



**South African
Weather Service**

STRATEGIC PLAN

2025 - 2030

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**South African
Weather Service**

STRATEGIC PLAN

2025 / 2026 – 2029 / 2030

DOCUMENT CONTROL

Version and Amendment Schedule

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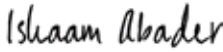
Approved by	Designation	Responsibility	Signature	Date of Approval	Document status
Mr Ishaam Abader	Chief Executive Officer	Accounting Officer		7 March 2025	Final
Ms Sandika Daya	Board Chairperson	Accounting Authority		10 March 2025	

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ABBREVIATIONS AND ACRONYMS

AAQMS	Ambient Air Quality Monitoring Stations
AI	Artificial Intelligence
ARS	Automatic Rainfall Station
AWS	Automatic Weather Station
B-BBEE	Broad-Based Black Economic Empowerment
DFFE	Department of Forestry, Fisheries and the Environment
ECMWF	European Centre for Medium-Range Weather Forecasts
GBON	Global Basic Observing Network
GISC	Global Information System Centre
GNU	Government of National Unity
GPC-LRF	Global Producing Centre for Long-Range Forecasts
HPC	High-performance computer
ICAO	International Civil Aviation Organization
ICT	Information and Communications Technology
METAR	Meteorological Observations Report
MTDP	Medium-Term Development Plan
NDP	National development Plan
PFMA	Public Finance Management Act
PPP	Public-Private Partnership
RADAR	Radio Detection and Ranging
RSMC	Regional Specialised Meteorological Centre
RTC	Regional Training Centre
RTH	Regional Telecommunications Hub
RWC	Regional WMO Integrated Global Observing System Centre
R&D	Research and Development
SAAQIS	South African Air Quality Information System
SANAS	South African National Accreditation System
SAWS	South African Weather Service
SCM	Supply Chain Management
SOLAS	Safety Of Life At Sea
TAF	Terminal Aerodrome Forecast
UM	Unified Model
WIGOS	WMO Integrated Global Observing System
WMO	World Meteorological Organization

EXECUTIVE AUTHORITY'S STATEMENT

"the SAWS' planned performance for the next five years will be anchored on enhancing service provision..."



I am pleased to present the South African Weather Service (SAWS) Strategic Plan for the period 2025/26 to 2029/30.

It resulted from a rigorous strategic review process, which saw an introspective and honest dialogue on the SAWS' strategic direction for the next five years taking place between the organisation's management, leadership and Board.

The dialogue took place opportunely on the back of the Government of National Unity's (GNU) assumption of office following the 29 May 2024 national and provincial elections.

Great care was taken to ensure that the strategy is aligned with the seventh administration's key priorities, namely inclusive growth and job creation; the reduction of poverty and the tackling of the high cost of living; and the building of a capable, ethical and developmental state.

Like all other organs of state, the SAWS has a pivotal role to play in ensuring that the GNU lives up to these priorities. The entity's role as the provider of weather and climate services and the sole authoritative voice on severe weather warnings cannot be overemphasised.

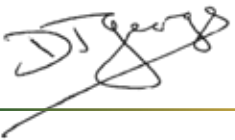
In a country that is constantly under the threat of hazardous weather events including flood-inducing severe thunderstorms, disruptive snowfall, heatwaves and drought, this role remains central to public decision-making in water, health, transport, energy, food security and Disaster Risk Reduction, among several other weather and climate-sensitive sectors.

It therefore gives me great comfort to note that the SAWS' planned performance for the next five years will be anchored on enhancing service provision to support the entity's public goods services and cost recovery as well as maintaining strong relations with key sectors to drive revenue generation.

Its performance will further be anchored on advancing research and scientific progress; ensuring the functionality of meteorological and air quality infrastructure while making these systems more accessible and user oriented; and ensuring organisational sustainability by driving revenue growth, improving public awareness, and enhancing brand visibility.

I am grateful for the opportunity to have been entrusted with the role of exercising executive authority over the SAWS at this time. We are two years ahead of the global deadline by which the nations of the world including our country must have ensured that everyone on earth is protected from hazardous weather, water and climate events through lifesaving early warning systems in line with the United Nation's Early Warnings for All agenda.

I am confident that, through efforts informed by this strategy and the leveraging of stakeholder relations, the SAWS will help the country contribute to this urgent and pertinent initiative by saving lives and property on home soil. The SAWS has my full support, and I shall do my bit to see to it that the strategy is fully implemented.


A handwritten signature in black ink, appearing to read 'Dion George', is positioned above a horizontal line. The line is green on the left and transitions to yellow on the right.

Dr Dion George, MP

Minister of Forestry, Fisheries and the Environment

ACCOUNTING OFFICER'S STATEMENT

"...the South African Weather Service (SAWS) is among the organs of state that are at the forefront of the enhanced adaptation and resilience agenda."



It is an honour and privilege for me to present the South African Weather Service (SAWS) Strategic Plan for the five-year period ending 2029/30.

In the period leading up to and post the development

of this strategy, several hazardous weather events battered parts of South Africa, leaving untold devastation and a trail of destruction in their wake.

Among other events, there were tornadoes, disruptive snowfall, and floods. In the process, lives were lost, property was destroyed, and the economy took a serious knock.

Such events continue to underscore the reality that Climate Change has taken root, and its effects manifest themselves in the hostile weather events that we continue to endure. This has placed the need for us to enhance our adaptation and resilience into sharp focus.

As the provider of weather and climate services and the single authoritative voice on severe weather warnings, the South African Weather Service (SAWS) is among the organs of state that are at the forefront of the enhanced adaptation and resilience agenda.

Moreover, the vulnerable in society and those sectors of the economy whose decision-making is dependent on both the public good and commercial services that we render, trust us to help them escape the harsh effects of hazardous weather events. It is these realities and more that will heavily influence the entity's planned performance over the next five years. At the center of it all will be the continued need to safeguard lives and property.

Although the strategy is in sync with the priorities of the newly constituted Government of National Unity, this has not resulted in a major departure from the previous strategic focus. Accordingly, through its four performance programmes, the SAWS will, among other things, continue to strive to ensure the availability of accurate meteorological and climatological information across key sectors and the delivery of information, advice, impact-based forecasts, warnings and associated services for the benefit of the public.

It will also continue to press for the enhancement of the availability of RADAR systems and the increase of its unregulated commercial revenue, thereby reducing dependency on regulated funding while supporting long-term financial sustainability.

The finalisation of the strategy coincided with the new Board's assumption of duty. This bodes well for its successful implementation. I would like to thank the previous Board for the important work that went into developing the strategy. In the same breath, we look forward to the continued support of our parent department, the Department of Forestry, Fisheries and the Environment as well as that of the rest of our partners and stakeholders.

It is only a collaborative effort that will help us put the country on course to see to it that every single person in the land is protected from hazardous weather, water and climate events through lifesaving early warning systems by 2027 as contemplated by the Early Warnings for All initiative of the United Nations



Mr Ishaam Abader

Chief Executive Officer

South African Weather Service

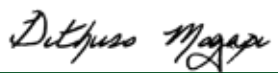
OFFICIAL SIGN-OFF

It is hereby certified that this Strategic Plan:

- (i) Was developed by the management of the South African Weather Service, under the guidance of the Department of Forestry, Fisheries and the Environment (DFFE).
- (ii) Considers all the relevant policies, legislation and other mandates for which South African Weather Service is responsible.
- (iii) Accurately reflects the Impact, Outcomes and Outputs which the South African Weather Service will endeavour to achieve over the period 2025/2026 to 2029/2030.

Mr Dithuso Mogapi

Specialist: Strategy, Planning, and Reporting

Signature: 

Ms Petro Dekker

Executive: Corporate Services

Signature: 

Mr Norman Mzizi

Chief Financial Officer

Signature: 

Mr Mnikeli Ndabambi

Executive: Infrastructure and Information Systems

Signature: 

Dr Jonas Mphepya

Executive: Weather and Climate Services

Signature: 

Mr Ishaam Abader

Chief Executive Officer

Signature: 

Ms Sandika Daya

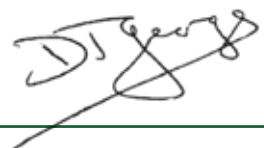
Board Chairperson

Signature: 

Approved by:

Dr Dion George, MP

Executive Authority

Signature: 



PART A: **OUR MANDATE**



PART A: OUR MANDATE

1. Constitutional Mandate

In terms of the Constitution of the Republic of South Africa, Act No. 108 of 1996 (as amended), the mandate of the South African Weather Service is aligned to Chapter 2 section 24 on the environment, which reads as follows:

Everyone has the right -

- a) to an environment that is not harmful to their health or well-being; and
- b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-
 - (i) *prevent pollution and ecological degradation;*
 - (ii) *promote conservation; and*
 - (iii) *secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

2. Legislative Mandate

The mandate of the South African Weather Service (SAWS) is primarily derived from the South African Weather Service Act, Act No. 8 of 2001, as amended through the SAWS Amendment Act, Act No. 48 of 2013. This legislative framework defines the establishment and responsibilities of the SAWS as a Schedule 3A public entity under the Public Finance Management Act (PFMA), Act No. 1 of 1999, along with associated Treasury Regulations. As per the SAWS Act, the entity is mandated to:

- Provide reliable weather services that support both public good and its commercial ventures.
- Deliver aeronautical and marine meteorological services to meet international and domestic obligations.
- Provide ambient air quality services.
- To be the long-term custodian of a reliable national climatological and ambient air quality record

These mandates ensure that the SAWS contributes to the national goals of environmental sustainability, public safety, and socio-economic development. The strategic outcomes and impact outlined by the SAWS incorporate these requirements to ensure alignment with its legislative responsibilities.

2.1 Objects of the SAWS

As stipulated in the South African Weather Service Act, Act No. 8 of 2001 (as amended), the core objects of the SAWS include:

- Maintaining, extending, and improving the quality of meteorological and ambient air quality-related information services for the benefit of all South Africans.
- Providing public good services and commercial services to the public, thereby ensuring equitable access to weather-related information.

- Ensuring the ongoing collection of meteorological and ambient air quality data across South Africa and the surrounding southern oceans, to support the needs of both current and future generations.
- Acting as the Aviation Meteorological Authority, fulfilling the international obligations of the Government under the Convention of the International Civil Aviation Organization (ICAO).
- Delivering services that are sensitive to the demographic realities of the country, ensuring inclusivity and responsiveness to local needs.
- Fulfilling additional weather-related or ambient air quality information obligations, as directed by the Minister.
- Serving as the custodian of the South African Air Quality Information System (SAAQIS), which supports national air quality monitoring and management efforts.

2.2 Legislative Framework

The SAWS' mandate is grounded in the Constitution of the Republic of South Africa and further defined by specific national legislation and policy frameworks, including:

1. **South African Weather Service Act (Act No. 8 of 2001, as amended):** This Act provides the primary legislative framework for the establishment and operation of the SAWS. It outlines the organisation's mandate to provide meteorological and climate services to ensure public safety, support socio-economic development, and meet the needs of government, industry, and the public. The Act also mandates the SAWS to serve as the authoritative voice on meteorology, including providing weather warnings and ensuring compliance with international obligations.
2. **National Environmental Management Act (Act No. 107 of 1998):** As part of its environmental stewardship, the SAWS is aligned with the principles of sustainable development and environmental protection under the National Environmental Management Act. The SAWS contributes to preventing ecological degradation, promoting conservation, and supporting sustainable use of natural resources through its climate and environmental data services.
3. **National Climate Change Response Policy (2011):** In alignment with the National Climate Change Response Policy, the SAWS plays a critical role in providing data and information necessary for climate change mitigation and adaptation strategies. This policy mandates the SAWS to support national efforts in addressing climate variability and resilience planning, including providing early warning systems for extreme weather events and supporting disaster risk management.
4. **Disaster Management Act (Act No. 57 of 2002):** Under the Disaster Management Act, the SAWS is responsible for providing meteorological services that contribute to disaster risk reduction. This includes issuing early warnings for severe weather conditions to protect lives and property and collaborating with disaster management authorities to improve preparedness and response.
5. **Public Finance Management Act (Act No. 1 of 1999):** As a public entity, the SAWS is governed by the financial management requirements outlined in the Public Finance Management Act. This Act ensures that the SAWS operates efficiently, maintains sound financial practices, and upholds principles of accountability and transparency in the use of public funds.
6. **Air Quality Act (Act No. 39 of 2004):** The SAWS supports the implementation of the Air Quality Act by providing critical data on atmospheric conditions and air quality monitoring. This enables the country to track pollution levels and take necessary measures to improve air quality in line with national health and environmental goals.

7. **Climate Change Act (Act No. 22 of 2024):** The SAWS will play a role of Anchor and Technical Implementing Entity for National Climate Services Framework, through implementation of climate services / climate information for adaptation planning, providing support for climate change projections and adaptation scenarios, as well as support for local and provincial government on risk and vulnerabilities, needs assessments and response planning.

3. Institutional Policies And Strategies Governing The Five-Year Planning Period

3.1 Alignment to the Government of National Unity Priorities

The South African Weather Service' (SAWS) strategic plan for the next five years aligns with the priorities of the Government of National Unity (GNU), which focuses on Inclusive Economic Growth, Poverty Alleviation and Cost of Living Reduction, and building a Capable and Developmental State. Below is an overview of how the SAWS's strategic initiatives integrate with these national priorities:

3.1.1 Inclusive Economic Growth

The SAWS's strategic focus on modernising infrastructure and enhancing technological capabilities contributes directly to economic growth. Key elements of the plan that support this priority include:

- **Revenue Diversification and Public-Private Partnerships:** The SAWS aims to expand its revenue streams by developing public-private partnerships (PPPs) and offering commercial weather services to sectors like agriculture, energy, and transportation, among others. These sectors are vital for South Africa's economic growth, and the SAWS' contribution will enable better planning, risk management, and decision-making.
- **Support for Renewable Energy and Agriculture:** Through its solar and wind energy services, SAWS supports the green economy, enabling the expansion of renewable energy projects. Additionally, the SAWS' agro-meteorology services provide essential weather and climate data to enhance productivity in the agricultural sector, directly contributing to economic growth and food security.
- **Innovation and Technological Modernisation:** Investment in high-performance computing, real-time data analytics, and digital transformation will improve the SAWS' service delivery and provide accurate weather forecasts that are critical for key economic sectors such as mining, construction, and logistics.

3.1.2 Poverty Alleviation and Cost of Living Reduction

The SAWS' strategic plan incorporates several elements aimed at reducing the impacts of climate and weather events, which often disproportionately affect vulnerable communities:

- **Disaster Risk Reduction:** The SAWS' improved forecasting capabilities and early warning systems help prevent and mitigate the impact of extreme weather events such as floods, droughts, and storms. These services are crucial for protecting communities, infrastructure, and livelihoods, particularly in poor and rural areas.
- **Support for Agriculture and Food Security:** By providing accurate climate information to farmers, the SAWS enables better crop planning and management, reducing losses due to unexpected weather changes. This, in turn, helps stabilise food supply and pricing, contributing to poverty alleviation and reducing the cost of living for South Africans.

- **Access to Accurate Weather Information:** The SAWS' commitment to providing accessible and actionable weather data ensures that low-income communities and individuals can make informed decisions, from disaster preparedness to optimising energy and water usage, thus reducing costs in everyday living.

3.1.3 Capable and Developmental State

The SAWS contributes to the vision of building a capable and developmental state through institutional reforms and enhanced governance:

- **Strengthening Governance and Accountability:** The SAWS' strategic plan emphasises internal governance reforms, including improved performance management, streamlined supply chain processes, and enhanced risk management. These reforms are aligned with the GNU's priority of establishing transparent, efficient, and accountable public institutions
- **Building Human Capacity and Skills Development:** The SAWS is focused on fostering a high-performance organisational culture by investing in skills development and improving employee engagement. These efforts will help create a capable public institution that can effectively deliver on its mandate and contribute to the state's developmental objectives.
- **Partnerships for Development:** By collaborating with global and regional organisations such as the World Meteorological Organization (WMO), and engaging in multi-sector partnerships, the SAWS positions itself as a leader in delivering climate and weather services that support national development goals.

The SAWS' strategic plan for the next five years is well-aligned with the priorities of the Government of National Unity (GNU). By focusing on infrastructure modernisation, revenue diversification, disaster risk reduction, and institutional reform, the SAWS is not only driving inclusive economic growth, but also contributing to poverty alleviation and the establishment of a capable and developmental state. These efforts will enhance the entity's role in supporting national resilience to climate change, while boosting socio-economic development across South Africa.

4. Updates on Relevant Court Rulings

There have not been any recent court rulings with significant impact on the South African Weather Service.



PART B: **OUR STRATEGIC FOCUS**

PART B: OUR STRATEGIC FOCUS

5. The SAWS Vision, Mission and Core Values

The SAWS' management and staff are aligned to the entity's ethos with the Vision, Mission and Values being deemed as still relevant under the current business landscape and all are geared to actively contribute to, and support all initiatives aimed at achieving organisational goals and objectives and enabling the sustainability of the SAWS

VISION



“South African Weather-related Solutions for Everyone, Everyday”

The vision articulates the desired end state in which the SAWS is central to a situation where citizens, communities and business sectors use information, products and services across the weather, climate and related environmental space to support socio-economic development and build resilience.

MISSION



“To provide meteorological solutions for improved quality of life for all in South Africa”

Meteorological solutions include:

- Weather-related solutions
- Climate-related solutions
- Air quality solutions
- Other related environmental solutions, including water

CORE VALUES



Integrity

A consistent sense of honesty, truthfulness and trust in one's own actions while valuing others' opinions and beliefs.

Collaborative

An approach to working together in a mutually beneficial environment with internal and external stakeholders to reach organisational goals.

Solution-oriented science

A quest for science excellence to find weather, climate and air quality solutions for all.

Passion for service excellence

6. Situational Analysis

6.1 Strategic Context

The SAWS plays a crucial role in providing weather and climate services, which are becoming increasingly important due to growing societal and environmental challenges such as climate variability, extreme weather events, and the associated risks to lives, infrastructure, and the economy. The entity's relevance is underpinned by its global partnerships with the World Meteorological Organization (WMO) and regional bodies, which position it as a leading provider of meteorological services in South Africa and the Southern African region.

As a key member of the WMO, the SAWS is designated several responsibilities through WMO designations such as the Global Information System Centre (GISC), Regional Specialised Meteorological Centre (RSMC - Pretoria), Global Producing Centre for Long-Range Forecasts (GPC-LRF), Regional Training Centre (RTC-Pretoria) as well as Regional Telecommunications Hub (RTH-Pretoria) among others.

Hosting of international centres such as the Regional WMO Integrated Global Observing System Centre (RWC), which seeks to support the implementation and operation of the World Meteorological Organization's Integrated Global Observing System (WIGOS) at the regional or sub-regional level to enhance effectiveness and efficiency of the global meteorological observation system, which in turn supports better weather forecasting, climate monitoring, and disaster risk reduction efforts, is envisaged to help the SAWS access global funding and expertise.

The WMO Integrated Global Observing System (WIGOS) is a framework for all WMO observing systems and for WMO contributions to co-sponsored observing systems in support of all WMO Programmes and activities. The component observing systems of WIGOS comprise of the Global Observing System (GOS) of the World Weather Watch (WWW) Programme, the observing component of the Global Atmosphere Watch (GAW) Programme, the WMO Hydrological Observing System (WHOS) of the Hydrology and Water Resources Programme (HWRP) which includes the World Hydrological Cycle Observing System Programme (WHYCOS), the Global Basic Observing Network (GBON), the Regional Basic Observing Network (RBON), the observing component of the Global Cryosphere Watch (GCW) and the Space Weather Observing System, including their surface based and space based elements. Members of the WMO are therefore called upon to implement and operate their observing systems in accordance with decisions of Congress, the Executive Council, the technical commissions and regional associations decisions, and the SAWS is no exception in that it will have to be compliant to the WMO requirements as well.

As a member of the WMO, the SAWS is obligated to implement the WIGOS and cede stations to the Global Basic Observing Network (GBON) as part of implementation. Reporting on GBON performance requires the development of baselines, thus the SAWS will monitor its GBON network within the Operational plan for 2025/2026 and thereafter elevate the contribution to WIGOS in the entity's Strategic Plan and/or Annual Performance Plan for 2026/27.

The SAWS' responsibilities, as outlined in the SAWS Act, include the provision of aeronautical, marine, and public good meteorological services, as well as air quality and climate change-related services. However, with the growing need for solutions related to extreme weather, climate variability, and natural disasters, the SAWS must reposition itself to meet the increasing expectations of its stakeholders.

6.2 External Environmental Analysis

6.2.1 PESTEL Analysis

This analysis is consolidated to provide a comprehensive understanding of the SAWS' external environment, enabling informed strategic planning and decision-making to navigate external challenges and opportunities effectively.

Table 1: PESTEL analysis

Factor	Positive Impact	Negative Impact
Political	1. National legislations and policies such as the South African Weather Service Act enable us to do more 2. Collaboration with BRICS nations and other international bodies 3. Prioritising changing lives of our people	1. Influence of local government stability on funding and mandate 2. Instability affects continuity 3. Shifting policies and priorities affects grant allocation 4. Geo-political tension
Economic	1. Reduction in interest rates 2. Rand strengthening 3. Stability improves planning 4. Increase in donor funding	1. Economic downturns may reduce both governmental and commercial revenue streams 2. Fluctuations in funding and financial crises can disrupt service provision and technological advancements 3. Decrease in government grants affects operational activities
Social	1. Increasing demand for weather information due to urbanisation and the rise of extreme weather events 2. Public trust and stakeholder engagement are critical as SAWS expands services 3. Ability to educate on weather and climate 4. Inclusivity in awareness campaigns (vulnerable groups) 5. Increased sophistication of society / users 6. Increased accessibility of information	1. Lack of critical skills 2. Vulnerable groups impacted most by weather-related risks 3. Demand for environmental protection/justice 4. Vandalism and theft
Technological	1. Advancements in cloud computing, automated observations, high-performance computing (HPC), and artificial intelligence (AI) to drive innovation in big data and data science. 2. Enhanced value proposition through innovative technologies and tailored solutions, delivering impactful weather and climate services to meet diverse user needs 3. Leveraging advanced technology to optimise operations, streamline processes, and improve the efficiency and reliability of meteorological services 4. Harnessing strategic technology partnerships to access cutting-edge innovations, expand capabilities, and enhance the delivery of weather and climate solutions 5. Open-source technology	1. The need for modernisation of ageing infrastructure to meet global standards 2. Climate data readily available 3. Low uptake of technology 4. High cyber-crime 5. Lack of accessibility to vulnerable and excluded groups 6. National electricity grid failure

Factor	Positive Impact	Negative Impact
Legal	1. Compliance with the Water Act, National Environmental Management Act, and international agreements like the Paris Agreement 2. Great understanding of legislations and regulations regarding weather and climate 3. Enhanced support for contracting 4. Compliance with national and international legislations 5. Data sharing	1. Legal challenges concerning the provision of meteorological data 2. Changes in legislations 3. Data sharing 4. Negative impact on employee morale 5. Non-compliance to certain legislations and regulations 6. Inadequate protection of our copyright and intellectual property
Environmental	1. Climate variability increases the demand for SAWS services, particularly in forecasting extreme weather events 2. Issues such as biodiversity loss and water scarcity further highlight SAWS' role in national sustainability 3. Increasing awareness of the importance of air quality and responsiveness to climate change 4. Participation in air quality initiatives 5. Growth in 'smart cities' 6. Growing need for space weather information	1. Lack of communication of pertinent information 2. Lack of resources 3. The negative effects of climate change

6.3 Internal Environmental Analysis

6.3.1 Challenges and Internal Weaknesses

a) Ageing Infrastructure and Technological Gaps:

- The SAWS' operational efficiency is hampered by outdated infrastructure, particularly in RADAR systems and observation networks. Slow progress in upgrading technological capabilities is limiting the entity's ability to provide real-time, more accurate data.
- The lack of high-performance computing and modern data management systems further inhibits the SAWS' capacity to improve its forecasting accuracy and service delivery.
- The rapid pace of development of artificial intelligence (AI) platforms and their use in weather, climate and water applications as well as other earth observation applications.

b) Financial Sustainability:

- The SAWS continues to face financial constraints due to declining government grants and an inability to generate sufficient commercial revenue. The entity's financial sustainability is at risk unless new revenue streams are identified and cultivated.
- The Public-Private Partnership (PPP) model and opportunities for international collaboration are hampered by the explosion of weather and climate service providers, limiting the potential to diversify revenue.

c) Organisational Culture and Internal Processes:

- Organisational Culture and Governance: There is a need to reform internal processes such as performance management, risk management, and supply chain management (SCM) to foster better efficiency, accountability, and innovation.
- The SAWS must also address a siloed organisational culture and improve internal and external communication to foster a high-performance culture.
- Loss of staff with institutional memory that will impact the entity in the long run.

6.3.2 SWOT Analysis

The purpose of this analysis was to consolidate SAWS's strengths, weaknesses, opportunities, and threats (SWOT) to assess the internal factors that could influence the successful implementation of the strategy. This review provided insights into areas of improvement, potential risks, and opportunities to leverage for achieving the SAWS' strategic goals.

Table 2: SWOT Analysis

STRENGTHS 1. Robust meteorological infrastructure 2. Meteorological intelligence 3. Experienced workforce 4. People and capabilities 5. Custodian of climate change 6. Custodian of meteorological data 7. Responsive to customer needs 8. Geographic footprint	WEAKNESSES 1. Ageing equipment and meteorological infrastructure 2. Budgetary constraints 3. Decrease in government grant 4. Decline in commercial revenue 5. Negative organisational culture 6. Inability to turn opportunities into success 7. Ageing ICT infrastructure 8. Legacy systems
OPPORTUNITIES 1. Technological advancements (AI, cloud-based, internet of things, BIG data, digitalisation) 2. Climate change initiatives 3. Increased impact-based forecasting and sector-specific solutions 4. Commercialisation 5. Optimisation of processes 6. Interdisciplinary partnerships	THREATS 1. Climate variability 2. Increased competition for meteorological related service 3. Declining government grant 4. Staff attrition/loss of skills 5. High levels of cyber-crime 6. Slow uptake of technology 7. High levels of crime/vandalism 8. High data cost in South Africa 9. Decreasing economic growth

6.3.3 Problem Tree Analysis

The Problem Tree Analysis was used to provide a different perspective on some of the critical challenges and potential solutions for the SAWS.

The analysis identifies sub-optimal service delivery and financial sustainability as the core problems impacting the SAWS. It also proposes potential solutions to address these challenges, offering a structured approach to tackle underlying issues and improve organisational performance. The SAWS will need to review and approve the findings to ensure alignment with its strategic objectives and action plans moving forward.



Figure 1: Problem Tree Analysis

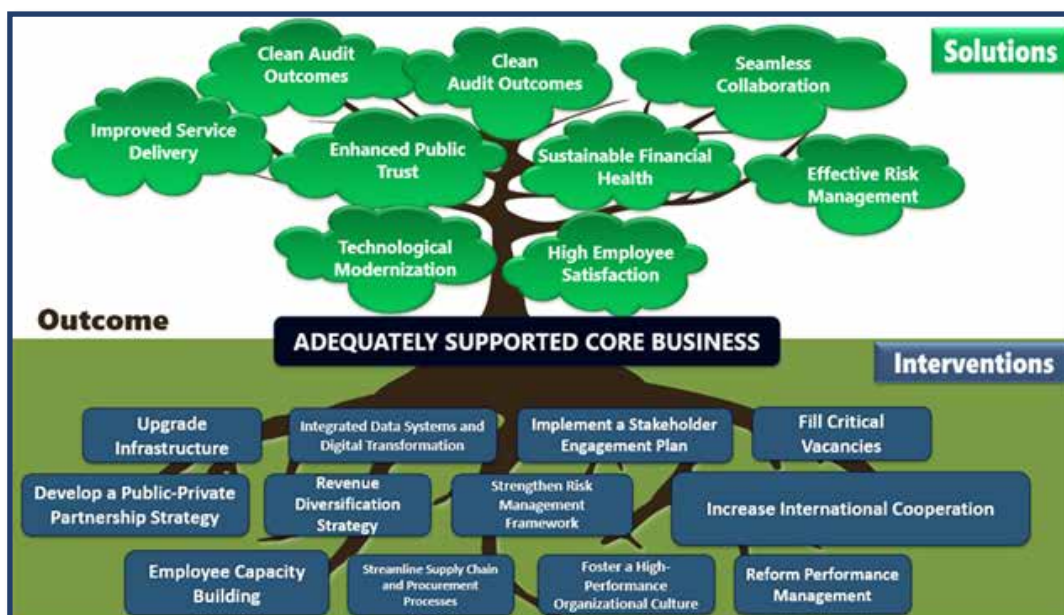


Figure 2: Solution Tree Analysis

The Root Causes identified in the Problem Tree Analysis are as follows:

- Budget constraints and ageing infrastructure hinder operational efficiency.
- Outdated technology and a poor organisational culture contribute to ongoing inefficiencies.
- Slow supply chain management (SCM) processes and a high vacancy rate further exacerbate delays in service delivery.
- A silo culture, combined with poor internal and external communication and a lack of consequence management, weakens coordination and accountability within the organisation.
- Lack of skills in core functions such as ICT and technical services.

Effects:

- Delays in providing meteorological data and emergency responses, resulting in harm to citizens and property as well as stakeholder dissatisfaction.
- High value litigation and undesirable audit outcomes, reflecting governance issues and damaging reputation of the entity.
- Increased operational costs, low employee morale, and stagnant audit outcomes, further affecting organisational effectiveness.
- Non-compliance and non-achievement of mandated functions.

Proposed Solutions:

- Upgrading infrastructure, filling critical vacancies, capacitating critical units and embracing digital transformation to modernise technology.
- Implementing a stakeholder engagement plan and developing public-private partnerships to diversify and increase revenue streams.
- Reforming performance management and strengthening risk management frameworks to enhance accountability.
- Streamlining SCM processes and promoting a high-performance culture to boost efficiency.
- Ensuring a pipeline of appropriately skilled staff, career progression and making SAWS an employer of choice.

Desired Outcomes: The desired outcomes include clean audit results, modern and relevant infrastructure and technology, highly skilled staff, seamless collaboration, enhanced public trust, sustainable financial health, high employee satisfaction, and effective risk management, ensuring well-supported core business functions.

which provides an overview of the intended impact and outcomes to be realised. The SAWS understands the importance of inputs that will set the foundation for the entity's activities, geared toward realisation of outputs which contribute to the desired impact.

6.4 Strategic Focus Areas for the Next 5 Years

6.4.1 Key Strategic Opportunities

a) Increased Demand for Climate Services:

As the impacts of climate change intensify, there is a growing demand for weather, climate, and environmental solutions. The SAWS is uniquely positioned to capitalise on this demand by providing enhanced services that address critical sectors such as energy, agriculture, disaster risk reduction, and infrastructure planning.

b) Innovation and Digital Transformation:

The advancement of technology, particularly in artificial intelligence, data analytics, and machine learning, provides an opportunity for the SAWS to enhance its climate modelling and forecasting capabilities. The entity can also improve its dissemination platforms and develop more user-friendly meteorological solutions.

c) Revenue Diversification:

Expanding into new markets such as the renewable energy sector, agriculture, and infrastructure development can generate additional revenue streams. The SAWS must focus on commercialising its services while continuing to provide critical public good services.

d) Strategic Partnerships:

Strengthening partnerships with international and regional bodies, including the World Meteorological Organization (WMO), can help the SAWS access global expertise, funding, and research opportunities. Collaborating with government departments, academic institutions, and private sector stakeholders will also be critical.

6.4.2 Strategic Priorities

a) Enhancing Climate Adaptation and Resilience:

- The SAWS should strengthen its role in climate resilience by providing specialised services that support national and regional adaptation efforts. This includes developing and enhancing services in disaster risk reduction, agriculture, water resource management, and infrastructure planning.
- Provide sector-specific climate services, leveraging advanced climate models to support decision-making in critical areas like renewable energy (e.g., solar and wind energy), urban planning, and agriculture.

b) Innovation and Research Development:

- Invest in innovation-driven research to remain competitive and relevant in the growing field of meteorological services. The SAWS must focus on areas such as artificial intelligence (AI) for weather prediction, climate modelling, and real-time data analytics to improve forecasting capabilities.
- Foster a culture of research and development (R&D) by encouraging partnerships with universities, research institutions, and industry leaders to ensure that the SAWS remains at the forefront of scientific and technological advancements.

c) Building Strategic Partnerships and International Collaboration:

- Expand the SAWS' participation in global initiatives by deepening collaboration with international meteorological services, climate research institutions, and development agencies through hosting of international centres which seeks to enhance availability and quality of environmental data required by Numerical Weather/Climate models for enhanced service delivery. This will help the SAWS access global funding and expertise.
- Strengthen partnerships with regional entities to position the SAWS as a regional climate service hub, which can enhance its capacity to serve both South Africa and neighbouring countries.

d) Infrastructure and Technological Modernisation:

- Upgrade ageing infrastructure, including RADAR and observation networks, and invest in high-performance computing to enhance forecasting accuracy and real-time data capabilities.
- Embrace digital transformation, including the integration of cloud technologies, machine learning, and big data analytics, to improve service delivery and forecasting.

e) Customer-Centric Service Delivery:

- Address gaps between customer expectations and the SAWS' current service delivery through enhanced stakeholder engagement and customised solutions for different sectors.
- Improve customer satisfaction by focusing on speed, accuracy, and reliability of meteorological data, particularly for emergency response and disaster management.

f) Organizational Excellence and Internal Governance:

- Foster a high-performance culture by improving employee engagement, performance management, and internal communication processes.
- Strengthen internal governance through streamlined supply chain management, consequence management, and adherence to best business practices.

g) Financial Sustainability and Cost Management:

- Develop a comprehensive revenue diversification strategy that leverages public-private partnerships, international funding, and commercial services, inclusive of revenue streams such as customised weather services for industries.
- Explore revenue-generating opportunities in the renewable energy sector, agriculture, and climate risk management.
- Enhance financial sustainability through prudent cost management while implementing a strategy for revenue growth.
- Optimise internal financial controls and improve budgeting processes to ensure resources are allocated effectively and in line with strategic priorities.

The SAWS is uniquely positioned to be a leading provider of meteorological and climate services in South Africa and the region, but it faces significant internal and external challenges. To secure its future, the SAWS must focus on modernising its infrastructure, diversifying revenue, fostering a high-performance culture, and strengthening partnerships. By addressing technological gaps, improving service delivery, and aligning with global trends, the SAWS can sustain its relevance and contribute meaningfully to national and regional climate resilience efforts. This strategic plan will position the SAWS for growth, operational excellence, and enhanced service delivery over the next five years.



PART C: MEASURING OUR PERFORMANCE

PART C: MEASURING OUR PERFORMANCE

7. Institutional Performance Information

This section of the strategic plan expresses the impact, outcomes and indicators that will facilitate the assessment of the entity's contribution towards the National development Plan (NDP) and priorities of the Medium-Term Development Plan (MTDP). The Results-Based Approach based on the Theory of Change has been followed to produce the SAWS' Strategic Framework which provides an overview of the intended impact and outcomes to be realised. The SAWS understands the importance of inputs that will set the foundation for the entity's activities, geared toward realisation of outputs which contribute to the desired impact.

7.1 Impact Statements

Impact Statement	Improved quality of life for all in South Africa
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7.2 Measuring Outcomes

7.2.1 Programme 1: Weather and Climate Services

Purpose: To safeguard life and property and provide meteorological solutions to all South Africans.

MTDP PRIORITY: INCLUSIVE GROWTH AND JOB CREATION			
Outcomes	Outcome indicators	Baseline (2023/24)	Five-year target
Strengthened service delivery to the public and economic sectors	Percentage availability of aviation products and services	98,9%	98%
	Percentage availability of marine products (SOLAS)	98,54%	98%
Operationalisation of the National Climate Change Act	Number of climate change indicators included in the National State of the Climate report	10	30
	Percentage availability of climate data on the national climate database	88%	95%
	Percentage availability of greenhouse gasses data	87,89%	90%

7.2.2 Programme 2: Research and Innovation

Purpose: To develop meteorological solutions to inform wise socio-economic choices.

MTDP PRIORITY: INCLUSIVE GROWTH AND JOB CREATION			
Outcomes	Outcome indicators	Baseline (2023/24)	Five-year target
Enhanced meteorological-related body of knowledge	Number of research studies conducted to generate new scientific insights in atmospheric and related sciences	36	45
	Number of new or enhanced products and services	4	15

7.2.3 Programme 3: Infrastructure and Information Systems

Purpose: To upgrade, expand and optimise infrastructure.

MTDP PRIORITY: REDUCE POVERTY AND TACKLE THE HIGH COST OF LIVING			
Outcomes	Outcome indicators	Baseline (2023/24)	Five-year target
Sustainable meteorological and air quality infrastructure	Percentage availability of Tier 1 weather RADAR systems	44,25% ¹	90%
	Percentage of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	52,78%	90%

7.2.4 Programme 4: Administration (Including Corporate and Regulatory Services)

Purpose: To provide leadership, corporate services, effective cooperative governance, and environmental education and awareness.

MTDP PRIORITY: BUILD A CAPABLE, ETHICAL AND DEVELOPMENTAL STATE			
Outcomes	Outcome indicators	Baseline (2023/24)	Five-year target
Corporate sustainability	Unregulated commercial revenue generated	R29,837m	R36,779m
	Level of B-BBEE rating achieved	4	4
	Number of people in vulnerable areas reached through the SAWS' awareness programmes	2,4 million	4,8 million

¹ Based on all commissioned RADARs

7.3 Explanation of Planned Performance over the Five-Year Planning Period

Over the next five years, the SAWS will focus on enhancing its service provision, operationalisation of the National Climate Change Act, enhancing the meteorological-related body of knowledge, sustaining its meteorological and air quality infrastructure, as well as organisational sustainability.

By upgrading RADAR systems, expanding air quality monitoring networks, and embracing digital transformation, the SAWS aims to improve the accuracy and reliability of weather forecasts and climate data, driving better decision-making across sectors such as aviation, marine, and public safety. Additionally, the SAWS will increase its role in climate change research and develop innovative products that address emerging customer needs, thus enhancing its competitiveness in the market.

The SAWS is also committed to organisational growth and sustainability, with efforts focused on increasing unregulated commercial revenue, maintaining its B-BBEE rating, and expanding public awareness initiatives to better prepare vulnerable communities for extreme weather events. Through these programmes, the SAWS will strengthen its brand, increase its market share, and foster employee satisfaction, ensuring it remains a leading provider of meteorological and climate services in South Africa while contributing to national resilience and sustainable development goals.

The following section summarises the SAWS' planned performance over the five-year planning period for its four Programmes.

7.3.1 Programme 1: Weather and Climate Services

Programme 1 will focus on enhancing service provision to support the entity's public goods services and cost recovery and maintaining strong relations with key sectors to drive revenue generation. The availability of accurate meteorological and climatological information across these sectors will also see significant improvements in the products and services offering, ensuring reliable data for decision-making.

Key performance targets include improving the accuracy of warnings and forecasts across the aviation and marine sectors, with a focus on maintaining high availability and accuracy levels. Training initiatives will focus on ensuring that operational personnel are competently trained to do the job in the public, marine and aviation weather space.

In support of the Climate Change Act, the SAWS will enhance and expand on the provision of current climate change information through the Annual National State of the Climate Report. This will include the provision of general climate trends, Greenhouse Gas information as well as the state of Sea-Surface Temperatures around the country. Additional extreme climate change indices will be included, which will assist climate-sensitive sectors in decision-making. The target is to eventually provide around three times as much information as currently, as well as an increase in the resolution of information using more data sets.

Overall, Programme 1 positions the SAWS to not only enhance its public goods and commercial services, but to also position the entity to provide support for climate change projections and adaptation scenarios, lead in innovation and research, and ensure that it remains a critical player in the global meteorological landscape.

7.3.2 Programme 2: Research and Innovation

As one of the world-renowned meteorological services, the SAWS is pivotal in advancing research and scientific progress. This advancement underpins the delivery of information, advice, impact-based forecasts, warnings and associated services for the benefit of the public.

The SAWS remains committed to advancing the understanding of meteorological phenomena through rigorous scientific inquiry and innovation. The generation of new knowledge is aimed at not only enhancing the SAWS' forecasting capabilities, but also to contribute to the global body of weather and climate science.

Engaging in innovative research further enables the SAWS to produce high-quality data and insight that serve as the foundation for peer-reviewed articles. These scholarly contributions are vital in sharing research findings with the broader scientific community, thereby enriching the collective knowledge on weather patterns, climate change, and atmospheric processes. Modern methodologies and technologies will be employed to explore complexities of the earth's weather systems and aiming to improve forecast accuracy and reliability. Through this continuous cycle of research, publication and peer evaluation, the SAWS will contribute to the generation and dissemination of weather knowledge; ultimately aiding in the protection of lives and property, and the enhancement of economic resilience to weather and climate-related risks. This is in line with the entity's impact statement for "Improved quality of life for all in South Africa".

Research conducted by the SAWS serves as an invaluable resource for policymakers, offering evidence-based insights that inform decisions related to climate change adaptation, disaster preparedness, and environmental management.

7.3.3 Programme 3: Infrastructure and Information Systems

Programme 3 will focus on ensuring the functionality of meteorological and air quality infrastructure while making these systems more accessible and user oriented. The programme will enhance the availability of Tier 1 RADAR systems, beginning with 80% availability in the first year and increasing to 90% by year five. This improvement will ensure more reliable monitoring of severe weather events, enabling faster and more effective responses to weather-related risks.

Additionally, the programme aims to maintain an 80% operational rate for Priority Areas Air Quality stations available on the South African Air Quality Information System (SAAQIS). By ensuring that Priority Areas Air Quality stations meet minimum operational requirements, the SAWS will improve its ability to monitor air quality and gather critical data for environmental and public health decision-making.

As part of expanding RADAR system coverage, the entity will progressively upgrade or install new RADAR systems to enhance the SAWS' capability to detect severe weather events more efficiently, improving public safety through timely warnings and forecasts.

Overall, Programme 3 focuses on strengthening the entity's infrastructure and ensuring that its meteorological and air quality services are both reliable and accessible, ultimately contributing to enhanced decision-making and public safety across South Africa.

7.3.4 Programme 4: Administration (Including Corporate and Regulatory Services)

Programme 4 will focus on ensuring organisational sustainability by driving revenue growth, improving public awareness, and enhancing brand visibility. The SAWS aims to increase its unregulated commercial revenue from the baseline of R29,837m achieved in 2023/24, to R36,779 million by year five. This revenue growth will reduce dependency on regulated funding and support long-term financial sustainability.

Additionally, the SAWS plans to maintain its B-BBEE rating of Level 4 throughout this strategic period. This maintenance is the entity's commitment to aligning with South Africa's broader transformation goals.

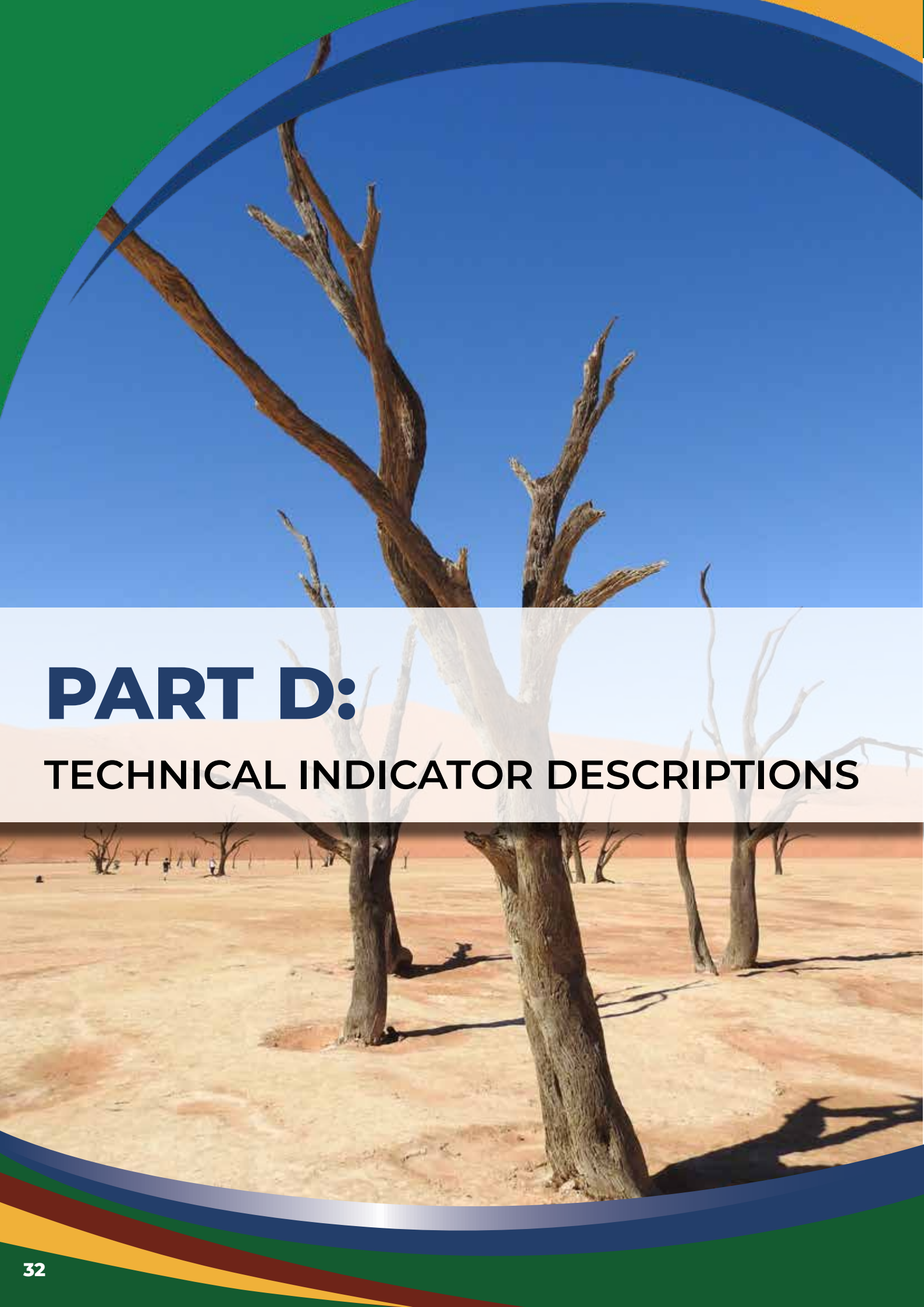
The SAWS will also increase its public awareness programmes targeting vulnerable communities. By year five, the SAWS aims to reach 4,8 million people in vulnerable areas with awareness initiatives to prepare them for extreme weather events, significantly enhancing public resilience.

Overall, Programme 4 aims to strengthen the SAWS' financial foundation, deepen its engagement with the public, and boost its market position, ensuring a more resilient and responsive organisation.

8. Updated Key Risks and Mitigation from Strategic Plan

Outcomes	Key risks	Risk mitigations
Programme 1: Weather and Climate Services		
Operationalisation of the National Climate Change Act	Inability to implement the Adaptation component of the Climate Change Act.	1. Submit proposals to various stakeholders (National Treasury and DFFE) and international funders such as GEF, GIZ and so forth to obtain additional resources and operationalise the Act. 2. Development of climate change scenarios for the country and submit to DFFE for implementation 3. Enhancement of the State of the Climate report to include more Climate change indicators. 4. Formalise existing partnerships with key climate change service stakeholders. 5. Form new strategic partnerships with relevant sectors. 6. Partnership with universities to build skills capacity. 7. Increase awareness/ workshops with the stakeholders. 8. Finalisation of the National Framework for Climate Services strategy (NFCS) 9. Development and implementation of the coordination mechanism.
Programme 3: Infrastructure and Information System		
Sustainable meteorological and air quality infrastructure	Inadequate infrastructure performance	1. Review of the maintenance contract for supporting infrastructure, such as diesel generators, air conditioning, and UPS systems 2. Upgrade of all S-Band RADARs, surface observation systems and LDN. 3. Annual update of maintenance SOPs 4. Improving site security, in addition to alarm system, security cameras and armed response. 5. Restoration of non-performing RADARs 6. Actioning of procurement activities listed on the sustainability plan 7. Review and implementation of the infrastructure sustainability plan 8. Continuous training for LDN, RADARs, and Surface Observation systems 9. Capacitation of engineers and regional technologist through training and inclusion of the skills transfer in the maintenance contracts.
	Inadequate ICT capacity	1. Review of the ICT turnaround strategy and the digital strategy. 2. Completion of the Implementation plan for the ICT strategy. 3. Development of the ICT monitoring tool for early detection of issues, and proactive management of all technological assets 4. Skills transfer to be included as part of contracting with the service providers. 5. Training and development (monitoring of the PDPs) 6. Training and Development Plan 7. Establishment of a task team to investigate modern technologies/AI tools. 8. Prioritisation of the allocation of funds to critical ICT projects. 9. Alternative source of funds for the organisation.
	Cyber-attacks / Cyber espionage	1. Conduct the bi-annual penetration testing and implementation of the gaps noted. 2. Continuous cybersecurity training and awareness. 3. Monitoring and implementation of the gaps of the vulnerability assessments by the service provider- iGuard. 4. Building/review of internal system access capabilities 5. Implementation of the incident security management framework 6. Continuous patch management 7. Strengthening of relationship between SAWS ICT and SIEM Service Provider 8. Review of ICT security policies 9. Review and implementation of the information security policy 10. Migration of the systems and emails to the cloud 11. Procurement of the backup system with emphasis on solutions that ensure data protection and cyber resilient infrastructure

Outcomes	Key risks	Risk mitigations
	Failure to deliver on the Air Quality Mandate	- Review of the Business Case and funding model and agreement on funding with DFFE: - Report the deficit noted in the financial statement on the ring-fenced budget allocated for air quality projects by DFFE. - Finalisation of the SLA attached to the grant for air quality projects. - Engagement with the DFFE to consider the provision of the long-term funding model for the Air quality mandate as opposed to the annual funding
Programme 4: Administration (Including Corporate and Regulatory Services)		
Corporate sustainability	Inability to continue with the business in the event of a disaster	- Coordinating the updating of the BCM programme (Business Impact Analysis & Business Continuity Plans) - Review of the Disaster Recovery Plan to include lessons learnt in case of security breaches. - Procurement of the new HPC and conducting of the probity audit. - Collaboration with the stakeholders such as CSIR, UKMET & other MET office, & other Met services we have MOU with on the secondment of the HPC specialist. - Engage the stakeholders in the provision of external specialists to assist with the drafting of the bid specifications.
	Financial Sustainability	- Continuous implementation of the Financial Sustainability Plan. - Grow revenue through Strategic Partnerships to address gaps in coverage. - Monitor the implementation of the revenue turnaround strategy. - Invest in ICT-related tools to support sales and commercialisation-related ventures - Develop processes or procedures to cost products quickly and efficiently (e.g., ABC / New system) - Promote SAWS's positive attributes and achievements using targeted communication and promotion strategies. - Promote SAWS through various media platforms. - Continue promoting content licensing and services subscriptions. - The motivation for an increased budget for operational efficiency - Monitor the implementation of revised cost containment measures - Implementation of job shadowing strategy
	Inability to attract and retain talent	- Ongoing initiatives to enhance the non-monetary rewards on the Employee Value proposition: - Paycurve system which allows employees access to their salaries on an accrual basis. - Short-term Insurance Products - Enhancement of Pension Fund and Risk benefits - Conduct an Organisational Culture Survey / Analysis - Focussed development of Personal Development Plans (Targeted training initiatives) - Targeted training initiatives - Adjustment of employees who earn below the 25th percentile of the market to the 25th percentile. - Automation and enhancement of the Human Capital Management system. - Capacitate the Human Capital Management Unit - Revise the Organisational Structure to ensure it is adequate to implement the new SAWS Strategy. - Source an interim CIO to manage ICT. - Conduct a skills audit on ICT to ensure we have the skills required to manage and maintain the infrastructure we have. - Development of a database/pool to select proper talent. - Prioritise identification of critical skills retention strategy
	Reputational risk	- Continuously monitor online conversations, media coverage, and social media sentiment to proactively identify emerging reputational risks. - Increased awareness of the code of conduct and disciplinary procedures to staff. - Monitoring the implementation of the SLAs for all service providers. - Establishment of ethics and social committee at operational level to deal with ethics matters. - Maintain open communication with key stakeholders such as customers, employees, investors, and the media to understand their concerns and expectations.



PART D:

TECHNICAL INDICATOR DESCRIPTIONS

PART D: TECHNICAL INDICATOR DESCRIPTIONS

Programme 1: Weather and Climate Services

Indicator Title	Percentage availability of aviation products and services
Definition	Measure of availability of terminal aerodrome forecast (TAF) and routine meteorological observations reports (METARs) issued by the Aviation Weather Centre and Regional Offices
Source of data	OPMET database
Method of Calculation / Assessment	Quantitative: Average sum of TAF and METAR availability
Assumptions	None
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	98% availability of aviation products and services
Indicator Responsibility	Senior Manager: Aviation Services

Indicator Title	Percentage availability of marine products (SOLAS)
Definition	Refers to the percentage availability of SOLAS bulletins (FQZA30 and FQZA31) on time over a given period. The times for FQZA30 are no later than 10:30 and 15:30 South African Standard Time. The times for FQZA31 are no later than 11:00 and 16:00 South African Standard Time.
Source of data	• Message Handling System reports • Signed-off monthly SOLAS reports
Method of Calculation / Assessment	Quantitative: $((\text{Forecast produced on time} \div (\text{number of days that month} \times 2)) \times 100)$ for FQZA30 and FQZA31 respectively; Average for the two (2) products
Assumptions	Aviation Monthly Reports (Mrep)
Disaggregation of Beneficiaries	None
Spatial Transformation	N/A
Desired performance	N/A
Indicator Responsibility	Non-cumulative

Indicator Title	Number of climate change indicators included in the National State of the Climate report
Definition	The SAWS produces the National State of the Climate report on an annual basis. Currently the information provided is limited and not fully relevant to all climate-sensitive sectors. The enhancement aims to fill the identified gaps in the present format through the addition of sector-relevant indices and the use of more data sets in the calculation thereof.
Source of data	SAWS observational climate data, Trace gas measurements, remote-sensed sea-surface temperature information.
Method of Calculation / Assessment	Quantitative: Total count of the number of indicators included in the Annual National State of the Climate report.
Assumptions	Availability of relevant data.
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	30 climate change indicators included in the National State of the Climate report
Indicator Responsibility	Senior Manager: Climate Services

Indicator Title	Percentage availability of climate data on the national climate database
Definition	As long-term custodian of a reliable national climate record, reliable and quality data must be available on the national database. Indicator calculates percentage of quality data from automatic weather stations on the national database over a reporting period.
Source of data	Climate Database - five-minute tables
Method of Calculation / Assessment	Quantitative: • $((\text{Received five-minute values} \div \text{by expected values}) \times 100)$ <i>NB: Expected value is number of open stations x 288 records x number of days in month.</i>
Assumptions	Adequate spares for automatic weather stations as well as adequate sensor uptime.
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	95% availability of climate data on the national climate database
Indicator Responsibility	Senior Manager: Climate Services

Indicator Title	Percentage availability of greenhouse gasses data
Definition	One of the WMO obligations for the SAWS is to manage the Global Atmosphere Watch (GAW) station at Cape Point and Regional network. The laboratory program measures various atmospheric components, including greenhouse gases, aerosols, and reactive gases. The regional program collects UV and ozone-related measurements. The indicator measures the percentage data availability of the GAW data over a reporting period.
Source of data	The Global Atmosphere Watch Laboratory Program at Cape Point and Regional network
Method of Calculation / Assessment	Quantitative: $(\text{GAW Cape Point average sensor performance} + \text{GAW Regional average sensor performance for UV \& Total Ozone} + \text{GAW Regional average sensor performance for Ozone vertical profile}) \div 3$
Assumptions	Adequate performance of instrumentation (infrastructure) as well as availability of supporting consumables (gasses)
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	90% availability of greenhouse gasses data
Indicator Responsibility	Senior Manager: Research and Development

Programme 2: Research and Innovation

Indicator Title	Number of research studies conducted to generate new scientific insights in atmospheric and related sciences
Definition	Research output measured in terms of the number of publications published in the following media: 1. Peer-reviewed articles published in scientific journals 2. Peer-reviewed conference papers 3. Theses (MSc. And PhD) 4. Book Chapters Research outputs are from SAWS employees and affiliates. Research areas include atmospheric and related sciences. Related sciences extend to various economic and climate-sensitive sectors, covering a diverse range of fields and knowledge domains including and not limited to social, environmental, ocean, and atmospheric sciences.
Source of data	Publications through Scientific Journals. Publications through peer-reviewed conference proceedings. Theses (MSc or PhD) reviewed by academic reviewers.
Method of Calculation / Assessment	Quantitative: Total count of the number of products of new or enhanced products and services.
Assumptions	None
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	45 research studies conducted to generate new scientific insights in atmospheric and related sciences
Indicator Responsibility	Senior Manager: Research and Development

Indicator Title	Number of new or enhanced customer-focused products and services
Definition	Indicator measures the number of new products and services as well as enhancements to existing products and services to provide value-added decision-making services for different economic sectors.
Source of data	- SAWS Observation networks (ARS, AWS, RADAR, Lightning, Satellite etc.) - Numerical Weather Prediction model output (UM, ECMWF etc.) - Product specific data - Related and relevant software and or platforms
Method of Calculation / Assessment	Quantitative: Total count of the number of new or enhanced products and services
Assumptions	Availability of quality data from observation platforms as well as the reliability of computational systems (HPC, Servers).
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	15 new or enhanced customer-focused products and services
Indicator Responsibility	Senior Manager: Research and Development Senior Manager: Marine Services

Programme 3: Infrastructure and Information Systems

Indicator Title	Percentage availability of Tier 1 weather RADAR systems
Definition	RADARs are a critical component for short-term forecasting and issuing of weather warnings. The percentage of the RADAR infrastructure availability is monitored through tracking of the infrastructure uptime. Tier 1 RADARs include: Irene, Bloemfontein, Polokwane, Bethlehem, Durban, Ermelo, Ottosdal and Venetia Mine RADARs.
Source of data	RADAR data files generated and stored on TITAN and Rainbow computers (remote desktop applications) dedicated to the RADAR network.
Method of Calculation / Assessment	Quantitative: Quarterly average of RADAR data availability
Assumptions	Network access to files received in a 24-hour system operation, Ravis uptime
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	90% availability of Tier 1 weather RADAR systems
Indicator Responsibility	Senior Manager: Technical Services

Indicator Title	Percentage of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements
Definition	Refers to the percentage of SAWS-operated ambient air quality monitoring stations (AAQMS) within the Priority Areas, which are available on SAAQIS, and meet the minimum (75%) data requirement over a reporting period.
Source of data	Network monitoring reports
Method of Calculation / Assessment	Quantitative: The number of Ambient Air Quality Monitoring Stations (AAQMS) operated by SAWS in the Priority Areas that meet minimum data requirements is computed and then expressed as a percentage of the total number of AAQMS in the Priority Areas.
Assumptions	Availability of resources to operate and maintain the ambient air quality monitoring stations in the National Priority Areas. No external negative impact i.e. vandalism, theft and electricity challenges.
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	90% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements
Indicator Responsibility	Senior Manager: Air Quality Services

Programme 4: Administration (Incl. Corporate and Regulatory Services)

Indicator Title	Unregulated commercial revenue generated
Definition	Commercial revenue generated from non-regulated ventures identified in order to contribute to increased Total Revenue.
Source of data	NetSuite, Revenue and Pricing Models
Method of Calculation / Assessment	Quantitative: Non-regulated Revenue from financial reports
Assumptions	Quality (accuracy and completeness) as well as availability of the data
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	R36,779m unregulated commercial revenue generated
Indicator Responsibility	Senior Manager: Commercial

Indicator Title	Level of B-BBEE rating
Definition	A measure of the B-BBEE level of the organisation
Source of data	B-BBEE verification report generated by SANAS accredited verification agency
Method of Calculation / Assessment	Qualitative: B-BBEE verification report
Assumptions	Availability of required documentation for the measurement elements
Disaggregation of Beneficiaries	N/A
Spatial Transformation	N/A
Desired performance	Level 4 B-BBEE rating
Indicator Responsibility	Senior Manager: Governance, Risk and Compliance

Indicator Title	Number of people in vulnerable areas reached through the SAWS' awareness programmes
Definition	To create and maintain awareness of the SAWS brand, public good products and services in communities and schools that are identified as vulnerable to impacts of adverse weather. The awareness programmes are through Simulcasts and physical events hosted at identified vulnerable communities.
Source of data	Radio listenership statistics from the Broadcast Research Council of South Africa. Attendance registers from mass events.
Method of Calculation / Assessment	Quantitative: Actual number of people counted in radio listenership statistics and/or attendance registers from mass events
Assumptions	N/A
Disaggregation of Beneficiaries	Women, Youth, Persons living with disabilities
Spatial Transformation	N/A
Desired performance	4,8 million people in vulnerable areas reached through the SAWS' awareness programmes
Indicator Responsibility	Senior Manager: Communications and Stakeholder Relations



South African
Weather Service