclusion of the benefits in the cost of an asset.

The expected cost of compensated absences is recognised as an expense as the employees render services that increase their entitlement or, in the case of non-accumulating absences, when the absence occurs. The entity measure the expected cost of accumulating compensated absences as the additional amount that the entity expects to pay as a result of the unused entitlement that has accumulated at the reporting date.

The entity recognise the expected cost of bonus, incentive and performance related payments when the entity has a present legal or constructive obligation to make such payments as a result of past events and a reliable estimate of the obligation can be made. A present obligation exists when the entity has no realistic alternative but to make the payments.

Post-employment benefits

Post-employment benefits are employee benefits (other than termination benefits) which are payable after the completion of employment.

Post-employment benefit plans are formal or informal arrangements under which an entity provides post-employment benefits for one or more employees.

Post-employment benefits: Defined benefit plans

Defined benefit plans are post-employment benefit plans other than defined contribution plans.

Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred) and the effects of changes in actuarial assumptions. In measuring its defined benefit liability the entity recognise actuarial gains and losses in surplus or deficit in the reporting period in which they occur.

Assets held by a long-term employee benefit fund are assets (other than non-transferable financial instruments issued by the reporting entity) that are held by an entity (a fund) that is legally separate from the reporting entity and exists solely to pay or fund employee benefits and are available to be used only to pay or fund employee benefits, are not available to the reporting entity's own creditors (even in liquidation), and cannot be returned to the reporting entity, unless either:

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1.14 Employee benefits (continued)

- the remaining assets of the fund are sufficient to meet all the related employee benefit obligations of the plan or the reporting entity; or
- the assets are returned to the reporting entity to reimburse it for employee benefits already paid.

Current service cost is the increase in the present value of the defined benefit obligation resulting from employee service in the current period.

Interest cost is the increase during a period in the present value of a defined benefit obligation which arises because the benefits are one period closer to settlement.

Past service cost is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting in the current period from the introduction of, or changes to, post-employment benefits or other long-term employee benefits. Past service cost may be either positive (when benefits are introduced or changed so that the present value of the defined benefit obligation increases) or negative (when existing benefits are changed so that the present value of the defined benefit obligation decreases). In measuring its defined benefit liability the entity recognise past service cost as an expense in the reporting period in which the plan is amended.

Plan assets comprise assets held by a long-term employee benefit fund and qualifying insurance policies.

The present value of a defined benefit obligation is the present value, without deducting any plan assets, of expected future payments required to settle the obligation resulting from employee service in the current and prior periods.

The return on plan assets is interest, dividends or similar distributions and other revenue derived from the plan assets, together with realised and unrealised gains or losses on the plan assets, less any costs of administering the plan (other than those included in the actuarial assumptions used to measure the defined benefit obligation) and less any tax payable by the plan itself.

The entity account not only for its legal obligation under the formal terms of a defined benefit plan, but also for any constructive obligation that arises from the entity's informal practices. Informal practices give rise to a constructive obligation where the entity has no realistic alternative but to pay employee benefits. An example of a constructive obligation is where a change in the entity's informal practices would cause unacceptable damage to its relationship with employees.

The amount recognised as a defined benefit liability is the net total of the following amounts:

- the present value of the defined benefit obligation at the reporting date;
- minus the fair value at the reporting date of plan assets (if any) out of which the obligations are to be settled directly;
- plus any liability that may arise as a result of a minimum funding requirement

The amount determined as a defined benefit liability may be negative (an asset). The entity measure the resulting asset at the lower of:

- the amount determined above; and
- the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. The present value of these economic benefits is determined using a discount rate which reflects the time value of money.

Any adjustments arising from the limit above is recognised in surplus or deficit.

The entity determine the present value of defined benefit obligations and the fair value of any plan assets with sufficient regularity such that the amounts recognised in the annual financial statements do not differ materially from the amounts that would be determined at the reporting date.

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1.14 Employee benefits (continued)

The entity recognises the net total of the following amounts in surplus or deficit, except to the extent that another Standard requires or permits their inclusion in the cost of an asset:

- current service cost;
- interest cost;
- the expected return on any plan assets and on any reimbursement rights;
- actuarial gains and losses;
- past service cost;
- the effect of any curtailments or settlements; and
- the effect of applying the limit on a defined benefit asset (negative defined benefit liability).

The entity uses the Projected Unit Credit Method to determine the present value of its defined benefit obligations and the related current service cost and, where applicable, past service cost. The Projected Unit Credit Method (sometimes known as the accrued benefit method pro-rated on service or as the benefit/years of service method) sees each period of service as giving rise to an additional unit of benefit entitlement and measures each unit separately to build up the final obligation.

In determining the present value of its defined benefit obligations and the related current service cost and, where applicable, past service cost, an entity shall attribute benefit to periods of service under the plan's benefit formula. However, if an employee's service in later years will lead to a materially higher level of benefit than in earlier years, an entity shall attribute benefit on a straight-line basis from:

- the date when service by the employee first leads to benefits under the plan (whether or not the benefits are conditional on further service); until
- the date when further service by the employee will lead to no material amount of further benefits under the plan, other than from further salary increases.

Actuarial valuations are conducted on an annual basis by independent actuaries separately for each plan. The results of the valuation are updated for any material transactions and other material changes in circumstances (including changes in market prices and interest rates) up to the reporting date.

The entity recognises gains or losses on the curtailment or settlement of a defined benefit plan when the curtailment or settlement occurs. The gain or loss on a curtailment or settlement comprises:

- any resulting change in the present value of the defined benefit obligation; and
- any resulting change in the fair value of the plan assets.

Before determining the effect of a curtailment or settlement, the entity re-measures the obligation (and the related plan assets, if any) using current actuarial assumptions (including current market interest rates and other current market prices).

When it is virtually certain that another party will reimburse some or all of the expenditure required to settle a defined benefit obligation, the right to reimbursement is recognised as a separate asset. The asset is measured at fair value. In all other respects, the asset is treated in the same way as plan assets. In surplus or deficit, the expense relating to a defined benefit plan is presented as the net of the amount recognised for a reimbursement.

Actuarial assumptions

Actuarial assumptions are unbiased and mutually compatible.

Financial assumptions are based on market expectations, at the reporting date, for the period over which the obligations are to be settled.

The rate used to discount post-employment benefit obligations (both funded and unfunded) reflect the time value of money. The currency and term of the financial instrument selected to reflect the time value of money is consistent with the currency and estimated term of the post-employment benefit obligations.

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1.14 Employee benefits (continued)

Post-employment benefit obligations are measured on a basis that reflects:

- estimated future salary increases;
- the benefits set out in the terms of the plan (or resulting from any constructive obligation that goes beyond those terms) at the reporting date; and
- estimated future changes in the level of any state benefits that affect the benefits payable under a defined benefit plan, if, and only if, either:
 - those changes were enacted before the reporting date; or
 - past history, or other reliable evidence, indicates that those state benefits will change in some predictable manner, for example, in line with future changes in general price levels or general salary levels.

Assumptions about medical costs take account of estimated future changes in the cost of medical services, resulting from both inflation and specific changes in medical costs.

1.15 Provisions and contingencies

Provisions are recognised when:

- the entity has a present obligation as a result of a past event;
- it is probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; and
- a reliable estimate can be made of the obligation.

The amount of a provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date.

Where the effect of time value of money is material, the amount of a provision is the present value of the expenditures expected to be required to settle the obligation.

The discount rate is a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability.

Where some or all of the expenditure required to settle a provision is expected to be reimbursed by another party, the reimbursement is recognised when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement is treated as a separate asset. The amount recognised for the reimbursement does not exceed the amount of the provision.

Provisions are reviewed at each reporting date and adjusted to reflect the current best estimate. Provisions are reversed if it is no longer probable that an outflow of resources embodying economic benefits or service potential will be required, to settle the obligation.

Where discounting is used, the carrying amount of a provision increases in each period to reflect the passage of time. This increase is recognised as an interest expense.

A provision is used only for expenditures for which the provision was originally recognised.

Provisions are not recognised for future operating deficits.

If an entity has a contract that is onerous, the present obligation (net of recoveries) under the contract is recognised and measured as a provision.

ACCOUNTING POLICIES

as at 31 March 2017

1.15 Provisions and contingencies (continued)

A constructive obligation to restructure arises only when an entity:

- has a detailed formal plan for the restructuring, identifying at least:
 - the activity/operating unit or part of a activity/operating unit concerned;
 - the principal locations affected;
 - the location, function, and approximate number of employees who will be compensated for services being terminated;
 - the expenditures that will be undertaken; and
 - when the plan will be implemented; and
- has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement that plan or announcing its main features to those affected by it.

A restructuring provision includes only the direct expenditures arising from the restructuring, which are those that are both:

- necessarily entailed by the restructuring; and
- not associated with the ongoing activities of the entity

No obligation arises as a consequence of the sale or transfer of an operation until the entity is committed to the sale or transfer, that is, there is a binding arrangement.

After their initial recognition contingent liabilities recognised in entity combinations that are recognised separately are subsequently measured at the higher of:

- the amount that would be recognised as a provision; and
- the amount initially recognised less cumulative amortisation.

Contingent assets and contingent liabilities are not recognised. Contingencies are disclosed in note 29.

1.16 Commitments

Items are classified as commitments when an entity has committed itself to future transactions that will normally result in the outflow of cash.

Disclosures are required in respect of unrecognised contractual commitments.

Commitments for which disclosure is necessary to achieve a fair presentation should be disclosed in a note to the financial statements, if both the following criteria are met:

- Contracts should be non-cancellable or only cancellable at significant cost (for example, contracts for computer or building maintenance services); and
- Contracts should relate to something other than the routine, steady, state business of the entity – therefore salary commitments relating to employment contracts or social security benefit commitments are excluded.

1.17 Revenue from exchange transactions

Revenue is the gross inflow of economic benefits or service potential during the reporting period when those inflows result in an increase in net assets, other than increases relating to contributions from owners.

An exchange transaction is one in which the entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of goods, services or use of assets) to the other party in exchange.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

Measurement

Revenue is measured at the fair value of the consideration received or receivable, net of trade discounts and volume rebates.

ACCOUNTING POLICIES

as at 31 March 2017

1.17 Revenue from exchange transactions (continued)

Sale of goods

Revenue from the sale of goods is recognised when all the following conditions have been satisfied:

- the entity has transferred to the purchaser the significant risks and rewards of ownership of the goods;
- the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;
- the amount of revenue can be measured reliably;
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity; and
- the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Rendering of services

When the outcome of a transaction involving the rendering of services can be estimated reliably, revenue associated with the transaction is recognised by reference to the stage of completion of the transaction at the reporting date. The outcome of a transaction can be estimated reliably when all the following conditions are satisfied:

- the amount of revenue can be measured reliably;
- it is probable that the economic benefits or service potential associated with the transaction will flow to the entity;
- the stage of completion of the transaction at the reporting date can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

When services are performed by an indeterminate number of acts over a specified time frame, revenue is recognised on a straight line basis over the specified time frame unless there is evidence that some other method better represents the stage of completion. When a specific act is much more significant than any other acts, the recognition of revenue is postponed until the significant act is executed.

When the outcome of the transaction involving the rendering of services cannot be estimated reliably, revenue is recognised only to the extent of the expenses recognised that are recoverable.

Service revenue is recognised by reference to the stage of completion of the transaction at the reporting date. Stage of completion is determined by services performed to date as a percentage of total services to be performed.

Interest, royalties and dividends

Revenue arising from the use by others of entity assets yielding interest, royalties and dividends or similar distributions is recognised when:

- It is probable that the economic benefits or service potential associated with the transaction will flow to the entity, and
- The amount of the revenue can be measured reliably.

Interest is recognised, in surplus or deficit, using the effective interest rate method.

Royalties are recognised as they are earned in accordance with the substance of the relevant agreements.

Dividends or similar distributions are recognised, in surplus or deficit, when the entity's right to receive payment has been established.

Service fees included in the price of the product are recognised as revenue over the period during which the service is performed.

1.18 Revenue from non-exchange transactions

Revenue comprises gross inflows of economic benefits or service potential received and receivable by an entity, which represents an increase in net assets, other than increases relating to contributions from owners.

ACCOUNTING POLICIES

as at 31 March 2017

1.18 Revenue from non-exchange transactions (continued)

Conditions on transferred assets are stipulations that specify that the future economic benefits or service potential embodied in the asset is required to be consumed by the recipient as specified or future economic benefits or service potential must be returned to the transferor.

Control of an asset arises when the entity can use or otherwise benefit from the asset in pursuit of its objectives and can exclude or otherwise regulate the access of others to that benefit.

Exchange transactions are transactions in which one entity receives assets or services, or has liabilities extinguished, and directly gives approximately equal value (primarily in the form of cash, goods, services, or use of assets) to another entity in exchange.

Non-exchange transactions are transactions that are not exchange transactions. In a non-exchange transaction, an entity either receives value from another entity without directly giving approximately equal value in exchange, or gives value to another entity without directly receiving approximately equal value in exchange.

Restrictions on transferred assets are stipulations that limit or direct the purposes for which a transferred asset may be used, but do not specify that future economic benefits or service potential is required to be returned to the transferor if not deployed as specified.

Stipulations on transferred assets are terms in laws or regulation, or a binding arrangement, imposed upon the use of a transferred asset by entities external to the reporting entity.

Transfers are inflows of future economic benefits or service potential from non-exchange transactions, other than taxes.

Recognition

An inflow of resources from a non-exchange transaction recognised as an asset is recognised as revenue, except to the extent that a liability is also recognised in respect of the same inflow.

As the entity satisfies a present obligation recognised as a liability in respect of an inflow of resources from a non-exchange transaction recognised as an asset, it reduces the carrying amount of the liability recognised and recognises an amount of revenue equal to that reduction.

Measurement

Revenue from a non-exchange transaction is measured at the amount of the increase in net assets recognised by the entity.

When, as a result of a non-exchange transaction, the entity recognises an asset, it also recognises revenue equivalent to the amount of the asset measured at its fair value as at the date of acquisition, unless it is also required to recognise a liability.

Where a liability is required to be recognised it will be measured as the best estimate of the amount required to settle the obligation at the reporting date, and the amount of the increase in net assets, if any, recognised as revenue. When a liability is subsequently reduced, because the taxable event occurs or a condition is satisfied, the amount of the reduction in the liability is recognised as revenue.

Transfers

The entity recognises an asset in respect of transfers when the transferred resources meet the definition of an asset and satisfy the criteria for recognition as an asset.

Transferred assets are measured at their fair value as at the date of acquisition.

ACCOUNTING POLICIES

as at 31 March 2017

1.18 Revenue from non-exchange transactions (continued)

Debt forgiveness and assumption of liabilities

The entity recognise revenue in respect of debt forgiveness when the former debt no longer meets the definition of a liability or satisfies the criteria for recognition as a liability, provided that the debt forgiveness does not satisfy the definition of a contribution from owners.

Revenue arising from debt forgiveness is measured at the carrying amount of debt forgiven.

Gifts and donations, including goods in-kind

Gifts and donations, including goods in kind, are recognised as assets and revenue when it is probable that the future economic benefits or service potential will flow to the entity and the fair value of the assets can be measured reliably.

Services in-kind

The entity recognise services in-kind that are significant to its operations and/or service delivery objectives as assets and recognise the related revenue when it is probable that the future economic benefits or service potential will flow to the entity and the fair value of the assets can be measured reliably.

Where services in-kind are not significant to the entity's operations and/or service delivery objectives and/or do not satisfy the criteria for recognition, the entity disclose the nature and type of services in-kind received during the reporting period.

1.19 Turnover

Turnover comprises of sales to customers and service rendered to customers. Turnover is stated at the invoice amount and is exclusive of value added taxation.

1.20 Investment income

Investment income is recognised on a time-proportion basis using the effective interest method.

1.21 Borrowing costs

Borrowing costs are interest and other expenses incurred by an entity in connection with the borrowing of funds.

Borrowing costs are recognised as an expense in the period in which they are incurred.

1.22 Translation of foreign currencies

Foreign currency transactions

A foreign currency transaction is recorded, on initial recognition in Rands, by applying to the foreign currency amount the spot exchange rate between the functional currency and the foreign currency at the date of the transaction.

At each reporting date:

- foreign currency monetary items are translated using the closing rate;
- non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction; and
- non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

ACCOUNTING POLICIES

as at 31 March 2017

Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous annual financial statements are recognised in surplus or deficit in the period in which they arise.

When a gain or loss on a non-monetary item is recognised directly in net assets, any exchange component of that gain or loss is recognised directly in net assets. When a gain or loss on a non-monetary item is recognised in surplus or deficit, any exchange component of that gain or loss is recognised in surplus or deficit.

Cash flows arising from transactions in a foreign currency are recorded in Rands by applying to the foreign currency amount the exchange rate between the Rand and the foreign currency at the date of the cash flow.

1.23 Comparative figures

Where necessary, comparative figures have been reclassified to conform to changes in presentation in the current year.

1.24 Fruitless and wasteful expenditure

Fruitless expenditure means expenditure which was made in vain and would have been avoided had reasonable care been exercised.

All expenditure relating to fruitless and wasteful expenditure is recognised as an expense in the statement of financial performance in the year that the expenditure was incurred. The expenditure is classified in accordance with the nature of the expense, and where recovered, it is subsequently accounted for as revenue in the statement of financial performance.

1.25 Irregular expenditure

Irregular expenditure as defined in section 1 of the PFMA is expenditure other than unauthorised expenditure, incurred in contravention of or that is not in accordance with a requirement of any applicable legislation, including -

- (a) this Act; or
- (b) the State Tender Board Act, 1968 (Act No. 86 of 1968), or any regulations made in terms of the Act; or
- (c) any provincial legislation providing for procurement procedures in that provincial government.

National Treasury practice note no. 4 of 2008/2009 which was issued in terms of sections 76(1) to 76(4) of the PFMA requires the following (effective from 1 April 2008):

Irregular expenditure that was incurred and identified during the current financial and which was condoned before year end and/or before finalisation of the financial statements must also be recorded appropriately in the irregular expenditure register. In such an instance, no further action is also required with the exception of updating the note to the financial statements.

Irregular expenditure that was incurred and identified during the current financial year and for which condonement is being awaited at year end must be recorded in the irregular expenditure register. No further action is required with the exception of updating the note to the financial statements.

Where irregular expenditure was incurred in the previous financial year and is only condoned in the following financial year, the register and the disclosure note to the financial statements must be updated with the amount condoned.

Irregular expenditure that was incurred and identified during the current financial year and which was not condoned by the National Treasury or the relevant authority must be recorded appropriately in the irregular expenditure register. If liability for the irregular expenditure can be attributed to a person, a debt account must be created if such a person is liable in law. Immediate steps must thereafter be taken to recover the amount from the person concerned. If recovery is not possible, the accounting officer or accounting authority may write off the amount as debt impairment and disclose such in the relevant note to the financial statements. The irregular expenditure register must also be updated accordingly. If the irregular expenditure has not been condoned and no person is liable in law, the expenditure related thereto must remain against the relevant programme/expenditure item, be disclosed as such in the note to the financial statements and updated accordingly in the irregular expenditure register.

ACCOUNTING POLICIES

as at 31 March 2017

1.26 Research and development expenditure

Expenditure on research is recognised as an expense when it is incurred.

An asset arising from development is recognised when:

- it is technically feasible to complete the asset so that it will be available for use or sale.
- there is an intention to complete and use or sell it.
- there is an ability to use or sell it.
- it will generate probable future economic benefits or service potential.
- there are available technical, financial and other resources to complete the development and to use or sell the asset.
- the expenditure attributable to the asset during its development can be measured reliably.

1.27 Budget information

Entities are typically subject to budgetary limits in the form of appropriations or budget authorisations (or equivalent), which is given effect through authorising legislation, appropriation or similar.

General purpose financial reporting by the entity shall provide information on whether resources were obtained and used in accordance with the legally adopted budget.

The approved budget is prepared on an accrual basis and presented by economic classification linked to performance outcome objectives.

The approved budget covers the fiscal period from 2016/04/01 to 2017/03/31.

The annual financial statements and the budget are on the same basis of accounting therefore a comparison with the budgeted amounts for the reporting period have been included in the Statement of comparison of budget and actual amounts.

1.28 Related parties

The entity operates in an economic sector currently dominated by entities directly or indirectly owned by the South African Government. As a consequence of the constitutional independence of the three spheres of government in South Africa, only entities within the national sphere of government are considered to be related parties.

Management are those persons responsible for planning, directing and controlling the activities of the entity, including those charged with the governance of the entity in accordance with legislation, in instances where they are required to perform such functions.

Close members of the family of a person are considered to be those family members who may be expected to influence, or be influenced by, that management in their dealings with the entity.

Only transactions with related parties not at arm's length or not in the ordinary course of business are disclosed.

1.29 Events after reporting date

Events after reporting date are those events, both favourable and unfavourable, that occur between the reporting date and the date when the financial statements are authorised for issue. Two types of events can be identified:

- those that provide evidence of conditions that existed at the reporting date (adjusting events after the reporting date); and
- those that are indicative of conditions that arose after the reporting date (non-adjusting events after the reporting date).

The entity will adjust the amount recognised in the financial statements to reflect adjusting events after the reporting date once the event occurred.

The entity will disclose the nature of the event and an estimate of its financial effect or a statement that such estimate cannot be made in respect of all material non-adjusting events, where non-disclosure could influence the economic decisions of users taken on the basis of the financial statements.

ACCOUNTING POLICIES

as at 31 March 2017

2. New standards and interpretations

2.1 Standards and interpretations effective and adopted in the current year

In the current year, the entity has adopted the following standards and interpretations that are effective for the current financial year and that are relevant to its operations:

GRAP 108: Statutory Receivables

The objective of this Standard is: to prescribe accounting requirements for the recognition, measurement, presentation and disclosure of statutory receivables.

It furthermore covers: Definitions, recognition, derecognition, measurement, presentation and disclosure, transitional provisions, as well as the effective date.

The entity has used the standard to formulate an accounting policy.

GRAP 17 (as amended 2015): Property, Plant and Equipment

Based on the feedback received as part of the post-implementation review, the Board agreed to reconsider certain principles in GRAP 16 and GRAP 17. In particular, the Board agreed to:

- Review the principles and explanations related to the distinction between investment property and property, plant and equipment.
- Consider whether an indicator-based assessment of useful lives of assets could be introduced.
- Clarify the wording related to the use of external valuers.
- Introduce more specific presentation and disclosure requirements for capital work-in-progress.
- Review the encouraged disclosures and assess whether any should be made mandatory or deleted.
- Require separate presentation of expenditure incurred on repairs and maintenance in the financial statements.

Amendments identified as part of the post-implementation review, affected the following areas:

- Indicator-based assessment of the useful lives of assets
- Use of external valuers
- Encouraged disclosures
- Capital work-in-progress
- Expenditure incurred on repairs and maintenance

The effective date of the standard is for years beginning on or after 01 April 2016.

GRAP 16 (as amended 2015): Investment Property

Based on the feedback received as part of the post-implementation review, the Board agreed to reconsider certain principles in GRAP 16 and GRAP 17. In particular, the Board agreed to:

- Review the principles and explanations related to the distinction between investment property and property, plant and equipment.
- Consider whether an indicator-based assessment of useful lives of assets could be introduced.
- Clarify the wording related to the use of external valuers.
- Introduce more specific presentation and disclosure requirements for capital work-in-progress.
- Review the encouraged disclosures and assess whether any should be made mandatory or deleted.
- Require separate presentation of expenditure incurred on repairs and maintenance in the financial statements.

Various amendments were made to the Standard, affecting Definitions, Identification, Disclosure, Effective date and Transitional provisions.

The effective date of the standard is for years beginning on or after 01 April 2016.

ACCOUNTING POLICIES

as at 31 March 2017

2. New standards and interpretations (continued)

2.2 Standards and interpretations issued, but not yet effective

The entity has not applied the following standards and interpretations, which have been published and are mandatory for the entity's accounting periods beginning on or after 01 April 2017 or later periods:

Directive 12: The Selection of an Appropriate Reporting Framework by Public Entities

Historically, public entities have prepared financial statements in accordance with generally recognised accounting practice, unless the Accounting Standards Board (the Board) approved the application of generally accepted accounting practice for that entity. "Generally accepted accounting practice" has been taken to mean Statements of Generally Accepted Accounting Practice (Statements of GAAP), or for certain entities, International Financial Reporting Standards (IFRSs) issued by the International Accounting Standards Board. Since Statements of GAAP have been withdrawn from 1 December 2012, public entities will be required to apply another reporting framework in the future.

The purpose of this Directive is to prescribe the criteria to be applied by public entities in selecting and applying an appropriate reporting framework.

The effective date of the standard is for years beginning on or after 01 April 2018.

The entity expects to adopt the standard for the first time in the 2019 annual financial statements.

It is unlikely that the standard will have a material impact on the entity's annual financial statements.

GRAP 109: Accounting by Principals and Agents

The objective of this Standard is to outline principles to be used by an entity to assess whether it is party to a principal-agent arrangement, and whether it is a principal or an agent in undertaking transactions in terms of such an arrangement.

The Standard does not introduce new recognition or measurement requirements for revenue, expenses, assets and/or liabilities that result from principal-agent arrangements. The Standard does however provide guidance on whether revenue, expenses, assets and/or liabilities should be recognised by an agent or a principal, as well as prescribe what information should be disclosed when an entity is a principal or an agent.

It furthermore covers Definitions, Identifying whether an entity is a principal or agent, Accounting by a principal or agent, Presentation, Disclosure, Transitional provisions and Effective date.

The effective date of the standard is not yet set by the Minister of Finance.

The entity expects to adopt the standard for the first time when the Minister sets the effective date for the standard.

It is unlikely that the standard will have a material impact on the entity's annual financial statements.

GRAP 18: Segment Reporting

Segments are identified by the way in which information is reported to management, both for purposes of assessing performance and making decisions about how future resources will be allocated to the various activities undertaken by the entity. The major classifications of activities identified in budget documentation will usually reflect the segments for which an entity reports information to management.

Segment information is either presented based on service or geographical segments. Service segments relate to a distinguishable component of an entity that provides specific outputs or achieves particular operating objectives that are in line with the entity's overall mission. Geographical segments relate to specific outputs generated, or particular objectives achieved, by an entity within a particular region.

ACCOUNTING POLICIES

as at 31 March 2017

2. New standards and interpretations (continued)

This Standard has been approved by the Board but its effective date has not yet been determined by the Minister of Finance. The effective date indicated is a provisional date and could change depending on the decision of the Minister of Finance.

Directive 2 - Transitional provisions for public entities, municipal entities and constitutional institutions, states that no comparative segment information need to be presented on initial adoption of this Standard.

Directive 3 - Transitional provisions for high capacity municipalities states that no comparative segment information need to be presented on initial adoption of the Standard. Where items have not been recognised as a result of transitional provisions under the Standard of GRAP on Property, Plant and Equipment, recognition requirements of this Standard would not apply to such items until the transitional provision in that Standard expires.

Directive 4 – Transitional provisions for medium and low capacity municipalities states that no comparative segment information need to be presented on initial adoption of the Standard. Where items have not been recognised as a result of transitional provisions under the Standard of GRAP on Property, Plant and Equipment and the Standard of GRAP on Agriculture, the recognition requirements of the Standard would not apply to such items until the transitional provision in that standard expires.

The effective date of the standard is not yet set by the Minister of Finance.

The entity expects to adopt the standard for the first time when the Minister sets the effective date for the standard.

It is unlikely that the standard will have a material impact on the entity's annual financial statements.

3. Inventories

Raw materials and finished goods**
Consumable***
Other - Commercial****

2017 R	2016 R
1 792 235	2 434 363
82 379	92 282
612 586	1 337 325
2 487 200	3 863 970

** Stock components for repairs and maintenance.

*** Consumables stationery

**** Commercial components.

ACCOUNTING POLICIES

as at 31 March 2017

4. Receivables from exchange transactions

Trade receivables
Sundry receivables
Impairment of receivables

2017 R	2016 R
8 532 128	3 930 021
4 907 167	1 800 586
(1 806 020)	(3 036 567)
11 633 275	2 694 040

Interest is charged on invoices over 60 days outstanding in the accounts receivable age analysis. Trade receivables are stated at amortised cost using effective interest rate method less impairment of receivables.

SAWS therefore recognises impairment of trade receivables based on individual and collective assessment as follows:

	61-90 Days R	90-120 Days R	Over 120 Days R	Total R
Regulated commercial debtors	203 432	791 258	3 003 568	3 998 258
Subtotal	203 432	791 258	3 003 568	3 998 258
Non-regulated commercial debtors				
Eskom Group	518	-	86 534	87 052
Insurance clients	19 042	2 499	636 484	658 025
Contracts	34 472	6 903	703 598	744 973
Others	115 062	20 690	180 218	315 970
Total impairment	372 526	821 350	4 610 402	5 804 278

Trade and other receivables past due but not impaired

Trade and other receivables which are less than 3 months past due are not automatically considered to be impaired. Management's judgement is used to impair amounts, as at 31 March 2017, R 4 543 798 (2016: R 142 366) were past due but not impaired. Trade receivables amounting to R2 291 443 (2016: R751 086) are neither past due nor impaired and are considered to be fully recoverable.

Trade and other receivables impaired

As of 31 March 2017, trade and other receivables of R 1 806 020 (2016: R 3 036 567) were impaired and provided for.

Reconciliation of provision for impairment of trade and statutory receivables

Opening balance
Provision for impairment / (decrease)

2017 R	2016 R
9 229 225	7 290 149
(3 424 946)	1 939 076
5 804 279	9 229 225

The maximum exposure to credit risk at the reporting date is the carrying amount of each class of trade receivables mentioned above. The entity does not hold any collateral as security. Trade receivables are individually and collectively assessed for impairment, whether significant or not, and are included within the group of trade receivables with similar credit risk characteristics.

ACCOUNTING POLICIES

as at 31 March 2017

5. Statutory receivables

Statutory receivables
Impairment of receivables

2017 R	2016 R
18 192 713	19 067 781
(3 998 258)	(6 192 657)
14 194 455	12 875 124

Statutory receivables constitute of revenue charged to aviation clients due at year-end, in a form of an approved tariff promulgated by the Minister of Environmental Affairs, as published in the Government Gazette.

Interest is charged on invoices over 60 days outstanding in the statutory receivables age analysis. Statutory receivables are stated at amortised cost using effective interest rate method less impairment of receivables.

Statutory receivables amounting to R13 362 112 (2016: R10 989 467) are neither past due nor impaired and are considered to be fully recoverable.

Statutory receivables which are past due are not automatically considered to be impaired. Management's judgement is used to impair amounts that are past due. At 31 March 2016, statutory receivables of R2 064 346 (2016: R1 885 657) were past due but not impaired.

Statutory Receivables Past Due but not Impaired

The ageing of amounts past due but not impaired is as follows:

	31-60 days R	61-90 days R	Total R
Statutory receivables - 2017	1 764 470	299 876	2 064 346
Statutory receivables - 2016	1 885 657	-	1 885 657
	3 650 127	299 876	3 950 003

6. Prepayments and advances

Prepaid expenses

2017 R	2016 R
9 130 886	4 824 087

Prepaid expenses comprise of services paid in advance and staff travel advance payments.

7. Cash and cash equivalents

Cash and cash equivalents consist of:

Bank balances and cash on hand
Short-term deposits

2017 R	2016 R
54 422 432	34 855 454
35 801 866	8 987 037
90 224 298	43 842 491

ACCOUNTING POLICIES

as at 31 March 2017

8. Investment property

	2017			2016		
	Cost / Valuation R	Accumulated depreciation and accumulated impairment R	Carrying value R	Cost / Valuation R	Accumulated depreciation and accumulated impairment R	Carrying value R
Investment property	65 614 150	-	65 614 150	57 813 509	-	57 813 509

Reconciliation of investment property - 2017

	Opening balance R	Other changes, movements R	Fair value adjustments R	Total R
Investment property	57 813 509	(900)	7 801 541	65 614 150

Reconciliation of investment property - 2016

	Opening balance R	Fair value adjustments R	Total R
Investment property	56 783 770	1 029 739	57 813 509

The investment property (Land) includes portions 411, portion of portion 412 and portion 423 (which are portions of the remaining extent of portion 407) of the farm Garsfontein 374, Registration Division JR, Gauteng. The property is 37,1116 ha, located in the west of N1 National Freeway and immediately north of Rigel Avenue (South) in the Waterkloof Heights suburb of Pretoria.

The property was valued at 31 March 2017 by Ms Yolanda Van Dyk from DDP Valuation and Advisory Services (Pty) Ltd, a qualified independent professional valuer. DDP Valuation and Advisory Services (Pty) Ltd is not connected to the entity and has recent experience in location and category of the investment property.

The valuer used the market data valuation approach, whereby similar properties' valuations are used as a motivation to value the property, which is an acceptable method to determine the value of this type of property.

If the property was stated on the historical cost basis, the amounts would be as follows:

Valuations were made on the basis of open-market value. The property was brought to book in 2003. The valuation from independent valuers was accepted to reflect the fair value at 31 March 2002 for comparative purposes.

Historical cost - Investment property:

Investment property:

2017 R	2016 R
26 890 000	26 890 000

ACCOUNTING POLICIES

as at 31 March 2017

9. Property, plant and equipment

	2017			2016		
	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated depreciation and accumulated impairment	Carrying value
	R	R	R	R	R	R
Land - Garsfontein	9 626 336	-	9 626 336	16 786 491	-	16 786 491
Buildings - Irene and Bethlehem	1 918 300	(109 739)	1 808 561	1 918 300	(57 933)	1 860 367
Fence	2 537 167	(1 483 690)	1 053 477	2 537 167	(1 230 085)	1 307 082
Furniture and fixtures	7 713 928	(5 926 664)	1 787 264	7 654 331	(5 413 422)	2 240 909
Motor vehicles	844 236	(605 253)	238 983	814 352	(502 701)	311 651
Office equipment	6 415 867	(3 144 991)	3 270 876	6 241 888	(2 719 543)	3 522 345
Computer equipment	93 207 393	(44 053 810)	49 153 583	92 051 250	(33 788 387)	58 262 863
Leasehold improvements	2 274 481	(2 022 935)	251 546	2 274 481	(2 125 139)	149 342
Aircraft - airframes	2 172 998	(826 390)	1 346 608	2 306 310	(669 781)	1 636 529
Aircraft - engines	2 504 136	-	2 504 136	2 941 112	-	2 941 112
Aircraft - propellers	170 949	(170 949)	-	190 107	(145 000)	45 107
Radar - equipment	277 647 954	(74 602 708)	203 045 246	277 647 954	(63 578 825)	214 069 129
Meteorological equipment	62 697 297	(45 483 378)	17 213 919	62 586 533	(40 732 223)	21 854 310
Air quality equipment	29 308 626	(8 859 947)	20 448 679	28 661 267	(6 083 750)	22 577 517
Tools and other equipment	2 483 841	(1 826 849)	656 992	2 472 049	(1 663 434)	808 615
Library books and equipment	52 310	(28 340)	23 970	52 310	(23 103)	29 207
Total	501 575 819	(189 145 643)	312 430 176	507 135 902	(158 733 326)	348 402 576

Reconciliation of property, plant and equipment - 2017

	Opening balance	Additions	Disposals / Other Movements	Revaluations	Depreciation	Total
	R	R	R	R	R	R
Land - Garsfontein	16 786 491	-	-	(7 160 155)	-	9 626 336
Buildings - Irene and Bethlehem	1 860 367	-	-	-	(51 806)	1 808 561
Fence	1 307 082	-	-	-	(253 608)	1 053 477
Furniture and fixtures	2 240 909	-	-	-	(453 645)	1 787 264
Motor vehicles	311 651	29 884	-	-	(102 552)	238 983
Office equipment	3 522 345	-	-	-	(251 469)	3 270 876
Computer equipment	58 262 863	1 217 789	(38 658)	-	(10 288 411)	49 153 583
Leasehold improvements	149 342	-	-	102 204	-	251 546
Aircraft - airframes	1 636 529	-	-	(68 220)	(221 701)	1 346 608
Aircraft - engines	2 941 112	-	-	(436 976)	-	2 504 136
Aircraft - propellers	45 107	-	-	(23 247)	(21 860)	-
Radars - equipment	214 069 129	-	-	-	(11 023 883)	203 045 246
Meteorological equipment	21 854 310	110 764	-	-	(4 751 155)	17 213 919
Air quality equipment	22 577 517	717 726	-	-	(2 846 564)	20 448 679
Tools and other equipment	808 615	11 792	-	-	(163 415)	656 992
Library books and equipment	29 207	-	-	-	(5 237)	23 970
Total	348 402 576	2 087 955	(38 658)	(7 586 394)	(30 435 306)	312 430 176

ACCOUNTING POLICIES

as at 31 March 2017

9. Property, plant and equipment (continued)

Reconciliation of property, plant and equipment - 2016

	Opening balance R	Revaluations R	Disposals / Other adjustments R	Depreciation R	Total R
Land - Garsfontein	16 786 491	-	-	-	16 786 491
Buildings - Irene and Bethlehem	1 912 278	49 747	-	(101 658)	1 860 367
Fence	1 561 383	-	-	(254 301)	1 307 082
Furniture and fixtures	2 673 101	-	13 469	(445 661)	2 240 909
Motor vehicles	472 375	-	-	(160 724)	311 651
Office equipment	3 913 656	-	19 217	(410 528)	3 522 345
Computer equipment	65 710 038	-	102 598	(7 549 773)	58 262 863
Leasehold improvements	564 281	-	-	(414 939)	149 342
Aircraft - Airframes	2 075 247	(139 153)	-	(299 565)	1 636 529
Aircraft - Engines	2 941 112	-	-	-	2 941 112
Aircraft - Propellers	190 107	-	-	(145 000)	45 107
Radars equipment	225 123 214	-	-	(11 054 085)	214 069 129
Meteorological equipment	25 593 963	-	2 998	(3 742 651)	21 854 310
Air quality equipment	24 818 294	-	-	(2 240 777)	22 577 517
Tools and other equipment	942 789	-	8 712	(142 886)	808 615
Library books and equipment	34 457	-	-	(5 250)	29 207
	375 312 786	(89 406)	146 994	(26 967 798)	348 402 576

Revaluations

Reconciliation of surplus or loss recognised in the revaluation reserve in the statement of changes in net assets:

Revaluation of PPE

Aircraft - revaluation

Aircraft airframes
Aircraft engines
Aircraft propellers

2017 R	2016 R
(133 315)	325 810
(436 976)	(186 120)
(19 158)	(45 107)
(589 449)	94 583

Land and buildings - revaluation

Bethlehem property
Garsfontein property
Irene property

2017 R	2016 R
-	(99 747)
(8 344 851)	(270 261)
1 184 696	550 000
(7 160 155)	179 992

Aircraft

The entity's aircraft were revalued at 31 March 2017 by independent valuers, Skycare Maintenance. Valuations were made on the basis of open market value. The revaluation deficit was debited to the revaluation reserve as sufficient credits existed to offset the deficit.

Land and Buildings

The entity's land and buildings were revalued at 31 March 2017 by independent valuers, DDP Valuers. Valuations were made on the basis of open market value. The revaluation deficit was debited to the revaluation reserve as sufficient credits existed to offset the deficit.

ACCOUNTING POLICIES

as at 31 March 2017

10. Intangible assets

	2017			2016		
	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value	Cost / Valuation	Accumulated amortisation and accumulated impairment	Carrying value
	R	R	R	R	R	R
Computer software	37 430 137	(21 827 985)	15 602 152	37 376 232	(17 682 721)	19 693 511
Servitude	1 500 000	(235 246)	1 264 754	1 500 000	(175 285)	1 324 715
Total	38 930 137	(22 063 231)	16 866 906	38 876 232	(17 858 006)	21 018 226

Reconciliation of intangible assets - 2017

	Opening balance R	Other changes, movements R	Amortisation R	Total R
Computer software	19 693 511	53 905	(4 145 264)	15 602 152
Servitude	1 324 715	-	(59 961)	1 264 754
Total	21 018 226	53 905	(4 205 186)	16 866 906

Reconciliation of intangible assets - 2016

	Opening balance R	Other changes, movements R	Amortisation R	Total R
Computer software	16 874 393	5 992 239	(3 173 121)	19 693 511
Servitude	1 384 840	-	(60 125)	1 324 715
Total	18 259 233	5 992 239	(3 233 246)	21 018 226

Other information

Intangible assets comprise of computer software (including website costs) and a servitude. SAWS acquired the right of use of land for its meteorological equipment for an indefinite period of time from AP Beckely in Bloemfontein. The servitude is amortised over the useful life of the meteorological equipment installed on the land.

11. Trade and other payables from exchange transactions

	2017 R	2016 R
Trade payables	15 985 784	13 004 731
Payroll payables	796 257	4 158 391
Creditors bursary students	1 273 094	319 358
Staff subsistence and travel	162 294	141 681
Sundry payables	2 890 633	1 766 129
Total	21 108 062	19 390 290

Trade and other payables are subsequently carried at amortised cost.

Spot rates at period-end.

	2017	2016
US Dollar	12.9748	15.0358
EUR	17.0134	17.0134
GBP	16.1580	22.6406

Unrealised foreign exchange gains and losses are calculated using the spot rate at year-end.

ACCOUNTING POLICIES

as at 31 March 2017

11 Trade and other payables from exchange transactions (continued)

Included in trade and other payables are foreign creditors

EuMetNet
IBL Software Engineering
John Wiley & Sons Inc
UK Met Office
Copernicus GmbH
Microsoft Ireland Operations
Selex System Integration

2017 Foreign currency		2016 Foreign currency		2017 R	2016 R
EUR	1 255	EUR	1 085	17 489	16 462
EUR	3 775	EUR	10 560	52 583	179 662
	-	USD	2 250	-	33 831
GBP	3 465		-	55 990	-
EUR	630		-	8 775	-
USD	204 933		-	2 658 974	-
EUR	215 302		-	2 999 006	-
	-		-	5 792 817	229 955

12. Short term employee benefits

Leave pay accrual

Opening balance
Leave raised
Leave utilised

2017 R	2016 R
3 095 938	3 215 579
3 569 508	-
(2 390 777)	(459 650)
4 274 669	2 755 929

13. Employee benefit obligations

Defined benefit plan

Post retirement medical aid plan

All eligible employees of SAWS, who joined SAWS before 1 November 2008, excluding those that accepted the settlement offer in September 2011, receive a 100% subsidy of medical aid scheme contributions in retirement, provided that the employee belonged to a registered medical scheme before leaving SAWS on grounds of retirement, including early retirement and retirement due to ill-health and death. The subsidy is subject to a maximum cap amount. The Rand cap amount for 2017 is R2 646 (2016: R2 320), irrespective of the number of dependents. The Rand cap is expected to increase with health care cost inflation each year.

During the financial year, the number of employees eligible to receive post-employment medical aid subsidies from the entity was as follows:

The actuarial valuation of the liability in respect of the post-employment medical aid benefit is performed on balance sheet date as summarised below. The 2017 actuarial valuation has been performed by an independent company of Actuaries, One Pangaea Financial, registration number 2013/070734/07.

Category

Current (In service) employees
Continuation members (pensioners)
Total

2017 Number of Employees R	2016 Number of Employees R
22	22
34	35
56	57

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

13. Employee benefit obligations (continued)

The amounts recognised in the statement of financial position are as follows:

Carrying value

Present value of the defined benefit obligation-partly or wholly funded

Non-current liabilities
Current liabilities

2017 Number of Employees R	2016 Number of Employees R
(15 594 533)	(11 417 902)
(11 319 964)	(8 321 964)
(4 274 569)	(3 095 938)
(15 594 533)	(11 417 902)

Changes in the present value of the defined benefit obligation are as follows:

Opening balance
Contributions by plan participants
Net expense recognised in the statement of financial performance

8 322 028	11 850 821
(1 019 064)	(3 240 825)
4 017 000	(287 968)
11 319 964	8 322 028

Net expense recognised in the statement of financial performance

Current service cost
Interest cost
Actuarial (gains) losses
Expected return on plan assets

2017 R	2016 R
365 000	347 000
2 472 000	2 181 000
1 180 000	(1 596 000)
-	(1 219 968)
4 017 000	(287 968)

Movement in the defined benefit obligation

Balance 01 April
Current service cost
Interest cost
Actuarial (gain) / loss
Benefits paid

25 844 713	26 480 535
365 000	347 000
2 472 000	2 181 000
1 180 000	(2 256 000)
(1 040 000)	(907 822)
28 821 713	25 844 713

Changes in the fair value of plan assets are as follows:

Opening balance
Expected return
Actuarial gains /(losses)
Contributions by employer
Benefits paid

17 522 685	14 629 714
1 660 000	1 219 968
(931 000)	(660 000)
290 000	3 240 825
(1 040 000)	(907 822)
17 501 685	17 522 685

The entity expects to contribute R 1 131 000 to its defined benefit plans in the following financial year.

Key assumptions used

Assumptions used at the reporting date:

Discount rates used	9,61 %	9,68 %
Consumer price inflation	7,24 %	7,65 %
Medical aid contribution inflation	8,74 %	9,15 %
Active members expected to continue after retirement	100 %	100 %
Mortality pre-retirement (years)	85-90	85-90
Mortality post retirement (years)	90	90
Average retirement age (years)	65	60

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

13. Employee benefit obligations (continued)

The total amount of the investment is R18,9 million with an upfront payment of R6 million that was paid in 2011 and the balance payable in equal instalments amounts to R3,2 million annually until December 2015.

The expected return on plan asset is based on the market expectations at the beginning of the period, for the returns over the entire life of the related obligation.

The two most important variables are the discount and medical aid inflation rates.

SAWS undertook an investment plan with Momentum, Customised With-Profit Annuity portfolio (Plan Asset) in order to transfer the financial risk associated with this post-retirement medical liability. This investment plan will also provide SAWS with the ability to share in the benefits with regard to the investment and mortality experience underlying the liability through future contributions due to the policy.

Other assumptions

Assumed healthcare cost trends rates have a significant effect on the amounts recognised in surplus or deficit. A one percentage point change in assumed healthcare cost trends rates would have the following effects:

Amounts for the current and previous four years are as follows:

	2017 R	2016 R	2015 R	2014 R	2013 R
Defined benefit obligation	28 822 000	25 844 713	26 480 535	23 612 535	22 567 535
Plan assets	(17 501 685)	(17 522 717)	(14 629 714)	(10 666 714)	(8 066 857)
Net liability	11 320 312	8 321 996	11 850 821	12 945 821	14 500 678

The employee benefit obligation is partially funded by the plan assets.

14. Unfulfilled conditional non-exchange revenue

Unspent conditional grants and receipts comprises of:

Unspent conditional grants and receipts

Unspent public contributions and donations

2017 R	2016 R
10 289 828	3 528 065

Movement during the year

Balance at the beginning of the year - 1 April
Receipts during the year
Income recognition during the year

2017 R	2016 R
3 528 065	6 565 524
9 424 593	4 062 263
(2 662 830)	(7 099 722)
10 289 828	3 528 065

Unspent Donations - 31 March

Donor funds consist of funding received from various institutions. Memoranda of Understanding (MoUs) are entered into between SAWS and the donors with the aim of utilising SAWS' expertise in meteorology.

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

15. Provisions

Reconciliation of provisions - 2017

	Opening Balance R	Additions R	Utilised during the year R	Total R
Bonus provision: current	15 764 000	10 349 495	(12 613 495)	13 500 000
Capped leave provision: non-current	430 882	11 666	-	442 548
	16 194 882	10 361 161	(12 613 495)	13 942 548

Reconciliation of provisions - 2016

	Opening Balance R	Additions R	Utilised during the year R	Total R
Bonus provision: current	15 189 747	11 624 478	(11 050 225)	15 764 000
Capped leave provision: non-current	430 483	34 807	(34 408)	430 882
	15 620 230	11 659 285	(11 084 633)	16 194 882

Non-current liabilities
Current liabilities

2017 R	2016 R
442 548	430 882
13 500 000	15 764 000
13 942 548	16 194 882

Provision for Performance Bonus

This is a provision for the performance bonus based on the performance management of SAWS. The actual utilisation is approved by the Board based on a combination of both the entity's and individual staff performance policy against predetermined targets and performance contracts, respectively which are evaluated after year-end. Performance bonuses are payable at the discretion of the Board.

Capped Leave Provision

Capped leave is calculated based on the working days due to each employee, as at 31 July 2001 from the payroll system. Adjustments to this provision relate to increases in salary rates, days claimed or paid out through retirement or death. It should be noted that employees resigning, forfeit their claim and the state of utilisation of the leave is not known.

16. Revenue received in advance

Advance Income

2017 R	2016 R
-	2 200

17. Operating lease liability

Non-current liabilities

2017 R	2016 R
(3 528 881)	(2 807 702)

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

17. Operating lease liability (continued)

The following lease payments are related to operating leases for the rental of premises, office equipment and motor vehicles:

SAWS leases 10 premises (2016: 10 premises) from various lessors. The rental agreements for the premises include escalation clauses between 8% and 11% per year in rental payments. The duration of the rentals varies between two and ten years. The major lease contract for Bolepi House expired in April 2013 and was renewed for a further 5 years, effective 1 May 2013, with an annual escalation of 9%. SAWS has an agreement with Dihlabeng Municipality which stipulates that SAWS will offer free rental to the municipality in exchange for SAWS incurring no levies and electricity costs on the same.

SAWS entered into a contract with Swartland Municipality and Alkantpan where SAWS provides lighting data in exchange for free rental space. SAWS utilises Portion 110 of the farm Doornkloof 391 JR for scientific purposes for no consideration, which was valued at R2 412 847 on 31 March 2013. Improvements to the property consists of two interconnected offices, a workshop, storage wings and some supporting outbuildings and carports. In accordance with the registration of ownership, the property may not be transferred to SAWS.

SAWS signed a contract for the rental of photocopy machines for SAWS' offices with Itec Business Development (ITECBIZ) for a total amount of R4 337 378 for 3 years, effective from 1 September 2014, the date on which installation and commissioning was completed.

SAWS signed a contract for the rental of motor vehicles with ABSA Vehicle Management Solutions (Pty) Ltd for a total amount of R6 445 750 for 3 years, effective 1 June 2015, the date on which the vehicles were delivered to SAWS.

2017

Future minimum lease payments not later than 1 year
Later than 1 year and not later than 5 years
Later than 5 years

Equipment	Premises	Motor Vehicles	Total
R	R	R	R
225 672	12 901 392	2 144 294	15 271 358
-	22 030 339	714 765	22 745 104
-	660 520	-	660 520
225 672	35 592 251	2 859 059	38 676 982

2016

Future minimum lease payments not later than 1 year
Later than 1 year and not later than 5 years
Later than 5 years

Equipment	Premises	Motor Vehicles	Total
R	R	R	R
1 445 793	10 472 159	2 104 757	14 022 709
602 414	11 650 425	350 793	12 603 632
-	4 390 890	-	4 390 890
2 048 207	26 513 474	2 455 550	31 017 231

Straight lining effect on operating lease liability:

Opening balance
Deferred rental

Closing balance

2017 R	2016 R
2 807 702	2 632 861
721 179	174 841
3 528 881	2 807 702

18. Investment revenue

Interest revenue
Bank

3 912 133	1 792 934
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19. Government grants and subsidies

Operating grants
Government grants

204 985 000	160 434 311
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NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

20. Public contributions and donations

TETA SETA Grants
Donor funds - Other
Donor funds - Research projects

Reconciliation of conditional contributions

Balance unspent at beginning of year
Current-year receipts
Conditions met - transferred to revenue

Conditions still to be met - remain liabilities (see note 14)

21. Revenue

Revenue from non-exchange transactions

Government Grant
Other Grants

Revenue from Non-Exchange Transactions - operational

Contributions and donations

TETA SETA GRANTS
Donations received
Donor funding - research projects

Revenue from Non-Exchange Transactions

Revenue from Exchange Transactions - Regulated commercial revenue

Aviation

Non-regulated Commercial Revenue

Aviation instruments maintenance income
Air quality revenue
Information fees
Training - RTC
LDN Sales
Selling of Instruments

Total Commercial Revenue

Other Revenue

Miscellaneous income
Delinquency fees
Interest received from Banks

Revenue from Exchange Transactions

Total Revenue

2017 R	2016 R
673 740	1 548 570
1 069 665	2 425 198
1 258 772	3 125 954
3 002 177	7 099 722

3 528 065	6 565 524
9 424 593	4 062 263
(2 662 830)	(7 099 722)
10 289 828	3 528 065

189 278 000	145 518 311
15 707 000	14 916 000
204 985 000	160 434 311

673 740	1 548 570
1 069 665	2 425 198
1 258 772	3 125 954
3 002 177	7 099 722

207 987 177	167 534 033
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132 918 492	127 979 096
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1 326 540	848 854
6 948 003	-
14 026 508	9 978 394
747 495	389 835
3 903 607	5 042 185
2 417 038	2 762 762
29 369 191	19 022 030

162 287 683	147 001 126
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643 709	395 796
94 884	861 427
3 912 133	1 792 934
4 650 726	3 050 157

166 938 409	142 799 031
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374 925 586	317 585 316
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NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

22. Employee related costs

Salaries and wages
Performance bonus and leave pay
Medical aid contributions
Unemployment Insurance Fund
Compensation Commissioner
Post retirement medical aid
Overtime and shift allowance

2017 R	2016 R
155 054 620	143 146 743
12 581 380	11 994 758
11 397 253	10 083 218
738 905	706 643
362 409	269 409
11 809 882	11 590 261
10 536 008	9 392 826
202 480 457	187 183 858

23. Administrative expenses

Admin fees
Audit expenses (Internal)
Sales promotions
Public awareness
Commission
Selling and marketing
Commission paid
Impairment of trade receivables / (recovered)
Board expenses
Conference costs
Refreshments
Entertainment
Entrance fees
Legal fees
Printing and stationery
Training
Bank charges

2017 R	2016 R
1 456 263	995 583
710 314	800 131
7 740	40 910
2 394	139 456
-	186 701
33 000	37 702
204 359	144 910
(3 424 946)	1 939 076
733 483	634 645
431 287	799 929
76 246	61 496
152 452	113 859
21 127	-
4 522 855	735 946
772 817	945 514
1 033 881	1 491 075
336 823	268 153
7 070 095	9 335 086

24. Depreciation and amortisation

Property, plant and equipment
Intangible assets

2017 R	2016 R
30 435 306	26 967 798
4 205 225	3 233 246
34 640 531	30 201 044

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

25. Operating expenses

	2017 R	2016 R
Cleaning	991 486	764 342
Key strategic projects	4 778 598	7 499 344
Consumables spares	16 322 305	12 239 255
Insurance	1 693 304	1 798 913
Computer and software	12 470 019	9 499 310
Promotions and sponsorships	5 238 977	2 456 257
Levies	1 820 362	1 667 261
Motor vehicle expenses	1 767 061	1 016 765
Placement fees	783 265	592 614
Postage and courier	518 266	671 729
Security	2 301 344	1 849 651
Subscriptions and membership fees	4 827 545	2 899 483
Communication costs	12 274 539	12 553 793
Travel	11 323 667	12 925 403
Electricity	4 341 570	4 114 049
Aircraft expenses	188 042	148 438
Leases and rental	19 244 144	19 630 480
Repairs and maintenance	8 071 809	5 827 824
Audit fees	3 697 490	3 778 090
Conference costs	-	95 416
	112 653 793	102 028 417

26. Cash generated from (used in) operations

	2017 R	2016 R
Surplus (deficit)	23 874 116	(9 049 110)
Adjustments for:		
Depreciation and amortisation	34 640 531	30 201 044
(Profit)/Loss on sale of assets and liabilities	(45 000)	(33 630)
Fair value adjustments	(7 801 541)	(1 029 739)
Movements in operating lease assets and accruals	721 179	174 841
Movements in retirement benefit assets and liabilities	4 176 631	(3 648 498)
Movements in provisions	(2 252 334)	574 652
Other no-cash items	(218 421)	(2 146 354)
Changes in working capital:		
Inventories	1 376 770	1 247 596
Receivables from exchange transactions	(8 939 235)	(487 415)
Statutory receivables	(1 319 331)	-
Prepayments and advances	(4 306 799)	(3 458 808)
Trade and other payables from exchange transactions	1 717 775	(10 842 913)
Unfulfilled conditional non-exchange revenue	6 761 763	(3 037 459)
(Decrease) in payments received in advance	-	(56 423)
	48 386 104	(1 592 216)

27. Fair value adjustments

	2017 R	2016 R
Investment property (Fair value model)	7 801 541	1 029 739

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

28. Commitments

This committed expenditure relates to various contracts and outstanding purchase orders that SAWS entered into and will be financed by available bank facilities and retained surpluses.

Commitments

- within one year
- more than one year and less than three years

2017 R	2016 R
27 369 904	25 710 215
4 189 788	21 152 929
31 559 692	46 863 144

29. Contingencies

Contingent liabilities

Legal matters pertaining to contractual and labour disputes

2017 R	2016 R
2 146 936	2 503 671

The certainty of the legal matters relates to outcomes yet to be confirmed by legislative fora.

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

30. Related parties

Relationships

In preparing the Annual Financial Statements for the year ended 31 March 2017, SAWS has identified the related party relations and made the necessary disclosures in the Annual Financial Statements. SAWS is deemed to be under common control with all the entities in the national sphere of government and therefore these entities are considered to be related parties.

Background

Entity structure

SAWS was established in terms of the national legislation as one of the government's essential scientific institutions providing information and services that have a direct impact on the lives of citizens and their properties and contributing greatly to sustainable development in South Africa. SAWS reports functionally to the Department of Environmental Affairs and therefore the Minister of Environmental Affairs is the Executive Authority. SAWS is governed by the Board as appointed by the Minister.

The details of the Board members are disclosed below. SAWS receive donor funds from the Department of Science and Technology and The Water Research Council for the financing of some research projects.

SAWS provides weather and climate related services to various entities in national government. This includes provision of services and instruments to public entities.

SAWS further provides aviation services to the national carrier which is controlled by the national government. These services are provided on a cost recovery basis. The transaction amounts are included either in the Statement of Financial Performance as revenue from exchange transactions and related account balances in the Statement of Financial Position as trade and other receivables from exchange transactions or in the respective Notes.

Apart from transactions listed in the previous paragraph, SAWS undertakes the following transactions with other entities in the public sector:

- PAYE, UIF, SDL and other payroll taxes are collected by SAWS and remitted to the revenue authority on a monthly basis;
- Basic services such as electricity, water and sanitation by local municipalities;
- Air travel as supplied by the national carrier which is controlled by national government;
- Post-retirement benefits to former SAWS employees by the Government Pension Fund; and
- The collection of aviation and other related services revenue from entities controlled by national government.
- The provision of air quality equipment to municipalities

The transaction amounts for the above services are included either in the Statement of Financial Performance as expenditure and related account balances in the Statement of Financial Position as trade and other payables or the respective Notes.

The following related party transactions occurred during the financial year which were not under arms-length:

Revenue related

Government grants & subsidies

Donations received - DEA (SAAQIS project - donated assets)

2017 R	2016 R
204 985 000	160 434 311
-	2 199 206
204 985 000	162 633 517

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

30. Related parties (continued)

Remuneration

Board of directors

2017

Name	Designation	Fees R	Travel R	Total R
Ms. Mngomezulu	Chairperson	282 739	5 548	288 287
Dr. N. Gwagwa*	Deputy Chairperson	78 795	730	79 525
Mr. J. Tshipa	Non-Executive Member	180 386	5 251	185 637
Prof. E. Mokotong	Non-Executive Member	127 645	3 814	131 459
Mr. R. Nicholls	Non-Executive Member	84 551	2 450	87 001
Mr. Lefutso	Non-Executive Member	174 548	2 376	176 924
Adv. D. Block	Non-Executive Member	111 753	4 228	115 981
Ms. S. Muddly-Padayachie	Non-Executive Member	110 671	4 855	115 526
Mr. K Modimoeng	Non-Executive Member	97 050	4 268	101 318
Ms. N. Madiba	Non-Executive Member	119 924	18 663	138 587
		1 368 062	52 183	1 420 245

*Resigned during the fourth quarter of 2017 Financial Year.

2016

Name	Designation	Fees R	Travel R	Total R
Prof LM Magi*	Chairperson - Former	62 844	5 354	68 198
Ms N Mngomezulu**	Chairperson - Current	105 371	4 989	110 360
Dr NN Gwagwa**	Deputy Chairperson - Current	32 830	655	33 485
Mr S Makhaye*	Non-Executive Member	34 340	2 423	36 763
Prof EN Mokotong**	Non-Executive Member	74 340	986	75 326
Mr AM Mvinjelwa*	Non-Executive Member	31 512	1 870	33 382
Mr R Nicholls**	Non-Executive Member	27 918	627	28 545
Mr J Tshipa**	Non-Executive Member	90 830	2 474	93 304
Mr D Lefutso***	Non-Executive Member	43 878	2 896	46 774
Adv DJ Block***	Non-Executive Member	33 228	1 969	35 197
Ms N Madiba***	Non-Executive Member	35 784	10 408	46 192
Mr K Modimoeng***	Non-Executive Member	39 618	1 825	41 443
Ms S Mudly-Padayachie***	Non-Executive Member	22 152	-	22 152
		634 645	36 476	671 121

* Term expired on 31 August 2015

** Re-appointed on 1 September 2015

***Appointed on 1 September 2015

Members employed in the public sector do not receive Board fees.

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

30. Related parties (continued)

Executive management

2017

Name	Designation	Salary R	Medical aid, UIF, and pension R	Performance bonus R	Cellphone allowance R	Total R
Mrs MM Kgari*	Interim CEO	1 476 789	106 353	139 635	36 000	1 758 777
Dr LCN Makuleni**	Former CEO	2 785 234	152 994	487 408	-	3 425 636
Mr MF Ndabambi	GM: Operations	1 374 376	156 390	286 464	36 000	1 853 230
Ms J Mphafudi***	GM: Human Capital Management	450 114	39 118	-	11 613	500 845
Ms ME Hogendoorn	CFO	1 770 492	154 678	336 904	36 000	2 298 074
Mr L Gumenge****	Acting CFO	50 080	-	-	-	50 080
Dr ZZ Majokweni	Former GM: Corporate Affairs	938 765	78 961	221 913	27 000	1 266 639
Ms K Hanisi	Acting GM: Human Capital Management	8 987	-	-	-	8 987
Ms MA Hartslief*****	Acting GM: Commercial	36 498	-	-	-	36 498
Mr M Majodina*****	Acting GM: Corporate Affairs	63 592	-	-	-	63 592
		8 954 927	688 494	1 472 324	146 613	11 262 358

*Appointed as interim CEO from 01 November 2016.

**Until 01 November 2016.

***Appointed 01 December 2016.

****Appointed 14 January 2017.

*****Appointed January 2017.

2016

Name	Designation	Salary R	Medical aid, UIF, and pension R	Performance bonus R	Cellphone allowance R	Total R
Dr LCN Makuleni	CEO	2 414 491	253 156	627 654	-	3 295 301
Ms MM Kgari**	GM: Commercial	708 084	108 373	-	27 000	843 457
Mr MF Ndabambi	GM: Operations	1 230 427	71 675	284 455	36 000	1 622 557
Mr L Gcwensa*	GM: Human Capital Management	280 727	4 471	-	6 000	291 198
Ms ME Hogendoorn	CFO	1 683 670	123 213	381 226	36 000	2 224 109
Dr ZZ Majokweni	GM: Corporate Affairs	1 127 032	136 000	234 068	36 000	1 533 100
Ms K Hanisi***	Acting GM: Human Capital Management	42 555	-	-	-	42 555
		7 486 986	696 888	1 527 403	141 000	9 852 277

*Contract terminated on 29 May 2015

**Appointed on 1 July 2015

***Appointed as acting GM: Human Capital Management on 15 September 2014

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

31. Risk management

Financial risk management

The entity's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk.

Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding through an adequate amount of committed credit facilities and the ability to close out market positions. Due to the dynamic nature of the underlying businesses, entity treasury maintains flexibility in funding by maintaining availability under committed credit lines.

The entity's risk to liquidity is a result of the funds available to cover future commitments. The entity manages liquidity risk through an ongoing review of future commitments and credit facilities.

Cash flow forecasts are prepared and adequate utilised borrowing facilities are monitored.

Prudent liquidity risk management implies maintaining sufficient cash and obtaining the continued commitment from the Department of Environmental Affairs for the government grant and the collection of the aviation income from respective airlines.

Due to the nature of the business, management maintains flexibility in funding by maintaining expenses below budget and continuously pursuing additional income via donor funding, information fees and the sale of lightning detection networks.

The table below analyses the entity's financial liabilities and net-settled derivative financial liabilities into relevant maturity groupings based on the remaining period at the statement of financial position to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

Heading	Less than 1 year R	Between 1 and 2 years R	Between 2 and 5 years R	Over 5 years R
2017 - Trade and other payables	21 108 062	-	-	-
2016 - Trade and other payables	19 390 290	-	-	-
	40 498 352	-	-	-

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

31. Risk management (continued)

Credit risk

Financial assets, which potentially subject the entity to the risk of non-performance by counter parties and thereby subject to credit concentrations of credit risk, consist mainly of cash and cash equivalents, investments and accounts receivable.

Credit risk is managed on a group basis.

Credit risk consists mainly of cash deposits, cash equivalents, derivative financial instruments and trade debtors. The entity only deposits cash with major banks with high quality credit standing and limits exposure to any one counter-party.

Trade receivables comprise a widespread customer base. Management evaluated credit risk relating to customers on an ongoing basis. If customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the board. The utilisation of credit limits is regularly monitored. Sales to retail customers are settled in cash or using major credit cards. Credit guarantee insurance is purchased when deemed appropriate.

Interest Rate Risk

The entity's exposure to market risk (in the form of interest rates risk) arises primarily from the entity's investment in cash and cash equivalents, accounts receivable and payable. The entity manages its interest rate risk by obtaining competitive rates from approved financial institutions on a monthly basis. The entity policy is to manage interest rate risk so that fluctuations in variable rates do not have a material impact on surplus/ (deficit).

The entity's exposure to interest rate risk and the effective interest rates on financial instruments at the Statement of Financial Position date is as follows:

	2017 Effective interest rate	2017 R	2016 R
Cash	6,85 %	90 224 298	43 887 490
Accounts receivable	5,50 %	31 632 008	23 026 123
Average rate / Total financial assets	6,18 %	121 856 306	66 913 613

	2017 Effective interest rate	2017 R	2016 R
Financial assets	6,18 %	116 994 139	66 913 613
Financial liabilities	- %	(15 985 784)	(13 004 731)
Average rate / Total financial assets	6,18 %	101 008 355	53 908 882

Foreign Currency Risk

The entity does not operate internationally but undertakes certain transactions denominated in foreign currencies, and is exposed to foreign exchange risk arising from fluctuations in foreign currencies. The entity does not hedge against its exposure to foreign exchange risk. Exposure to foreign currency exposure at financial year-end relates to trade payables and is disclosed under Note 11.

	2017 Foreign currency	2016 Foreign currency	2017 R	2016 R
EUR Payables	EUR 220 942	EUR 11 654	3 077 567	196 144
GBP Payables	GBP 3 465	-	55 987	-
USD Payables	USD 204 933	USD 2 250	2 658 964	33 831
			5 792 518	229 975

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

31. Risk management (continued)

The entity is mainly exposed to the Euro, US dollar and British Pound currencies.

The following table details the entity's sensitivity to a 5% increase and decrease in Rand against the relevant foreign currencies.

The sensitivity analysis includes only outstanding foreign currency denominated monetary items and adjusts their translation at financial year-end for a 5% change in foreign currency rates.

A positive number below indicates an increase in surplus where the Rand strengthens 5% against the relevant currency.

For a 5% weakening of the Rand against the relevant currency, there would be an equal and opposite impact on the surplus and the balances below would be negative.

Euro Impact		GBP Impact		USD Impact	
2017 (R)	2016 (R)	2017 (R)	2016 (R)	2017 (R)	2016 (R)
153 978	9 806	2 799	-	132 948	1 692

32. Events after the reporting date

Management is not aware of any matter or circumstances arising since the end of the financial period which would affect the figures, as disclosed in the Annual Financial Statements.

33. Fruitless and wasteful expenditure

During the period under review, management did not detect any fruitless and wasteful expenditure.

34. Irregular expenditure

Legal opinion/fees - No prior written approval for deviation /not a qualifying emergency
Payments exceeding the original quotation

2017 R	2016 R
825 332	-
2 262 288	-
3 087 620	-

The entity is currently investigating possible irregular expenditure on the Radar Project. This investigation is at an initial stage and no further disclosures are required.

35. Budget differences

Material differences between budget and actual amounts

Budgetary Basis, Classification and Period of the Budget

The budget is approved on an accrual basis. The approved budget covers the period 1 April 2016 to 31 March 2017. The budget basis and the accounting basis are the same; both are on the accrual basis.

Explanation of Material Differences between Approved Budget and Final Budgets

Explanation of Material Differences between Approved Budget and Final Budget

Explanation of material differences between final budget and actual

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

35. Budget differences (continued)

Surplus

The entity achieved an operating surplus before fair value adjustments, gains on foreign exchange and disposal of assets of R18,08 million (Surplus of R24,20 million after Fair Value Adjustments). The surplus was mainly attributed to the following:

Revenue

Total revenue for the year was above budget by R33,57 million (9.83%) resulting mainly from Non-Regulated Commercial income, which exceeded target of R18 million by 63.16% (Actual: R29,37 million). This was due mainly to a new stream of revenue in the form of Air-Quality Information which amounted to R6,95 million for the year, while Information Fees income amounted to R14,027 million, Lightning Detection Network sales amounted to R3,90 million and the Sale of Meteorological Instruments resulted in revenue of R2,42 million.

Regulated Commercial income (Aviation Revenue), which is based on air traffic volumes charged at an approved Tariff rate (Promulgated in the Government Gazette) by the Minister of Environmental Affairs, exceeded the budget of R108,37 million by R24,55 million (Actual: R132,92 million). The increased traffic volumes were the major contributors to this increased revenue, while the gazetted tariff also increased from **R51.43** in 2015/16 to **R53.21** in 2016/17 financial year also contributed positively to the higher than budgeted revenue.

Expenditure

Total expenditure, excluding depreciation and amortisation was below budget by 6.75%, mainly due to Administrative and Operating costs which were slightly below the budget of R118,59 million by 2.32% (Actual: R115,84 million) mainly due to cost cutting measure initiatives, in areas such as Travel & Accommodation, Conference Fees and Entertainment amongst others.

Employee costs were below budget by 9.10%, amounting to R202,48 million (Budget: R222,76 million), as a result of vacancies which were experienced during the current financial year. Management is not always successful in filling the posts on time, especially in the areas scarce and critical skills due to shortage in the market.

Donor Funding / Project Income and Government Grant

During the year under review, SAWS generated a total revenue of R7,65 million from Donor Funds and Interest Income, which was below the target of R2,35 million. Donor funded funds related to research projects which were realised as income during the year amounted to R1,26 million.

Funds from the Rain4Africa project which is a project between SAWS, the Netherlands Government and the Agricultural Research Council were received towards the end of the financial year and were appropriated as unrealised and could not be realised as income, in the statement of comprehensive income.

Included under Other income is total interest income of R3,91 million realised from surplus funds.

SAWS received a total government grant of R204,99 million during the year in line with the MTEF allocation from National Treasury, which includes R15,71 million for the South African Air Quality Information System. No capital expenditure grant was appropriated for the year under review.

Non-Cash Items

Depreciation and Amortisation

Total depreciation for the year amounted to R34,64 million which was above budget by 21.46%, largely due to purchase of the High Performance Computer previously purchased in the previous financial year and partially depreciated in that year, while in the current financial period the depreciation was accounted for the full year.

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

as at 31 March 2017

35. Budget differences (continued)

Due to lack of funding for infrastructure, the life-span of some of the SAWS infrastructure was extended beyond their useful life which led to increased charge in depreciation and amortisation. The breakdown between depreciation charge and amortisation for the year is as follows:

(i) Depreciation – R30,76 million; and

(ii) Amortisation – R4,33 million.

Fair Value Adjustments

SAWS owns, a piece of land which is currently undeveloped in Garsfontein, Pretoria. The land was valued by Independent Valuers as at 31 March 2017 and the value of the portion earmarked for commercial investment increased by R7,80 million from R57,81 million to R65,61 million.

SAWS realised an actuarial loss of R2,11 million on the Post-retirement medical aid obligation, which is a defined benefit plan. The obligation of SAWS towards this benefit plan on pensioned members and members currently in-service (employed by SAWS) has increased from R8,32 million in 2016/17 to R11,32 million in the current financial year.

36. Prior-year adjustments

Presented below are those items contained in the statement of financial position, statement of financial performance and cash flow statement that have been affected by prior-year adjustments:

Statement of financial position

2016

	Note	As previously reported	Correction of error	Restated
Cash and Cash Equivalents	7	43 887 491	(45 000)	43 842 491
Sundry Accruals	11	(9 066 129)	7 300 000	(1 766 129)
Commercial revenue - Aviation	21	(139 701 126)	(7 300 000)	(147 001 126)
		(104 879 764)	(45 000)	(104 924 764)

2017

	Note	As previously reported	Correction of error	Restated
Cash and Cash Equivalents	7	90 269 298	(45 000)	90 224 298
Sundry Accruals	11	(9 590 959)	7 300 000	(2 290 959)
		80 678 339	7 255 000	87 933 339

The prior year adjustment relates to the correction of Aviation Revenue incorrectly recognised. The effect of the adjustment amounted to an increase R7 300 000 in Accumulated Surplus and Commercial Revenue (Aviation) in the prior year.

Change in accounting estimates

Based on experience gained in practice, SAWS re-assessed the useful lives of meteorological equipment, furniture and fittings, office equipment and tools, computer equipment and other equipment.

The effect of the change in accounting estimate amounts to **R966 041** and is included in the depreciation charge.

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