

# ANNUAL PERFORMANCE PLAN 2022/2023

**Storm movement**  
■ Current Storm  
■ Predicted 30 minutes  
■ Predicted 60 minutes





**South African  
Weather Service**



Version	Version Date	Author	Description of Amendments
1	2021-08-26	Dithuso Mogapi	Document created
2	2021-09-06	Dithuso Mogapi	Incorporate management input to medium-term and quarterly targets
3	2021-09-16	Dithuso Mogapi	Draft budget, MTEF estimates, and infrastructure projects
4	2021-10-29	Dithuso Mogapi	Update content with management input
5	2022-01-05	Dithuso Mogapi	Final review and inclusion of forewords

## Approval and Control Schedule

Approved by	Designation	Responsibility	Signature	Date of Approval	Document status
Mr Ishaam Abader	Chief Executive Officer	Accounting Officer	 DocuSigned by: Ishaam Abader 22 BBEAA2275F1C4CB	February 2022	10:10 AM SAST
Ms Feziwe Renqe	Board Chairperson	Accounting Authority		24 February 2022	Final



## Table of Contents

<b>ABBREVIATIONS AND ACRONYMS</b> .....	<b>3</b>
<b>SAWS MINISTER’S FOREWORD FOR THE 2022/2023 APP</b> .....	<b>4</b>
<b>ACCOUNTING OFFICER STATEMENT</b> .....	<b>5</b>
<b>OFFICIAL SIGN-OFF</b> .....	<b>7</b>
<b>PART A: OUR MANDATE</b> .....	<b>8</b>
1. UPDATES ON THE CONSTITUTIONAL MANDATE .....	9
2. UPDATES ON THE RELEVANT LEGISLATIVE AND POLICY MANDATE .....	9
3. UPDATES ON INSTITUTIONAL POLICIES AND STRATEGIES.....	9
4. RELEVANT COURT RULINGS.....	11
<b>PART B: OUR STRATEGIC FOCUS</b> .....	<b>12</b>
5. UPDATED SITUATIONAL ANALYSIS.....	13
5.1 EXTERNAL ENVIRONMENT ANALYSIS.....	13
5.2 INTERNAL ENVIRONMENT ANALYSIS.....	15
<b>PART C: MEASURING OUR PERFORMANCE</b> .....	<b>17</b>
6. PROGRAMME PERFORMANCE INFORMATION .....	18
6.1 OUTCOMES, OUTPUTS, PERFORMANCE INDICATORS AND TARGETS.....	19
6.2 INDICATORS, ANNUAL AND QUARTERLY TARGETS .....	26
6.3 EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM-TERM PERIOD .....	30
6.4 OVERVIEW OF 2022/23 BUDGET AND MTEF: ESTIMATES .....	34
7. KEY RISKS AND MITIGATION FROM STRATEGIC PLAN .....	37
8. INFRASTRUCTURE PROJECTS.....	38
9. PUBLIC-PRIVATE PARTNERSHIPS .....	38
<b>PART D: TECHNICAL INDICATOR DESCRIPTIONS</b> .....	<b>39</b>



## ABBREVIATIONS AND ACRONYMS

<b>ARC</b>	Agriculture Research Council
<b>ARS</b>	Automatic Rainfall Stations
<b>ASBU</b>	Aviation System Block Upgrade
<b>AWS</b>	Automatic Weather Stations
<b>B-BBEE</b>	Broad-Based Black Economic Empowerment
<b>CSIR</b>	Council for Scientific and Industrial Research
<b>DALRRD</b>	Department of Agriculture, Land Reform and Rural Development
<b>DFFE</b>	Department of Forestry, Fisheries and the Environment
<b>ERRP</b>	Economic Reconstruction and Recovery Plan
<b>FDI</b>	Fire Danger Index
<b>GANP</b>	Global Air Navigation Plan
<b>GASP</b>	Global Air Safety Plan
<b>GAW</b>	Global Atmospheric Watch
<b>GBVF-NSP</b>	Gender-based Violence and Femicide National Strategic Plan
<b>GPC</b>	Global Producing Centre
<b>ICAO</b>	International Civil Aviation Organization
<b>INFCOM</b>	Infrastructure Commission
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ISS</b>	Integrated Service Strategy
<b>LDN</b>	Lightning Detection Network
<b>MTEF</b>	Medium-Term Expenditure Framework
<b>NAC</b>	National Agro-meteorology Committee
<b>NAEIS</b>	National Atmospheric Emission Inventory System
<b>NCCAS</b>	National Climate Change Adaptation Strategy
<b>NDP</b>	National Development Plan
<b>NFCS</b>	National Framework for Climate Services
<b>NMHS</b>	National Meteorological and Hydrological Services
<b>PFMA</b>	Public Finance Management Act
<b>RSMC</b>	Regional Specialised Meteorological Centre
<b>RTC</b>	Regional Training Centre
<b>RTH</b>	Regional Telecommunication Hub
<b>SAAQIS</b>	South African Air Quality Information System
<b>SACAA</b>	South African Civil Aviation Authority
<b>SADC</b>	Southern African Development Community
<b>SARIR</b>	South African Research Infrastructure Roadmap
<b>SIDS</b>	Small Island Developing States
<b>SAWS</b>	South African Weather Service
<b>SERCOM</b>	Services Commission
<b>SOFF</b>	Systematic Observations Financing Facility
<b>SOLAS</b>	Safety of Life at Sea
<b>TAF</b>	Terminal Aerodrome Forecast
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WMO</b>	World Meteorological Organization



## SAWS MINISTER’S FOREWORD FOR THE 2022/2023 APP



I have the honour to present the Annual Performance Plan of the South African Weather Service for the 2022/23 financial year.

In an age where South Africans, and people across the world, are experiencing more frequent extreme weather events, such as floods and droughts, the role of the South African Weather Service (SAWS), an entity of the Department of Forestry, Fisheries and the Environment (DFFE), has become more important.

SAWS is faced with unique challenges to fulfil its role in South Africa, the Southern Africa region, Africa and beyond, in terms of predicting weather, disaster risk reduction, weather modelling, research and innovation, matters related to air quality management and raising awareness to develop wise users of weather, climate and air quality information.

Despite the COVID-19 pandemic causing difficulty to generate aeronautical meteorological and other commercial income, the organisation managed to stay afloat by implementing a number of measures to remain a going concern. The DFFE fully supported SAWS in these efforts and I am aware that organisational income generating capacity, especially in terms of aeronautical meteorological services, could take several years to rebuild. The DFFE remains committed to supporting SAWS on its road to recovery and excelling in its future service delivery as the authoritative voice for weather and climate warnings.

For the foreseeable future, SAWS’ service delivery will be influenced by the remaining effects of the COVID-19 pandemic, national and international economic recovery plans, as well as external and internal demands. The ability of SAWS to stay relevant will determine its ability to restore and exceed its former glory. The year 2022 provides an excellent opportunity for the organisation to start building its new, desired future. As the organisation is science-based and technology-driven, its efforts to mitigate the impacts of severe weather, natural disasters and climate change-related challenges will receive renewed attention from the public and stakeholders, especially in instances like the current La Niña year. In a year such as this the role of SAWS to warn the public about imminent extreme weather, severe thunderstorms and flooding is magnified. By fine-tuning its products, services, and the way in which it communicates with the public, a well-informed, weather-aware and resilient nation is an attainable goal.

I want to commend SAWS for adjusting its Strategy and Performance Plan to meet the demands of a very different future. The expected “new normal” is met by revisiting its Integrated Services Strategy and focusing on relevant product and services development, staying abreast of technological developments, following trends of the time and reprioritising investment in research, innovation and infrastructure maintenance – supported by investing in a well-trained human capital corps which is effectively organised into a meaningful structure for optimal service delivery. I am convinced that the observed innovative thinking amongst staff and management will assist to establish a future-oriented, solution-driven organisation, ready to face and meet challenges head-on.

The 2022/23 Annual Performance Plan for SAWS outlines goals and strategies to achieve its mandate of safeguarding life and property for the coming financial year.

**MS BARBARA CREECY, MP**

**MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT**





## ACCOUNTING OFFICER STATEMENT



The South African Weather Service (SAWS), as an entity of the Department of Forestry, Fisheries and the Environment (DFFE), derives its constitutional mandate from the Constitution of the Republic of South Africa, Act No. 108 of 1996 (as amended), in particular, Chapter 2, Section 24 relating to the environment, while its legislative mandate is 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), supported by the Public Finance Management Act (PFMA), Act No. 1 of 1999 and associated Treasury Regulations.

Since the onset of the COVID-19 pandemic in 2020, the SAWS has had to deal with the devastating effects on its income-generating ability and maintenance of its expensive, but aged infrastructure. Although several measures addressed the most serious effects of the pandemic, the organisation still suffered economic and service delivery setbacks, having had to perform its duties on a reduced budget, receiving drastically reduced income streams and having to redirect capital funds to stay afloat. I would like to recognise the role of the SAWS Board and the Minister of Forestry, Fisheries and the Environment for the decisive role they played in this regard.

The aim of this Annual Performance Plan is to pave the way for SAWS to restore and enhance its service delivery ability, taking into account challenges related to the remainder of the COVID-19 pandemic; national and international economic recovery; external environmental demands (e.g. the World

Meteorological Organization (WMO); International Civil Aviation Organization (ICAO); Regional and Subregional Meteorological organisations, the International Panel on Climate Change (IPCC) and other relevant bodies); and internal challenges such as revising its Integrated Services Strategy; obtaining an ideal level of B-BBEE certification; and streamlining and implementing an efficient and cost-effective organisational structure and human capital management strategy where scarce resources will be used optimally.

SAWS strives to obtain an improved quality of life for all in South Africa, by focusing on an enhanced meteorological-related body of knowledge; meteorology-related solutions provided to meet user needs; optimal core technological capability; and the achievement of internal excellence in the organisation. These output areas are supported by the programmes for Weather and Climate Services; Research and Innovation; Infrastructure and Information Systems; and Administration (including corporate and regulatory services).

In 2022/2023, actions to fulfil performance goals related to Weather and Climate Services will include the continued provision of public weather forecasts; severe weather guidance maps, and aviation and marine forecasts, with an emphasis on impact-based severe weather warnings under the Impact-based forecasting initiative. Similarly, obligations of the Convention on International Civil Aviation will be fulfilled, which include, amongst others, the continuous operation and development of the Regional Meteorological Databank, which feeds relevant aviation meteorological data into the national air traffic management system. SAWS' contribution to the International Convention for the Safety of Life at Sea (SOLAS) and the development of relevant products and services to the marine industry under Operation Phakisa will continue to receive priority.

In terms of research and innovation, efforts to increase SAWS' knowledge base remain crucial. The publication of peer-reviewed scientific articles and the pertinent involvement of young scientists will be encouraged. Furthermore, the provision of quality and reliable weather and climate data will continue, especially in terms of the implementation of the National Framework for Climate Services (NFCS). There will be increased focus on improving and developing new products and services and applications for users, with an emphasis on improving the efficiency and accuracy of our weather forecasts and severe weather warnings. User surveys, public awareness raising programmes and stakeholder engagements will be some of the platforms that will be utilised to increase SAWS' relevance and service excellence.



The efficiency and effectiveness of SAWS' observations and forecasting capabilities remain dependent on its well-functioning and maintained Surface Observations Network (consisting of Automatic Weather Stations (AWS) and Automatic Rainfall Stations (ARS) as well as the Remote Sensing Observation Infrastructure consisting of the Radar Network and the Lightning Detection Network (LDN)). While funds are scarce, renewed efforts will be made to optimally manage these systems and investing in the upgrade and refurbishing of the ageing infrastructure will be prioritised.

SAWS is one of only three Global Atmosphere Watch (GAW) Stations active on the African continent. The GAW programme builds our understanding of the interactions between the atmosphere, oceans and the biosphere to the benefit of South Africa, as well as the Southern African Development Community (SADC) region. In order to increase our funding to upgrade our aged network and achieve availability targets of the GAW programme, SAWS will foster collaboration with national infrastructure programmes such as the South African Research Infrastructure Roadmap (SARIR) to support the expansion of the GAW programme.

SAWS' responsibility to collect meteorological and ambient air quality data over South Africa and the surrounding southern oceans is stipulated in the South African Weather Service Act, Act No. 8 of 2001 (as amended). As custodian of the national climatological and ambient air quality record, the optimal management of the related infrastructure as well as meeting prescribed data requirements remains a key responsibility.

The development and retaining of scarce and critical skills in this organisation is important to support the execution of SAWS' goals. Achieving employment equity targets aimed at women in management and the employment of youth and people living with disabilities, will be emphasised. In the same breath, our internationally recognised training capabilities will be enhanced further, especially in terms of utilising online platforms and the latest technology.

Our efforts to cultivate a weather-smart nation and position the SAWS brand will be enhanced by means of communications and stakeholder outreach, further cementing our national and international footprint amongst our stakeholders and counterparts, while delivering products and services of increased quality and relevance and expanding our revenue-generating ability.

Our commitment to sound business management, compliance with applicable prescripts and standards, as well as good governance will remain a driving force behind our service delivery. SAWS is proud of its history of mostly unqualified audits and will be actively working towards realising its goal of maintaining an unqualified audit status during 2022/23.

DocuSigned by:  
*Ishaam Abader*  
88EAA2275F1C4C8

**Mr Ishaam Abader**

**Chief Executive Officer  
South African Weather Service**



## OFFICIAL SIGN-OFF

It is hereby certified that this Annual Performance 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.
- (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 2022/2023.

Mr Dithuso Mogapi  
Specialist: Strategy, Planning, and Reporting

DocuSigned by:  
*Dithuso Mogapi*  
89152FB19D80400...

Signature: \_\_\_\_\_

Ms Zoleka Makongolo  
Acting Executive: Corporate Services

DocuSigned by:  
*Zoleka Makongolo*  
51D08D9D5F8420

Signature: \_\_\_\_\_

Mr Norman Mzizi  
Chief Financial Officer

DocuSigned by:  
*Norman Mzizi*  
84C15E1E58FA438

Signature: \_\_\_\_\_

Mr Mnikeli Ndabambi  
Executive: Infrastructure and Information Systems

DocuSigned by:  
*Mnikeli Ndabambi*  
5414BA56B11D474

Signature: \_\_\_\_\_

Dr Jonas Mphepya  
Executive: Weather and Climate Services

DocuSigned by:  
*Jonas Mphepya*  
E593075562A941A...

Signature: \_\_\_\_\_

Mr Ishaam Abader  
Chief Executive Officer

DocuSigned by:  
*Ishaam Abader*  
88EAA2275E1C4C8

Signature: \_\_\_\_\_

Ms Feziwe Renqe  
Board Chairperson

*FR*

Signature: \_\_\_\_\_

Approved by:  
Ms Barbara Creecy, MP  
Executive Authority

*Barbara Creecy*

Signature: \_\_\_\_\_



**PART A: OUR MANDATE**





## 1. UPDATES ON THE 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.

The constitutional mandate of the SAWS remains relevant and as expressed in the strategic plan without any updates for this financial year.

## 2. UPDATES ON THE RELEVANT LEGISLATIVE AND POLICY MANDATE

The legislative mandate of SAWS is 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, the Public Finance Management Act (PFMA), Act No. 1 of 1999 and associated Treasury Regulations. SAWS is a Schedule 3A entity as per the PFMA and in terms of its enabling Act; Act No. 8 of 2001 (as amended), SAWS is mandated to:

- Provide reliable weather services to support public good and its commercial ventures.
- Provide aeronautical and marine meteorological services.
- Provide ambient air quality services.

The above mandate of the entity and its objectives as stipulated in the SAWS Act No. 8 of 2001 (as amended) remains relevant and as expressed in the strategic plan without any updates for this financial year.

## 3. UPDATES ON INSTITUTIONAL POLICIES AND STRATEGIES

Government Outcomes as envisaged by the National Development Plan (NDP) as well as National Policy Frameworks and discussion documents inform the alignment of SAWS with Government Priorities. The key driver for such alignment is the objects and provisions of the South African

Weather Service Act (as amended). Given the current climate brought about by COVID-19, the entity in its planning considered the following areas identified by government as important to mitigate the impacts of the pandemic and support recovery.

### Managing the COVID-19 pandemic

Part of the interventions that SAWS will continue to execute in order to save lives and support the health sector in the management of the pandemic include providing its staff with support to be vaccinated, as well as the continued monitoring of the staff vaccination rate and enforcement of the COVID-19 safety protocols in its operational centres. The entity will continue to provide support to the National Joint Operations and Intelligence Structure (NATJOINTS), just as was successfully done in 2020/2021 through the SAWS-developed Integrated Relative Health Risk (IRHR) indicator tool. This IRHR indicator tool indicates the population's integrated COVID-19 vulnerability risk levels due to long-term exposure to various chemically and toxically variant particulates with a diameter of less than 2.5 micrometers. Considering the actual COVID-19 cases reported in South Africa as a reference framework, and deploying spatially mapped comparative statistical analysis, the IRHR tool was validated. The validation illustrated that the IRHR is a significant co-factor matrix indicating vulnerability to COVID-19, thus it was deployed by several COVID-19 risk analysis and response preparation task teams at national, provincial, and local levels to support their decision-making process in terms of containment efforts, response planning and resources evaluation, as well as administrating the use and distribution of resources.

With the global air navigation sector negatively affected by the pandemic and borders of the Republic closed for international travelers, SAWS' revenue generation from the aviation sector declined significantly. The uptake of vaccination against the coronavirus and the opening of borders to international travelers is welcomed. The resumption and recovery in global tourism will have a direct and positive impact on the SAWS' revenue generation ability from the aviation sector as its recovery is spurred by increased travelers.

Included as part of key priorities of government for the calendar year 2022 is supporting food security within households. Climate variability and climate change have exacerbated the national food insecurity due to their influence on agricultural production, water quality and supply, as well as the ecological integrity of natural ecosystems. This is over and above the impacts of the COVID-19 pandemic on households and their ability to secure food. Rural communities in the country are already experiencing high levels of food insecurity due to their dependence on agriculture and natural



resources as the basis of their livelihood. Weather and climate play an important role in agricultural production, therefore the provision and timeous access to weather and climate information can contribute towards improving agricultural production and food security in vulnerable rural communities. SAWS will continue the mainstreaming of weather and climate information in rural agricultural production systems through training, awareness and capacity building. Together with the Agricultural Research Council (ARC), the SAWS will conduct training workshops for farmers on Agro-meteorology to promote climate-smart agricultural practices in communities.

To improve understanding and support response actions, SAWS provides climate change projections and atlas, which are valuable references for future agricultural production and food security. A research project on the Assessment of Past, Present and Future Climate Variability and Change impacts on water sensitive sectors, with the agriculture sector as one of the key sectors central to the project, is underway. It is expected that the outcomes of this research will contribute towards enhancing water and food security in the country.

### **Drive economic recovery**

As the government continues with efforts in the economic recovery from the impacts of COVID-19, the SAWS as an entity of government will play its role in support of this recovery by contributing towards the implementation of the Economic Reconstruction and Recovery Plan (ERRP). The ERRP for the South African economy is aimed at stimulating equitable and inclusive growth and is focused on the extraordinary measures that must be taken to restore the economy to inclusive growth following the devastation caused by COVID-19 to people's lives and the country's economy.

The SAWS is committed to continue playing its part in the Presidential Employment Stimulus Plan which aims to support a range of opportunities for the creation of jobs and retention in vulnerable sectors. Through the stimulus plan, SAWS will ensure the development of Meteorological Technicians, Forecasters and Researchers to increase the talent pool with critical-and-scarce meteorological-skilled resources for employment in the Environment Sector.

It remains SAWS' intentions to take advantage of the infrastructure investment priority intervention for economic recovery by presenting a case for the refurbishment of ageing observations infrastructure, while advocating for an effective and operational Earth System infrastructure. SAWS will continue to engage critical role-players in the hydrology, agriculture and space sectors for the promotion of an adequate and optimal cross-sectoral infrastructure which can be leveraged on. As an outcome of these engagements,

an Earth System Infrastructure Master Plan focused on implementation and the lobbying of Private Sector investment will be developed.

Included in the ERRP's intervention for economic recovery, is a priority to strengthen agriculture and food security. SAWS realises that food insecurity is interlinked with water, energy, and biodiversity resources and is actively involved in supporting the understanding of the linkages between water, energy and food from a nexus perspective - referred to as the WEF nexus. The weather and climate conditions mediate the WEF nexus, and in this regard, SAWS is actively involved in developing a system to understand the interaction between WEF nexus and how these interactions will be affected by changes in future climate at local scale (district municipality). The development of this system is based on the co-creation concept where communities participate in developing various resource (water, energy and food) utilisation scenarios. Despite COVID-19 restrictions hampering field work activities, the development of the analytic tool is progressing well with data collection from the targeted municipality. Furthermore, the pursuit of green industrialisation and a green future is a prerogative of government to address the challenges of inequality, poverty and unemployment under the ambit of a Green Economy which offers a sustainable solution to climate vulnerability and to drive economic competitiveness. The envisaged green industrialisation guarantees the security of water, energy (inclusive of electricity) and food supply. Opportunities exist for SAWS to play a role in the Green Economy and provide support as well as to tap into new industries such as the renewable energy and hydrogen economies, which are exhibiting a high potential for growth and employment.

### **Enhancing the State's capability to deliver**

SAWS continues to play a critical role in the implementation of the Vaal and Highveld Priority Area Air Quality Management Plans as well as the management and reduction of air pollution in these areas. Through effective maintenance of the Vaal Triangle and the Highveld Priority Area Ambient Air Quality Monitoring Networks, SAWS is able to ensure data availability for research purposes and the management of air quality by regulatory authorities. SAWS's efforts in this air quality management space enables authorities to monitor the effectiveness of emission control measures and programmes, which will ultimately contribute towards the reduction of air pollution levels in these priority areas, and a better quality of life for citizens in the surrounding communities. In addition, the accessibility of air quality data and information through the South African Air Quality Information System (SAAQIS) is beneficial to different stakeholders in air quality management



such as academia, government, industry and the public. The mandatory provision of emission data through the National Atmospheric Emission Inventory System (NAEIS) is part of the contribution by SAAGIS to meet the air quality and climate change commitments made by the South African government.

The SAWS embarked on a project to improve the national fire danger index for South Africa, through partnership with the Council for Scientific and Industrial Research (CSIR) and with the support from and the Government of Flanders Project. A fire danger rating system developed in the late 1970's and 1980's provides daily fire danger indexes throughout South Africa. These indexes assist fire protection agencies such as the Working on Fire programme, with fire management activities including initial response, suppression and standby, as well as readiness alerts. The project includes improving the fire modelling capabilities, updating the forecasting resolution and frequency, and engaging with relevant stakeholders (fire protection agencies) to assess and improve its usefulness. The agricultural sector, in most cases, is the worst affected by veldfires ravaging large areas and depriving livestock farmers of feed for animals, as well as causing huge losses running into millions of Rands due to damage to property, food insecurity, and loss of livestock, game and grasslands.

It is from the above that the Department of Agriculture, Land Reform and Rural Development advises farmers to organise themselves in local Fire Protection Associations (FPA) to comply to legislation (National Veld and Forest Fire Act 101 of 1998) and to protect themselves against this threat. Becoming members of registered FPAs is one of the best ways to proactively reduce fire risk for farmers. Insurance companies applying a strategy of proactively reducing risks to insured asset, are supporting FPAs and have incentive schemes to reward farmers to enlist in FPAs. The SAWS formed a commercial relationship with a capable company with a fire management web portal and mobile application to assist with the management of fires. The SAWS provides the platform with relevant weather and Fire Danger Index (FDI) information, thus generating commercial revenue. As part of continuous improvement to the service and products related to FDI, SAWS will develop a blended high-resolution gridded forecast field for various surface parameters, thus creating an opportunity to provide a dedicated fire risk forecasting service towards FPAs through the provision of customised high resolution warning services via media platforms such as web-portals and mobile applications. Furthermore, through engagements with insurance service providers, SAWS could possibly negotiate to generate additional commercial revenue.

As contribution towards Oceans Research and the marine

sector, the SAWS through work executed for the sector, understands that our surrounding oceans drive the weather experienced by the Republic of South Africa. Long-term trends in our changing oceans due to climate change will drive our climate in the decades to come. South Africa is uniquely surrounded by three large ocean basins and three massively important ocean current systems; the Benguela, Agulhas and Antarctic Circumpolar Currents which contribute to global climate systems. The SAWS' Marine Research strives to create products and services to mitigate against extreme coastal ocean phenomena impacting lives, livelihoods and infrastructure along the country's coastline, but also extends the collective knowledge of the oceans surrounding Southern Africa and their contributions to global climate systems. Forecast information on water levels, extreme waves and storm surge potential are served as public good through the marine portal (<https://marine.weathersa.co.za>), while adapted client-specific information and forecasts are developed for commercial revenue generation for SAWS.

#### 4. RELEVANT COURT RULINGS

There have not been any recent court rulings with significant impact on the SAWS for this financial year.



**PART B: OUR STRATEGIC FOCUS**







## 5. UPDATED SITUATIONAL ANALYSIS

In this medium-term, SAWS will be working towards implementing initiatives as identified in the 2020/2021 to 2024/2025 Strategic Plan; delayed in 2020/21 due to COVID-19 which plagued the Republic and the globe at large. The COVID-19 pandemic led to a national lockdown in 2020, resulting in some plans, particularly infrastructure plans, being delayed due to the restrictions and limitations imposed during the lockdown. SAWS, however, remains committed to work towards implementing initiatives in relation to each output area to ensure the realisation of the Strategic Plan as approved in 2020.

The COVID-19 pandemic and subsequent lockdowns in South Africa and abroad significantly impacted on the aviation sector and altered SAWS' regulated revenue income as air travel declined. Due to COVID-19 and its impact, SAWS' aviation revenue generation decreased by more than R100 million in 2020/21 compared to the period prior to COVID-19 and the national lockdown. As the globe recovers from the devastating impacts of the pandemic, the entity's aviation revenue generation is gradually increasing, though at a slow pace. Aviation experts assume that air traffic in the year 2024 will only reach 74% of the year 2019 figure, with a full recovery not expected before the year 2029. This scenario envisages persistent restrictions over the coming years owing to patchy vaccine uptake and/or renewed outbreaks of new coronavirus strains, thus negatively affecting passenger confidence. To counter the negative effects that decreased aviation revenue amongst others, has on the sustainability of SAWS, effective implementation of the developed revenue turnaround strategy will generate the much-needed commercial revenue for the long-term sustainability of the entity.

SAWS' non-regulated commercial revenue declined to R25,05 million in 2020/21 as decreased revenues were also coupled with a decline in the government conditional grant and the need to convert capital expenditure into operational expenditure. SAWS will rebuild its revenue generation as the pandemic recedes. The limiting revenue situation continues to constrain SAWS' growth as numerous capital infrastructure projects could not be executed in 2020/21 and 2021/22 as the government conditional grant amounting to R125 million and R124 million respectively, was converted to operational grant so that SAWS is able to fulfil its operational commitments. Though repairs and maintenance efforts were ramped up in the 2020/21 and 2021/22 financial years to ensure that infrastructure performance is not significantly compromised, the conversion of government conditional grant to operational grant is not sustainable

in the long run as SAWS' infrastructure continues to age. The Department of Forestry, Fisheries and the Environment (DFFE) subsequently allocated an additional once-off R100 million over three (3) years to assist SAWS with infrastructure investment.

The strategic focus of SAWS' revenue generation in these trying times is on the non-regulated commercial products and services. The SAWS established partnerships with private companies to take advantage of opportunities in the external market. The revenue-sharing partnership arrangements that SAWS has with its partners are key in driving the commercialisation strategy, particularly in the short-term. The key to the realisation of SAWS' revenue targets is dependent on innovative ways to optimise core competencies without reliance on external interventions or additional resources. To this end, SAWS developed a Revenue Turnaround Strategy with a list of immediately implementable and strategically relevant short-term strategies. These form the basis of the short-term strategies of the Commercial Strategy as approved by the SAWS Board in July 2021.

In the analysis of its business model, SAWS recognised that there are several challenges that hinder it from optimising commercial activities. A variety of alternative options for the SAWS structure as well as the establishment of a separate commercial enterprise was considered in the business model analysis. A detailed feasibility study is being undertaken and engagements with Department of Forestry, Fisheries and the Environment (DFFE) along with the National Treasury are scheduled to explore this possibility further. Furthermore, "quick wins" and "more complex ideas" will be evaluated for implementation to successfully bring new solutions to the market for increased revenue generation.

### 5.1 EXTERNAL ENVIRONMENT ANALYSIS

In support of advancing the Republic of South Africa globally, continentally and regionally, the SAWS plays an active role in advancing the interest of the country by serving on various platforms of the World Meteorological Organization (WMO) and the International Civil Aviation Organization (ICAO). Since SAWS has become a pivotal role-player in the regional meteorological development by leveraging on its rich niche of expertise that is internationally recognised, it is able to utilise these platforms to advance the meteorological interests of the country and present the meteorological perceptions and views of the region and the continent at large. In an endeavour to play a crucial role in regional development, the entity has utilised its numerous WMO-designated Regional Institutions as platforms to assist with meteorological development in the region. These Regional Institutions include the Regional Training Centre (RTC), Regional Tele-Communication Hub



(RTH), Regional Specialised Meteorological Centre (RSMC), Global Atmospheric Watch (GAWW) and Global Producing Centre (GPC). These stated Regional Institutions remain of strategic significance for both SAWS and the Republic of South Africa.

The Republic of South Africa through the South African Weather Service is continuously forging strategic partnerships with National Meteorological and Hydrological Services (NMHS) and developmental partners both at regional and international levels. These strategic partnerships are forged to ensure the advancement of South Africa's interests and to ensure proper implementation of international programmes within the Republic as well as the Southern African Development Community (SADC) region. In efforts to better respond to the growing global demand for weather, climate and water expertise, Members of the World Meteorological Organization (WMO) committed to a governance reform, by approving the WMO Reform package in June 2019. This reform package is committed to sustaining the WMO and its Members' leadership role, relevance and fit-for purpose mandate to addressing society's needs in a more efficient and cost-effective manner. In this regard, new WMO structures in the form of the Services Commission (SERCOM) and Infrastructure Commission (INFCOM), as well as the Research Board were established. The composition and working arrangements of the new commissions have been elaborated to ensure a balanced representation of relevant disciplines, active and balanced regional engagement as well as gender considerations. At a continental level, the amendment to the Terms of Reference of the Regional Associations (RAs) is endorsed to strengthen capacity building, amplify regional engagement and more importantly, align the RAs with the WMO Reform package. To this end, South Africa is appointed as the RAI SERCOM Chairperson, tasked to lead and play a fundamental role in the implementation of the WMO Reform Agenda in the African continent.

A recently developed WMO data policy which aims to promote the free and unrestricted exchange of meteorological data to improve model development and production of earth system products, is inadvertently increasing commercial competitors in the meteorological space which will result in significant impact on SAWS' revenue generation capabilities. Recognising the disproportionalities among WMO Members, a funding support mechanism was availed by the WMO and its partners for the marginalised Least Developed Countries (LDCs) and Small Island Developing States (SIDS) through the Systematic Observations Financing Facility (SOFF). These initiatives were duly adopted by Members for implementation during the WMO Extraordinary Congress in October 2021.

The South African Weather Service will align its processes to ensure adherence to this WMO Reform and its initiatives.

The latest Intergovernmental Panel on Climate Change (IPCC) report, published in August 2021, indicates that the evidence of observed changes in weather and climate extremes and their attribution to human influence has strengthened since the fifth Assessment report (AR5). These events will impact on the attainment of the sustainable development goals, the African Union Agenda 2063 on the Africa we want, as well as the National Development plan. Several initiatives and reports including the National Climate Change Adaptation Strategy and the African State of the Climate reports all indicate a need for multi-hazard early warning systems to build resilience against climate change. Weather influences a number of climate sensitive sectors such as agriculture, water, energy and disaster risk management, therefore, while SAWS continues to improve its underlying weather and climate information through research and innovation, the organisation also works towards the development and improvement of products in sensitive sectors.

The development of products is also informed by socio-economic benefit studies in sectors of relevance that assist with the determination of the value of climate services. The need for services, especially in the renewable energy sector, driven by global tendencies to move away from fossil fuel-based solutions as well as incentives for developing economies to follow the fossil fuel reduction pathway will create opportunities in this sector. It is now evident that SAWS' ageing observations infrastructure, technical and technological challenges, coupled with dwindling financial resources, pose a risk to the entity's competitive advantage within a changing landscape of meteorological services and global competitors. The SAWS will continue to invest in its capabilities despite the challenges as the intention to play a role in the development of emerging economies such as that of the renewable energy sector, remains of strategic importance.

Since the advent of the global COVID-19 pandemic, there has been a significant negative impact on the aviation industry, and it would not be difficult to imagine that the development and presence of SAWS could be threatened if more challenging situations emerge in the future. As a result, it has become imperative that the entity continues to deliver aeronautical meteorological services that are aligned to future demands of the national and international aviation community. Considering the rapid changes in the politico-economic spheres, technologies and communications, the environment and climate, as well as competitors at global, regional, and national level, it remains key that SAWS



upholds its position to provide aeronautical solutions in the interest of safety, while remaining flexible and adaptable.

The International Civil Aviation Organization (ICAO) developed a Global Air Navigation Plan (GANP) as a fifteen-year rolling plan that is implementable in blocks termed Aviation System Block Upgrade (ASBU) methodology. This ASBU methodology is a programmatic and flexible global approach that allows all Member States of ICAO to advance their Air Navigation capacities based on their specific operational requirements. Implementation of the GANP is on the backdrop of the Global Air Safety Plan (GASP) and the “no country left behind” initiative to ensure the implementation of these initiatives led by ICAO. The effectiveness of aeronautical meteorological services provision is geared towards solutions related to the impact of extreme weather (significant weather) in conformity with safer skies. As a result, versatile dissemination methodologies informed by user requirements must be developed to ensure speed of delivery and easy access. To this effect, the connectivity through communications networks will play a critical role due to the rise and application of “Big Data” and the Internet of Things, as well as their profound influence along the development of the 4th Industrial Revolution and the “Internet Plus” concept. Understanding the required connectivity and opening the application of “Big Data” and the Internet of Things, will assist the SAWS in understanding their impact on the aviation service delivery models in order to remain relevant and positive about the future.

## 5.2 INTERNAL ENVIRONMENT ANALYSIS

It is important to view the entity from its Operating Model perspective to understand the interdependencies that exist within the core operations. The foundation of this Institution is that of Infrastructure and Technical capability as well as Technological competitiveness. The Optimal management of Infrastructure and Information Systems remains key in the entity’s value chain, and It would be misleading to dismiss the challenges SAWS endured with regards to this critical infrastructure. It is the entity’s view that an Infrastructure-capable-SAWS will ignite achievement in areas such as data availability, research and development of revenue-generating products and services.

### Integrated Service Strategy

The SAWS developed an Integrated Service Strategy (ISS) whose primary goal was to leverage economies of scale and scarce skills, and to address the lack of capacity that is coupled with the ever-declining government grant. Through successful implementation of the ISS, SAWS envisaged that it will be well positioned to recover most of its costs of

delivering on its mandate. Through monitoring and evaluation of implementation efforts relating to the Integrated Service Strategy, it is revealed that there is a need to review the ISS and its implementation approach as it has not yielded the desired results. SAWS must organise itself and enable its operations such that these will contribute towards much needed revenue generation to address uncertainties affecting the entity’s long-term viability and sustainability. SAWS must actively position itself towards a future where the entity possesses an optimal scientific workforce, best-in-class contemporary technology, increased revenues from multiple sources; underpinned by high demand for SAWS’ services and products.

### Compliance with Broad-Based Black Economic Empowerment (B-BBEE)

The SAWS currently holds a B-BBEE Level 8 certificate issued in January 2021. In efforts to obtain a desirable B-BBEE rating, the final assessment revealed areas that the entity must improve on to obtain a Level 6 in the 2022/2023 financial year. The areas include Enterprise Development, Supplier Development, and Skills Development initiatives. Although from a compliance point of view, SAWS is compliant as it holds a valid B-BBEE certificate, the Level 8 rating is of concern to the Board and Management. Concerns include, amongst others, the fact that SAWS is potentially at a disadvantage when competing in tender processes as B-BBEE rating plays a role in determining the outcome of bid evaluations. This could result in the entity losing out on potential revenue generating projects. Furthermore, the current B-BBEE rating could be interpreted as an indication that the SAWS is not effectively contributing to the National Government’s plans on the various aspects affecting B-BBEE. It is for these reasons that the entity remains resolute on improving the B-BBEE status over the medium-term.

### Capacity to deliver the SAWS mandate

The COVID-19 pandemic brought opportunities and some challenges with regard to redefining certain functions and roles, upskilling individuals to be able to take added responsibilities where required, as well as finding ways of meeting objectives with limited resources. SAWS developed a Work from Home Policy which is geared towards a hybrid model of employees working from home and the office. This hybrid model reduced some of the employee related costs.

The entity has undergone a process of reviewing its Human Resources by reviewing its structure to effectively deliver on its mandate. The prerogative remains to realise efficiencies in operations and reduce the increasing employee costs.

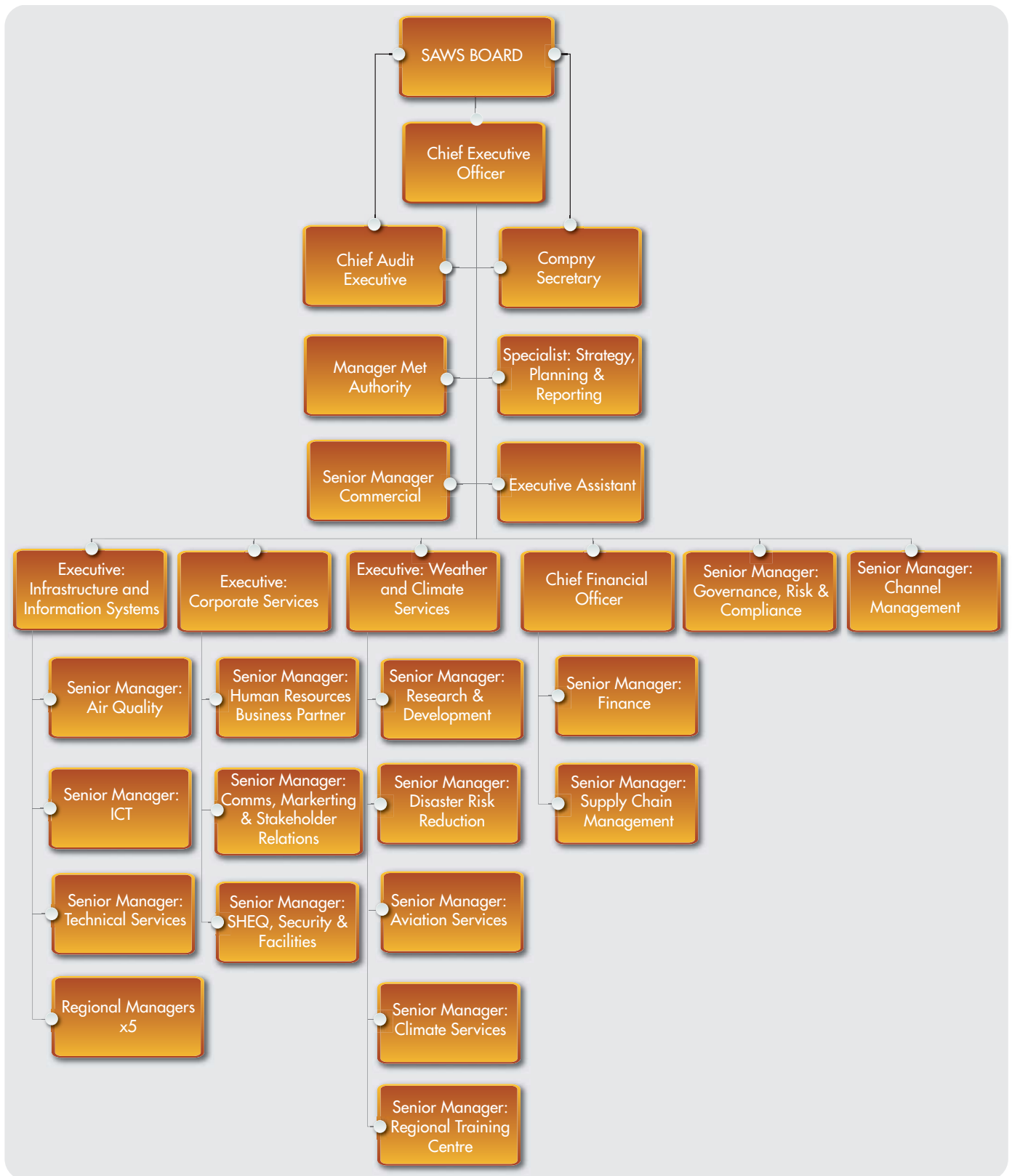


Figure 1: SAWS Organisational Structure



**PART C: MEASURING OUR PERFORMANCE**







## 6. PROGRAMME PERFORMANCE INFORMATION

The SAWS Strategic Framework continues to strive for an impact with the intention to obtain an ***Improved quality of life for all in South Africa***. The impact will be realised through the attainment of outcomes related to: Lives and property protected against meteorological-related risks, as well as Organisational Sustainability.

In the application of the Results-Based approach to ensure that all factors contributing to the achievement of the intended results are taken into consideration, the entity's Strategic Framework identifies four (4) Output Areas to which the SAWS will strive to achieve in this APP and throughout the strategic period. These Output Areas include:

- (i) ENHANCED METEOROLOGICAL-RELATED BODY OF KNOWLEDGE
- (ii) METEOROLOGICAL-RELATED SOLUTIONS PROVIDED TO MEET USER NEEDS
- (iii) OPTIMAL CORE TECHNOLOGICAL CAPABILITY
- (iv) INTERNAL EXCELLENCE ACHIEVED WITHIN THE ORGANISATION



**6.1 OUTCOMES, OUTPUTS, PERFORMANCE INDICATORS AND TARGETS**

**6.1 OUTCOMES, OUTPUTS, PERFORMANCE INDICATORS AND TARGETS**

**6.1.1 PROGRAMME 1: WEATHER AND CLIMATE SERVICES**

PURPOSE: TO SAFEGUARD LIFE AND PROPERTY AND PROVIDE METEOROLOGICAL SOLUTIONS TO ALL SOUTH AFRICANS.

**SUB-PROGRAMME 1.1: WARNINGS, ALERTS AND ADVISORIES**

PURPOSE: TO PROVIDE TIMEOUS AND ACCURATE IMPACT-BASED EARLY WARNINGS, ALERTS AND ADVISORIES TO SAFEGUARD LIFE AND PROPERTY AGAINST THE IMPACT OF SEVERE WEATHER ON LAND, OCEANS AND IN THE AIR.

Outcome	Outputs	Output Indicators	Audited/Actual Performance				Estimated Performance	Medium-Term Targets		
			2018/19	2019/20	2020/21	2021/22		2022/23	2023/24	2024/25
Lives and property protected against meteorological related risks	Meteorological-related solutions provided to meet user needs	Percentage availability of national weather forecast (FPZA41)	98.3%	99%	99%	99%	98%	98%	98%	
			98.24%	97%	99%	96%	96%	96%	96%	
			91.5%	94%	94%	92%	90%	90%	90%	
			96.4%	98%	98%	99%	95%	95%	97%	



**6.1.2. PROGRAMME 2: RESEARCH AND INNOVATION**

PURPOSE: TO DEVELOP METEOROLOGICAL SOLUTIONS TO INFORM WISE SOCIO-ECONOMIC CHOICES.

**SUB-PROGRAMME 2.1: RESEARCH**

PURPOSE: TO GENERATE NEW SCIENTIFIC INSIGHTS IN ATMOSPHERIC AND RELATED SCIENCES IN COLLABORATION WITH RELEVANT STAKEHOLDERS. TO EXPAND THE EXISTING KNOWLEDGE BASE AND INTELLIGENCE RELATED TO CLIMATE CHANGE.

Outcome	Outputs	Output Indicators	Audited/Actual Performance			Estimated Performance 2021/22	Medium-Term Targets		
			2018/19	2019/20	2020/21		2022/23	2023/24	2024/25
Lives and property protected against meteorological-related risks	Enhanced meteorological-related body of knowledge	Number of research outputs	70	52	49	35	40	45	45

**SUB-PROGRAMME 2.2: SOLUTION DEVELOPMENT**

PURPOSE: THE PROVISION OF INNOVATIVE METEOROLOGICAL AND RELATED PRODUCTS AND SERVICES THROUGH THE DEVELOPMENT AND IMPLEMENTATION OF COMMUNITY WEATHER-SMART PRODUCTS AND SERVICES.

Outcome	Outputs	Output Indicators	Audited/Actual Performance			Estimated Performance 2021/22	Medium-Term Targets		
			2018/19	2019/20	2020/21		2022/23	2023/24	2024/25
Lives and property protected against meteorological-related risks	Enhanced meteorological-related body of knowledge	Number of new or enhanced climate solutions for climate-sensitive sectors signed-off	Not applicable	Not applicable	1	1	1	1	2
		Number of new or enhanced non-climate-specific solutions signed-off	6	5	6	4	4	4	5



**PROGRAMME 3: INFRASTRUCTURE AND INFORMATION SYSTEMS**

PURPOSE: TO UPGRADE, EXPAND AND OPTIMISE INFRASTRUCTURE.

**SUB-PROGRAMME 3.1: OPTIMAL MANAGEMENT OF INFRASTRUCTURE**

PURPOSE: TO ENSURE OPTIMAL INFRASTRUCTURE AND SYSTEMS UPTIME OF OBSERVATIONS, INFORMATION DISSEMINATION AND EXCHANGE THAT ENABLES SAWS TO ACHIEVE ITS MANDATE.

Outcome	Outputs	Output Indicators	Audited/Actual Performance			Estimated Performance 2021/22	Medium-Term Targets		
			2018/19	2019/20	2020/21		2022/23	2023/24	2024/25
Lives and property protected against meteorological-related risks	Optimal core technological capability	Percentage availability of Automatic Weather Stations infrastructure	Not applicable	87.4%	88%	86%	85%	85%	85%
		Percentage availability of Automatic Rainfall Stations infrastructure	Not applicable	82.7%	83%	80%	80%	80%	80%
		Percentage availability of Global Atmospheric Watch infrastructure	90%	86%	83%	85%	85%	90%	90%
		Percentage availability of radar infrastructure	77% <sup>1</sup>	92%	73%	65%	75%	85%	85%

<sup>1</sup> Performance of Tier 1 Radars.



Outcome	Outputs	Output Indicators	Audited/Actual Performance			Estimated Performance 2021/22	Medium-Term Targets		
			2018/19	2019/20	2020/21		2022/23	2023/24	2024/25
		Percentage availability of Lightning Detection Network infrastructure	91%	92%	94%	92%	90%	90%	90%
		Percentage availability of the South African Air Quality Information System	97.08%	Not applicable	99%	99%	95%	95%	95%

**SUB-PROGRAMME 3.2: QUALITY DATA**

PURPOSE: TO PROVIDE QUALITY DATA MEETING MINIMUM DATA REQUIREMENTS.

Outcome	Outputs	Output Indicators	Audited/Actual Performance			Estimated Performance 2021/22	Medium-Term Targets		
			2018/19	2019/20	2020/21		2022/23	2023/24	2024/25
Lives and property protected against meteorological-related risks	Optimal core technological capability	Percentage of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	Not applicable	Not applicable	67%	68%	80%	85%	85%
		Percentage of AWS & ARS climate data available on National Climate Database meeting minimum data requirements	Not applicable	Not applicable	94%	90%	82%	85%	85%





**6.1.3 PROGRAMME 4: ADMINISTRATION (INCLUDING CORPORATE AND REGULATORY SERVICES)**

PURPOSE: TO PROVIDE LEADERSHIP, STRATEGIC, CENTRALISED ADMINISTRATION, EXECUTIVE SUPPORT, CORPORATE SERVICES AND FACILITATE EFFECTIVE COOPERATIVE GOVERNANCE, INTERNATIONAL RELATIONS AND ENVIRONMENTAL EDUCATION AND AWARENESS.

**SUB-PROGRAMME 4.1: SOUND CORPORATE GOVERNANCE**

PURPOSE: TO PROVIDE BUSINESS MANAGEMENT AND LEADERSHIP.

Outcome	Outputs	Output Indicators	Audited/Actual Performance		Estimated Performance 2021/22	Medium-Term Targets			
			2018/19	2019/20		2020/21	2022/23	2023/24	2024/25
Organisational sustainability	Internal excellence achieved within the organisation	Percentage of local expenditure on affirmative procurement (level 1 to 4)	Not applicable	95% <sup>2</sup>	80% <sup>3</sup>	65%	70%	75%	75%
		Level of B-BBEE rating	Not applicable	Non-Compliant	8	6	6	6	5
		Unregulated commercial revenue generated	R32.4 mil	R35.55 mil	R25.02 mil	R28 mil	R32 890 000	R36 179 000	R53 519 000
		External audit opinion	Qualified	Unqualified	Unqualified	Unqualified external audit opinion	Unqualified external audit opinion with no material findings	Unqualified external audit opinion with no material findings	Unqualified external audit opinion with no material findings

2 Level 1 to 8 procurement  
3 Level 1 to 8 procurement



**SUB-PROGRAMME 4.2: ADEQUATE, APPROPRIATELY SKILLED, TRANSFORMED AND DIVERSE WORKFORCE**

PURPOSE: TO DEVELOP PROGRAMMES WHICH CREATE A SUPPORTIVE ENVIRONMENT FOR HIGH PERFORMANCE, EMPLOYEE WELLNESS, CAREER DEVELOPMENT, ATTRACTION AND RETENTION.

Outcome	Outputs	Output Indicators	Audited/Actual Performance				Estimated Performance 2021/22	Medium-term Targets		
			2018/19	2019/20	2020/21	2022/23		2023/24	2024/25	
Organisational sustainability	Internal excellence achieved within the organisation	Percentage of Attrition Rate	1%	6%	11%	6%	≤8%	≤8%	≤8%	
		Percentage of Workplace Skills Plan targets met	N/A	30%	60%	75%	75%	80%	80%	
		Percentage compliance to Employment Equity on women in management	40%	36%	39%	39%	40%	42%	45%	
		Percentage compliance to Employment Equity on persons living with disabilities	2.1%	2%	1.62%	2%	2%	2%	2%	
		Number of youth in internship and learnership	12	20	10	10	10	10	15	
		Number of placements in work-integrated learning	Not applicable	Not applicable	5	5 (4 PWDs)	5 (3 PWDs)	8 (3 PWDs)	8 (3 PWDs)	



### SUB-PROGRAMME 4.3: BRAND POSITIONING AND STAKEHOLDER NETWORK DEVELOPMENT

PURPOSE: TO DEVELOP AND MAINTAIN VARIOUS PLATFORMS FOR ENGAGEMENT WITH STAKEHOLDERS TO EXTEND THE REACH AND INCREASE AWARENESS OF THE SAWS BRAND. TO PROMOTE ENGAGEMENT OF STAKEHOLDERS FOR MUTUALLY BENEFICIAL RELATIONSHIPS.

Outcome	Outputs	Output Indicators	Audited/Actual Performance			Estimated Performance 2021/22	Medium-Term Targets		
			2018/19	2019/20	2020/21		2022/23	2023/24	2024/25
Organisational sustainability	Internal excellence achieved within the organisation	Number of positioning and profiling programmes conducted locally and internationally	Not applicable	Not applicable	Not applicable	6	14	20	20
			Not applicable	Not applicable	Not applicable	9	18	27	27
			Not applicable	Not applicable	Not applicable	2	11	14	14



## 6.2 INDICATORS, ANNUAL AND QUARTERLY TARGETS

### 6.2.1 PROGRAMME 1: WEATHER AND CLIMATE SERVICES

PURPOSE: TO SAFEGUARD LIFE AND PROPERTY AND PROVIDE METEOROLOGICAL SOLUTIONS TO ALL SOUTH AFRICANS.

#### SUB-PROGRAMME 1.1: WARNINGS, ALERTS AND ADVISORIES

PURPOSE: TO PROVIDE TIMEOUS AND ACCURATE IMPACT-BASED EARLY WARNINGS, ALERTS AND ADVISORIES TO SAFEGUARD LIFE AND PROPERTY AGAINST THE IMPACT OF SEVERE WEATHER ON LAND, OCEANS AND IN THE AIR.

Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Percentage availability of national weather bulletins (FPZA41)	98% availability of national weather forecast (FPZA41)	98% availability of national weather forecast (FPZA41)	98% availability of national weather forecast (FPZA41)	98% availability of national weather forecast (FPZA41)	98% availability of national weather forecast (FPZA41)
Percentage accuracy of aerodrome warnings	96% accuracy of aerodrome warnings	96% accuracy of aerodrome warnings	96% accuracy of aerodrome warnings	96% accuracy of aerodrome warnings	96% accuracy of aerodrome warnings
Percentage accuracy of Terminal Aerodrome Forecast (TAF)	90% accuracy of Terminal Aerodrome Forecast	90% accuracy of Terminal Aerodrome Forecast	90% accuracy of Terminal Aerodrome Forecast	90% accuracy of Terminal Aerodrome Forecast	90% accuracy of Terminal Aerodrome Forecast
Percentage availability of marine products (SOLAS)	95% availability of marine products (SOLAS)	95% availability of marine products (SOLAS)	95% availability of marine products (SOLAS)	95% availability of marine products (SOLAS)	95% availability of marine products (SOLAS)

### 6.2.2 PROGRAMME 2: RESEARCH AND INNOVATION

PURPOSE: TO DEVELOP METEOROLOGICAL SOLUTIONS TO INFORM WISE SOCIO-ECONOMIC CHOICES.

#### SUB-PROGRAMME 2.1: RESEARCH

PURPOSE: TO GENERATE NEW SCIENTIFIC INSIGHTS IN ATMOSPHERIC AND RELATED SCIENCES IN COLLABORATION WITH RELEVANT STAKEHOLDERS. TO EXPAND THE EXISTING KNOWLEDGE BASE AND INTELLIGENCE RELATED TO CLIMATE CHANGE.

Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Number of research outputs	40 research outputs	7 research outputs	12 research outputs	15 research outputs	6 research outputs



### SUB-PROGRAMME 2.2: SOLUTION DEVELOPMENT

PURPOSE: THE PROVISION OF INNOVATIVE METEOROLOGICAL AND RELATED PRODUCTS AND SERVICES THROUGH THE DEVELOPMENT AND IMPLEMENTATION OF COMMUNITY WEATHER-SMART PRODUCTS AND SERVICES.

Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Number of new or enhanced climate solutions for climate-sensitive sectors signed-off	1 new or enhanced climate solution for climate-sensitive sectors signed-off	Structure 1 new or enhanced climate solution for climate-sensitive sectors finalised	Introduction and second chapter of 1 new or enhanced climate solution for climate-sensitive sectors completed	Draft report of 1 new or enhanced climate solution for climate-sensitive sectors completed	1 new or enhanced climate solution for climate-sensitive sectors signed-off
Number of new or enhanced non-climate-specific solutions signed-off	4 new or enhanced non-climate-specific solutions signed-off	Needs analysis for new or enhanced non-climate-specific solutions completed	4 new or enhanced non-climate-specific solutions prototypes developed as per needs analysis	4 new or enhanced non-climate-specific solutions prototypes translated into solutions	4 new or enhanced non-climate-specific solutions signed-off

### 6.2.3 PROGRAMME 3: INFRASTRUCTURE AND INFORMATION SYSTEMS

PURPOSE: TO UPGRADE, EXPAND AND OPTIMISE INFRASTRUCTURE.

#### SUB-PROGRAMME 3.1: OPTIMAL MANAGEMENT OF INFRASTRUCTURE

PURPOSE: TO ENSURE OPTIMAL INFRASTRUCTURE AND SYSTEMS UPTIME OF OBSERVATIONS, INFORMATION DISSEMINATION AND EXCHANGE THAT ENABLES SAWS TO ACHIEVE ITS MANDATE.

Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Percentage availability of Automatic Weather Stations infrastructure	85% availability of Automatic Weather Stations infrastructure	85% availability of Automatic Weather Stations infrastructure	85% availability of Automatic Weather Stations infrastructure	85% availability of Automatic Weather Stations infrastructure	85% availability of Automatic Weather Stations infrastructure
Percentage availability of Automatic Rainfall Stations infrastructure	80% availability of Automatic Rainfall Stations infrastructure	80% availability of Automatic Rainfall Stations infrastructure	80% availability of Automatic Rainfall Stations infrastructure	80% availability of Automatic Rainfall Stations infrastructure	80% availability of Automatic Rainfall Stations infrastructure
Percentage availability of Global Atmospheric Watch infrastructure	85% availability of Global Atmospheric Watch infrastructure	85% availability of Global Atmospheric Watch infrastructure	85% availability of Global Atmospheric Watch infrastructure	85% availability of Global Atmospheric Watch infrastructure	85% availability of Global Atmospheric Watch infrastructure
Percentage availability of radar infrastructure	75% availability of radar infrastructure	75% availability of radar infrastructure	75% availability of radar infrastructure	75% availability of radar infrastructure	75% availability of radar infrastructure
Percentage availability of Lightning Detection Network infrastructure	90% availability of Lightning Detection Network infrastructure	90% availability of Lightning Detection Network infrastructure	90% availability of Lightning Detection Network infrastructure	90% availability of Lightning Detection Network infrastructure	90% availability of Lightning Detection Network infrastructure





Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Percentage availability of the South African Air Quality Information System	95% availability of the South African Air Quality Information System	95% availability of the South African Air Quality Information System	95% availability of the South African Air Quality Information System	95% availability of the South African Air Quality Information System	95% availability of the South African Air Quality Information System

**SUB-PROGRAMME 3.2: QUALITY DATA**

PURPOSE: TO PROVIDE QUALITY DATA MEETING MINIMUM DATA REQUIREMENTS.

Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Percentage of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	80% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	80% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	80% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	80% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements	80% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements
Percentage of AWS & ARS climate data available on National Climate Database meeting minimum data requirements	82% of AWS & ARS climate data available on National Climate Database meeting minimum data requirements	82% of AWS & ARS climate data available on National Climate Database meeting minimum data requirements	82% of AWS & ARS climate data available on National Climate Database meeting minimum data requirements	82% of AWS & ARS climate data available on National Climate Database meeting minimum data requirements	82% of AWS & ARS climate data available on National Climate Database meeting minimum data requirements

**6.2.4 PROGRAMME 4: ADMINISTRATION (INCLUDING CORPORATE AND REGULATORY SERVICES)**

PURPOSE: TO PROVIDE LEADERSHIP, STRATEGIC, CENTRALISED ADMINISTRATION, EXECUTIVE SUPPORT, CORPORATE SERVICES AND FACILITATE EFFECTIVE COOPERATIVE GOVERNANCE, INTERNATIONAL RELATIONS AND ENVIRONMENTAL EDUCATION AND AWARENESS.

**SUB-PROGRAMME 4.1: SOUND CORPORATE GOVERNANCE**

PURPOSE: TO PROVIDE BUSINESS MANAGEMENT AND LEADERSHIP.

Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Percentage of local expenditure on affirmative procurement (Level 1 to 4)	70% of local expenditure on affirmative procurement (Level 1 to 4)	70% of local expenditure on affirmative procurement (Level 1 to 4)	70% of local expenditure on affirmative procurement (Level 1 to 4)	70% of local expenditure on affirmative procurement (Level 1 to 4)	70% of local expenditure on affirmative procurement (Level 1 to 4)
Level of B-BBEE rating	Level 6 B-BBEE rating	N/A	N/A	N/A	Level 6 B-BBEE rating
Unregulated commercial revenue generated	R32 890 000 unregulated commercial revenue generated	R8 222 500 unregulated commercial revenue generated	R8 222 500 unregulated commercial revenue generated	R8 222 500 unregulated commercial revenue generated	R8 222 500 unregulated commercial revenue generated
External audit opinion	Unqualified external audit opinion	N/A	Unqualified external audit opinion	N/A	N/A



### **SUB-PROGRAMME 4.2: ADEQUATE, APPROPRIATELY SKILLED, TRANSFORMED AND DIVERSE WORKFORCE**

PURPOSE: TO DEVELOP PROGRAMMES WHICH CREATE A SUPPORTIVE ENVIRONMENT FOR HIGH PERFORMANCE, EMPLOYEE WELLNESS, CAREER DEVELOPMENT, ATTRACTION AND RETENTION.

<b>Output Indicators</b>	<b>Annual Target</b>	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
Percentage of Attrition Rate	≤8% Attrition Rate	≤8% Attrition Rate	≤8% Attrition Rate	≤8% Attrition Rate	≤8% Attrition Rate
Percentage of Workplace Skills Plan targets met	75% Workplace Skills Plan targets met	Develop Workplace Skills Plan and submit to TETA	30% Workplace Skills Plan targets met	60% Workplace Skills Plan targets met	75% Workplace Skills Plan targets met
Percentage compliance to Employment Equity on women in management	40% compliance to Employment Equity on women in management	40% compliance to Employment Equity on women in management	40% compliance to Employment Equity on women in management	40% compliance to Employment Equity on women in management	40% compliance to Employment Equity on women in management
Percentage compliance to Employment Equity on persons living with disabilities	2% compliance to Employment Equity on persons living with disabilities	2% compliance to Employment Equity on persons living with disabilities	2% compliance to Employment Equity on persons living with disabilities	2% compliance to Employment Equity on persons living with disabilities	2% compliance to Employment Equity on persons living with disabilities
Number of youths in internship and learnership	10 youths in internship and learnership	10 youths in internship and learnership	10 youths in internship and learnership	10 youths in internship and learnership	10 youths in internship and learnership
Number of placements in work-integrated learning	5 placements in work-integrated learning; 3 being persons living with disabilities	5 placements in work-integrated learning; 3 being persons living with disabilities	5 placements in work-integrated learning; 3 being persons living with disabilities	5 placements in work-integrated learning; 3 being persons living with disabilities	5 placements in work-integrated learning; 3 being persons living with disabilities

### **SUB-PROGRAMME 4.3: BRAND POSITIONING AND STAKEHOLDER NETWORK DEVELOPMENT**

PURPOSE: TO DEVELOP AND MAINTAIN VARIOUS PLATFORMS FOR ENGAGEMENT WITH STAKEHOLDERS TO EXTEND THE REACH AND INCREASE AWARENESS OF THE SAWS BRAND. TO PROMOTE ENGAGEMENT OF STAKEHOLDERS FOR MUTUALLY BENEFICIAL RELATIONSHIPS.

<b>Output Indicators</b>	<b>Annual Target</b>	<b>Quarter 1</b>	<b>Quarter 2</b>	<b>Quarter 3</b>	<b>Quarter 4</b>
Number of positioning and profiling programmes conducted locally and internationally	14 positioning and profiling programmes conducted locally and internationally	3 positioning and profiling programmes conducted locally and internationally	4 positioning and profiling programmes conducted locally and internationally	4 positioning and profiling programmes conducted locally and internationally	3 positioning and profiling programmes conducted locally and internationally
Number of public awareness programmes conducted	18 public awareness programmes conducted	4 public awareness programmes conducted	5 public awareness programmes conducted	5 public awareness programmes conducted	4 public awareness programmes conducted



Output Indicators	Annual Target	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Number of collaborations through partnerships implemented locally and internationally	11 collaborations through partnerships implemented locally and internationally	2 collaborations through partnerships implemented locally and internationally	3 collaborations through partnerships implemented locally and internationally	3 collaborations through partnerships implemented locally and internationally	3 collaborations through partnerships implemented locally and internationally

**6.3 EXPLANATION OF PLANNED PERFORMANCE OVER THE MEDIUM-TERM PERIOD**

**6.3.1 PROGRAMME 1: WEATHER AND CLIMATE SERVICES**

In the 2022/23 financial year and medium-term, SAWS will under this programme continue to maintain and provide products and services as a critical function geared towards service delivery. Public weather forecasts, severe weather guidance maps, aviation and marine forecasts are from a suite of products and services provided by the entity in its delivery of the SAWS mandate.

SAWS will continue to provide National Weather forecast (FPZA41) to inform the citizens of the weather outlook so that all can make informed decisions to safeguard lives and property. Over and above this, SAWS will continue to develop an objective verification system for Impact-Based Severe Weather Warnings under the Impact-based forecasting initiative.

In terms of aviation weather services, SAWS will continue to fulfil obligations of the Republic of South Africa under the Convention on International Civil Aviation through the provision of aviation products and services that enable efficient, safe and regularity of flight operations in the Republic and the region. This will be achieved through, amongst others, the continuous operation and development of the Regional Meteorological Data Bank (RODB) capabilities and capacity to store and exchange aviation meteorological data in digital format, thus enabling the integration of this data into the air traffic management ecosystem. It is in this context that the SAWS will continue to actively participate in aviation projects and programmes at national and international levels to develop an aviation ecosystem in the 4th Industrial Revolution (4IR). Despite resounding successes in the provision of aviation weather services, SAWS must continue to stay on the track of scientific research and innovation to maintain its competitive advantage over emerging private sector service providers in the aviation environment.

As contribution towards the International Convention for the Safety of Life at Sea (SOLAS), the entity aims to ensure availability of coastal as well as deep sea forecasting products for use by those navigating our surrounding oceans. The

SAWS continues to develop relevant products and services to the Marine industry as contribution towards unlocking the economic potential of South Africa’s oceans under the Operations Phakisa.

**6.3.2 PROGRAMME 2: RESEARCH AND INNOVATION**

One of the key measurements for monitoring scientific output and ensuring that research is on par with the current advances, is through the peer review publication process. In this medium-term, SAWS aims to produce a number of publications that will increase its knowledge base and position the entity as a Scientific Institution of repute and promote the reputation of SAWS. The entity will continue to encourage the young scientists to lead publications in accredited journals to build scientific profiles.

SAWS aims to realise a state where citizens and institutions are enabled to use quality and reliable weather and climate related data to enhance the quality of their lives and build resilience to extreme weather events and mitigate climate change impacts. Weather and climate information provided needs to be timely, relevant and useable. Users are different in nature, and their application of this weather and climate information is as unique as it is inspired by value systems, interests, capacity and context of application, amongst other things. Climate data in raw or quality-controlled format is generally not enough to inform end-users, who need relevant climate information in a user-friendly format. To this end SAWS provides, as much as possible, relevant climate information to fulfil the needs of climate-relevant sectors and the broader public.

Considering the above, and to contribute to the implementation of the National Framework for Climate Services (NFCS) to provide relevant climate information and products to the user to improve decision-making; SAWS intends to develop a range of climate information products. The main aim with the development of these Climate Solutions is to assist communities to make weather-smart decisions in their respective areas, particularly in a more variable and changing climate. The products that are developed are underpinned by primary climate research on observations and modelling, which are also pillars of the NFCS.

The SAWS’ research focus includes making great efforts to



improve and develop new products and services that will address the unique applications and the needs of users, as well as enhance the entity's efficiency and accuracy of weather forecasts, and severe weather warnings. User surveys, stakeholder engagements and budding market opportunities etc. are all platforms that will be exploited to increase the organisation's relevance and service excellence.

### **6.3.3 PROGRAMME 3: INFRASTRUCTURE AND INFORMATION SYSTEMS**

Optimal Infrastructure and Information Systems that support advanced technologies for observations, information dissemination and exchange are fundamental to SAWS' ability to achieve its mandate. Central to the SAWS observations and forecasting capabilities is the Surface Observations Network consisting of Automatic Weather Stations (AWS) and Automatic Rainfall Stations (ARS), as well as the Remote Sensing Observation Infrastructure consisting of the Radar Network and the Lightning Detection Network (LDN), amongst others. Optimal management of the above infrastructure and information systems will in the medium-term yield the desired availability targets. Key to this though, is the availability of funds, which are scarce. SAWS has long-term plans in place to optimise and turn the infrastructure performance around as the operational environment changes and the economy makes a turnaround from the effects of COVID-19. Investment will be prioritised to upgrade and refurbish the ageing infrastructure.

Looking into the WMO Global Atmospheric Watch (GAW) Programme which focuses on building a single coordinated global understanding of atmospheric composition and its changes to improve the understanding of interactions between the atmosphere, the oceans and the biosphere, SAWS is one of only three Global GAW Stations active on the African continent. In this regard, it is key for the Republic to ensure the sustainability in the GAW related Monitoring and Research activities, not only for the benefit of the country, but also to increase the representation of the Southern African Development Community (SADC) region in this field. SAWS will discharge its responsibilities under the GAW programme and strive to achieve availability targets, though constrained by insufficient funding to modernise and upgrade the available infrastructure. In the medium-term, the SAWS is looking to foster collaboration with national infrastructure programmes such as the South African Research Infrastructure Roadmap (SARIR) to support the expansion of the GAW programme.

One of the objects of SAWS as stipulated in the SAWS Act, Act No. 8 of 2001 (as amended) is to ensure the ongoing collection of meteorological and ambient air quality data over South Africa and surrounding southern oceans for the

use by current and future generations, and to be a long-term custodian of a reliable national climatological and ambient air quality record. It becomes extremely important for the entity to likewise ensure sound and optimal management of the air quality infrastructure inclusive of the SAWS designated Priority Areas stations as well as the South African Air Quality Information System (SAAQIS). Operations carried out by the Air Quality arm of the entity will include ensuring availability of SAAQIS and availability of data meeting the prescribed minimum data requirements to inform Policy and decision-making.

Under the Infrastructure and Information Systems programme, SAWS aims to invest capital expenditure towards the refurbishment and modernisation of its infrastructure in the medium- and long-term to ensure long-term sustainability and credibility of SAWS products and services. Strategically selected projects will be prioritised in line with maintenance and operational requirements intended to improve the APP performance metrics over time. A prioritised selection of projects targeting the Radar Infrastructure, Lightning Detection infrastructure, and finally the Surface Observation infrastructure will be crucial. Notwithstanding the limited CAPEX resources, the SAWS Technical Team has selected projects of strategic importance for the required operations and maintenance of meteorological infrastructure. These projects are planned to be implemented over a three-year, five-year to ten-year horizon.

The SAWS infrastructure is important for the generation, transmission and storage of meteorological data for use as climate data. Climate data is the backbone of most operations related to National Meteorological Services such as SAWS. This data is used in several weather products and services and must be of acceptable quality and readily available when needed. Internal and external consumers of weather data need assurance about the data quality control processes and alignment to internationally recognised standards. SAWS is keen to realise climate data on the National Climate Database that meets minimum data requirements. In the medium-term, SAWS will focus on the re-development of the Climate Data Management System to incorporate new requirements and to obtain a reliable world-class Integrated Data Management System.

SAWS is in the process of planning and rolling out several initiatives aimed at ensuring that infrastructure performance targets are met with positive contribution to effective discharge of the SAWS mandate and support of SAWS strategic outcomes related to lives and property protection against meteorological-related risks. These initiatives are focused on optimal management of infrastructure through maintenance



practices, infrastructure upgrades, projects roll-out, as well as technical personnel competencies and technical skills improvement.

Medium-term plans are included in technical plans for all the major infrastructure refurbishment projects. A total of eighteen (18) weather radar systems refurbishment projects of various complexity will be phased in over a three-year period if resources allow. Likewise, thirteen (13) lightning detection systems projects which include refurbishment projects, will be phased in over a three-period. Similarly, the surface observation technical plan comprises of ten (10) refurbishment projects for roll-out over a three-year period.

Technical skills are key to the operations of SAWS, thus skills improvement will be addressed by a series of targeted training programmes intended to bolster the entity's technical capacity, with the main objectives being building a high-performance technical team, upskilling and multi-skilling the technical team, addressing professional developmental goals of the team, and upgrading infrastructure performance to world class levels.

#### **6.3.4 PROGRAMME 4: ADMINISTRATION (INCLUDING CORPORATE AND REGULATORY SERVICES)**

In this 2022/23 and medium-term, SAWS' Human Capital Management focus will be on programmes that adequately develop and retain scarce and critical skills for the entity's competitive edge. In response to the Gender-based Violence and Femicide National Strategic Plan (GBVF-NSP), the SAWS will fast track its efforts towards achieving employment equity targets aimed at women in management, the employment of youth and persons living with disabilities.

Societal need for weather information is growing fast as people are more vulnerable to natural hazards, including those exacerbated by climate change. Disruption to lives and livelihoods is manifested in loss of life, loss of income, food and water shortages, disease, and destruction of infrastructure. Reducing such adverse impacts of weather, climate, and hydrological hazards through the effective use of forecasts and warnings reduces exposure and builds resilient societies. In short, the need for weather information with greater accuracy, reliability, and specificity is growing rapidly. Science and technology innovation, including from the academic sector, continues apace with new approaches coming online. The resolution of global and regional models of the weather system is now such that weather information is close, for the first time, to having the detail necessary to describe conditions local to individuals or groups of individuals.

As global grids for weather prediction approach 1 km resolution or less in the next decade or two (and regional grids with even higher resolution), high-quality weather information representative of a small zone around the exact location of an individual (that is, person-specific forecasts) will be available and potentially refreshed on much higher update cycle frequencies. These developments are occurring at a time when the public sector is under significant funding pressures. With the decline in government grant to the entity, now more than ever SAWS' ability to generate revenue, particularly non-regulated commercial revenue, becomes key for its success. In enabling SAWS to shift the balance of its economy from one that is primarily reliant on government appropriation as a main revenue source of income, to one in which there is a mix of diverse revenue streams, SAWS must fulfil its agentisation mandate and expand its commercial profile.

The case for maintaining or increasing funding of National Meteorological and Hydrological Services (NMHS) is strengthened by a more open and explicit recognition of the leveraging of strategic partnerships to generate revenue from tailored products and services at national and regional levels through web portals, application programming interfaces and mobile applications. This capability must be built on the public investment in the global observing system, in the models that form the bedrock of SAWS' operations, and in long-term atmospheric research. In addition, impact-based forecasts are intimately user-focused, and their production is attractive for various sectors implementing a more service-based approach. Through the informed use of meteorological, hydrological, oceanographic and related information and the provision of reliable weather, climate and water information; individuals, households, organisations, businesses and governments can take decisions which reduce the impacts of natural hazards, enhance the safety and convenience of daily life, increase business profitability, address the challenges of public health and poverty alleviation, improve productivity, protect the environment and provide a more secure basis for future planning.

SAWS will continue to provide and expand the range of weather and climate risk management solutions through the provision of value-adding processes involving tailored services to more specialised applications and decisions, as well as expand the reach of information products to greater audiences through communication processes that influence the ability of users to perceive, interpret and apply knowledge as intended by the services provided. Expanding the training capabilities of SAWS to include robust online offerings will be key as the world is responding positively to the available technological platforms.



SAWS remains committed to obtaining an unqualified audit opinion of the Auditor General of South Africa. All efforts towards sound business management, compliance with applicable prescripts and standards, as well as good governance will be rallied in the execution of this APP and the medium-term targets.

Part of SAWS' focus is to position the SAWS brand through public and stakeholder relations as well as aiming to ensure safety of citizens through the dissemination of weather forecasting information, severe weather warnings, climate information and information relating to air quality. The entity aims to reach out to more people in rural and vulnerable communities impacted by the changing weather patterns, by balancing the activities with communication and brand positioning for improvement of commercial revenue.

According to the World Economic Forum's Global Risks Report of 2021, extreme weather events are classified amongst the top 3 (three) global risks deemed as the most contemporarily clear and present dangers. In response to the above, the SAWS intends to become a pivotal role-player in the global and regional meteorological development through the improvement of cooperation and hydro-meteorological service delivery. Furthermore, SAWS identified gaps and challenges that hinder meteorological development in the Southern African region. To assist in addressing these regional and international challenges, the SAWS seeks to leverage on its rich niche of internationally recognised expertise serving in key international technical bodies such as the WMO and ICAO. Additionally, the entity has numerous WMO- and ICAO-designated regional institutions which will be used as platforms to assist in regional development. There are proposed additional regional centres of strategic importance to the regional meteorological development which the SAWS intends to lobby for and attain full accreditation to host. In consideration of the limited financial resources, both nationally and in the SADC region, resource mobilisation efforts through forging strategic partnerships with National Meteorological and Hydrological Services (NMHSs) and developmental partners will be key for the SAWS.





## 6.4 OVERVIEW OF 2022/23 BUDGET AND MTEF: ESTIMATES

### 6.4.1 EXPENDITURE ESTIMATES

#### Summary of Income and Expenditure

Projected Income Statement

Description	Audited Annual Financial Statements	ENE Allocations over MTEF Period 2021/22 to 2024/25			
	2020/21 R'000	2021/22 R'000	2022/23 R'000	2023/24 R'000	2024/25 R'000
<b>Revenue</b>					
Government Grant - Operational	343 038	207 133	212 042	212 856	223 499
Government Grant - Operational (Re-allocation from Infrastructure grant)		124 903	124 000	120 000	
Government Grant - Capex	18 087	15 000	45 000	40 000	45 333
<b>Early Warning</b>		15 322	21 000	31 437	113 676
Commercial Income	25 050	28 600	32 890	36 179	53 519
Aviation Income	32 511	69 236	89 300	108 441	128 000
Other income, Interest and Donor Funds	2 891	22 185	24 403	25 500	28 050
<b>Total Revenue</b>	<b>421 577</b>	<b>482 379</b>	<b>548 635</b>	<b>574 413</b>	<b>592 077</b>
<b>Expenditure</b>					
Employees Costs	(268 703)	(277 500)	(290 088)	(299 220)	(314 181)
Administrative and Operating Costs	(137 582)	(163 822)	(165 274)	(173 024)	(181 675)
<b>Total Expenditure</b>	<b>(406 285)</b>	<b>(441 322)</b>	<b>(455 361)</b>	<b>(472 244)</b>	<b>(495 857)</b>
<b>Operating (Deficit) / Surplus Before Depreciation and Amortisation</b>	<b>15 292</b>	<b>41 057</b>	<b>93 274</b>	<b>102 169</b>	<b>96 220</b>
Impairment Loss - Intangible Assets	(1 642)				
Bad Debts written-off	(436)				
Impairment of Receivable	2 943				
Depreciation and Amortisation	(31 167)	(26 057)	(30 712)	(31 169)	(32 000)
<b>Surplus/ (Deficit) before Valuations</b>	<b>(15 009)</b>	<b>15 000</b>	<b>62 563</b>	<b>71 000</b>	<b>64 220</b>
Fair Value Adjustments and Actuarial Valuations	(106)	-	3 437	-	-
Gains / (Loss) from Foreign Exchange	(1 463)	-	-	-	-
<b>Surplus / (Deficit) after the year</b>	<b>(16 578)</b>	<b>15 000</b>	<b>66 000</b>	<b>71 000</b>	<b>64 220</b>
Capital Expenditure		(15 000)	(66 000)	(71 000)	(64 220)
<b>Net Surplus / (Deficit) after CAPEX for the year</b>	<b>(16 578)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Table 1: SAWS Budget 2020/21 – 2024/25 (Rand Million)





ASSETS	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25
	Audited figures	Budget	Draft		
	R'million	R'million	R'million	R'million	R'million
Carrying value of assets	387	389	400	410	415
Inventory	4	2	3	3	3
Receivables and prepayments	12	24	26	27	27
Cash and cash equivalents	42	11	12	12	11
<b>Total assets</b>	<b>444</b>	<b>426</b>	<b>440</b>	<b>452</b>	<b>456</b>
<b>LIABILITIES</b>					
Accumulated surplus/deficit	342	390	400	415	420
Operating lease	2	3	3	4	3
Trade and other payables	17	19	22	22	22
Provisions	84	15	15	11	11
<b>Total equity and liabilities</b>	<b>444</b>	<b>426</b>	<b>440</b>	<b>452</b>	<b>456</b>

Table 2: Summarized Statement of Financial Position (R million)

ASSETS	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25
	Audited figures	Budget	Draft		
	R'million	R'million	R'million	R'million	R'million
Cash flow from operating activities	15	(1)	67	72	63
Cash flow from investing (18)	(18)	(30)	(66)	(71)	(64)
Cash flow from financing activities	-	-	-	-	-
Net increase/(decrease) in cash and cash equivalents	(3)	(31)	1	1	(1)
Cash and cash equivalent at the beginning of the year	45	42	11	12	12
Estimate of available cash	42	11	12	12	11

Table 3: Cash Flow Projections (R million)



ACQUISITIONS	FY 20/21	FY 21/22	FY 22/23	FY 23/24	FY 24/25
	Audited figures	Budget	Draft		
	R'million	R'million	R'million	R'million	R'million
Air-Quality Equipment	9,35	3,00	5,00	4,00	5,20
Meteorological Equipment	4,07	4,00	18,00	21,00	10,00
Radar Equipment	0,00	10,20	15,40	18,00	21,00
Computer Servers/Equipment and HPC	1,80	10,00	18,00	22,00	18,00
Computer Software	2,76	2,00	5,00	3,00	5,00
Furniture and Fittings	0,10	0,10	2,20	1,00	2,00
Buildings and Leasehold Improvements	0,00	0,50	1,20	1,00	1,50
Office Equipment	0,00	0,20	1,20	1,00	1,50
<b>TOTAL ACQUISITIONS</b>	<b>18,08</b>	<b>30,00</b>	<b>66,00</b>	<b>71,00</b>	<b>64,20</b>

Table 4: Capital Expenditure (R million)



## 7. KEY RISKS AND MITIGATION FROM STRATEGIC PLAN

Outcome	Output	Key Risk	Measures to Mitigate
Lives and property protected against meteorological-related risks	Enhanced Meteorological-Related Body of Knowledge	Weak core innovation capability in science, engineering and technology	Career pathing framework to be developed. Implementation of Research and Development Strategy.
	Meteorological-related solutions provided to meet user needs	Inability to attract/reach a large scale of new sectors that can utilise SAWS products and services	Review and Implementation of regulated cost-recovery mechanisms (including marine solutions). Implementation of innovative products in line with market requirements and dissemination across various channels.
		Inadequate revenue generation from sale of meteorological products and services	Explore revenue generating opportunities that can be used in Marine space. Implementation of revenue turnaround strategy. Establish internal commercial committee to generate ideas. Grow revenue through Strategic Partnerships to address gaps in coverage.
	Optimal Core Technological Capability	Inaccurate weather information by SAWS dissemination partners and communication not reaching stakeholders timely	SAWS Dissemination Channel Strategy. SAWS Dissemination Channel Policy.
		Inadequate Infrastructure Performance	Implementation of plans for maintenance and CAPEX. Third-party support (long term maintenance contracts). Implement technical plan which will include development of prioritisation plan for key infrastructure.
		Technological Changes	Implement ICT turnaround strategy. Implementation of observation infrastructure turnaround plan. Implementation of recommendations from the infrastructure assessment report.
Organisational sustainability	Internal Excellence achieved within the Organisation	Ineffective governance processes and accountability	Development of talent strategy. Implementation of talent strategy. Performance assessment of Management. Conduct Board performance evaluation. Implementation of 360° evaluation at end of financial year. Implementation of succession planning at EXCO and Senior Management level. Gender equity initiatives across board.



Outcome	Output	Key Risk	Measures to Mitigate
Organisational sustainability	Internal Excellence achieved within the Organisation	Inability for SAWS to meet set strategic priorities	Commercial activities through enhanced revenue pipeline. Implementation of revenue turnaround strategy. Implementation of cost containment strategy. Review relevance of ISS and include KPIs in performance agreements of Executive and Senior Management. Review employee performance management system.
		Inadequate strategic positioning	Develop an inclusive strategy for communications and stakeholder relations focusing on brand promotion. Pursue the plans to form international and regional partnerships.
		Non-compliance to quality management system requirements	Development or sourcing of document and information management system.
		Inadequate critical skills attraction and retention	Advancement of women in management and leadership positions. Implement remuneration and retention initiatives. Implementation of succession planning.
		Non-compliance to SCM prescripts	Complete development of contract management and consequence management SOPs. Review of SCM strategy and implementation plan.
		Financial Unsustainability	Implementation of cost containment measures. Monitor implementation of Economic recovery plan. Automation of budget process which will be aligned to demand and procurement plan.
		Organisational instability	Implementation of revenue turnaround strategy. Filling of key positions.
		Misplacement of MET Authority	Implementation of a process to transfer Met Authority function from SAWS to SACAA.

## 8. INFRASTRUCTURE PROJECTS

Not applicable.

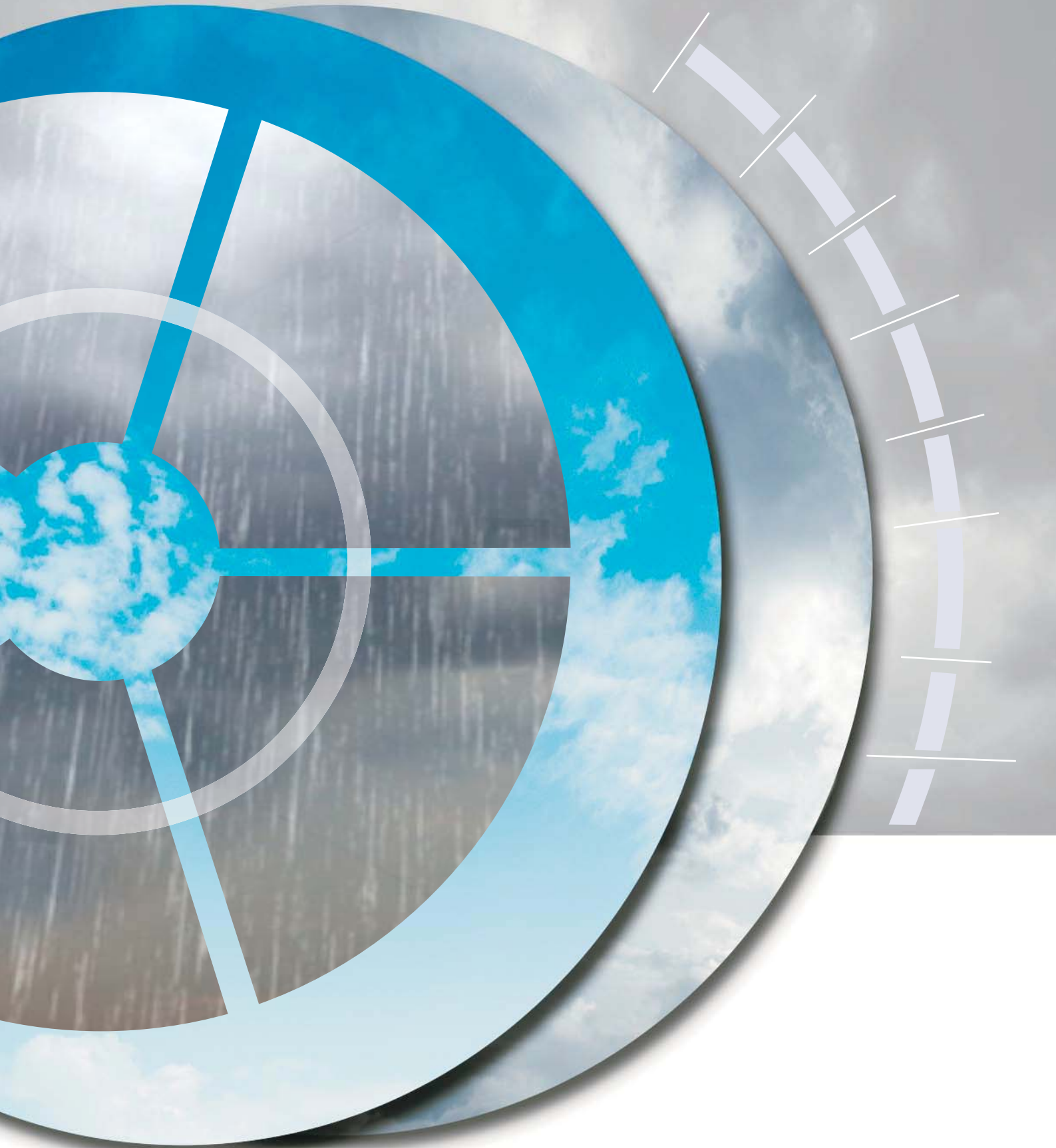
The infrastructure initiatives and capital expenditure attached thereto are expressed in Section 6.4.4 of this annual performance plan.

## 9. PUBLIC-PRIVATE PARTNERSHIPS

Not applicable.

The South African Weather Service has not entered any Public-Private Partnership.

**PART D: TECHNICAL INDICATOR DESCRIPTIONS**





**Part D: Technical Indicator Descriptions**

<b>Indicator Title</b>	Percentage availability of national weather forecast (FPZA41)
<b>Definition</b>	Refers to the availability of National Public Weather bulletins on time over a given period. These are issued 2 times daily. Set time of submission is no later than 06:00 and 16:00 South African Standard Time.
<b>Source of data</b>	Message Handling System
<b>Method of Calculation / Assessment</b>	Quantitative: $\left( \frac{\text{Forecast produced on time}}{\text{(number of days that month} \times 2)} \right) \times 100$
<b>Means of verification</b>	Monthly Report (Mrep)
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	98% availability of national weather forecast (FPZA41)
<b>Indicator Responsibility</b>	Senior Manager: DRR

<b>Indicator Title</b>	Percentage accuracy of aerodrome warnings
<b>Definition</b>	This refers to the percentage accuracy of adverse weather warnings at major airports around the country during the period. The warnings are aimed at ground handlers, aircraft re-fuellers, aircraft on the ground, and the larger aviation community based at these airports.
<b>Source of data</b>	OPMET Databank, Aviation website
<b>Method of Calculation / Assessment</b>	Quantitative: $\left( \frac{\text{Forecast and Observed} + \text{Not Forecast Not Observed}}{\text{Forecast and Observed} + \text{Forecast but Not Observed} + \text{Not Forecast but Observed} + \text{Not Forecast Not observed}} \right) \times 100$
<b>Means of verification</b>	Monthly Report (Mrep)
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	96% accuracy of aerodrome warnings
<b>Indicator Responsibility</b>	Senior Manager: Aviation Services



<b>Indicator Title</b>	Percentage accuracy of Terminal Aerodrome Forecast (TAF)
<b>Definition</b>	Refers to the percentage accuracy of aerodrome weather forecasting over a given period i.e., the accuracy of aviation weather information on OPMET databank and on aviation website for use by its users.
<b>Source of data</b>	OPMET Databank, Aviation website
<b>Method of Calculation / Assessment</b>	Quantitative: $((\text{Forecast and Observed} + \text{Not Forecast Not Observed}) \div (\text{Forecast and Observed} + \text{Forecast but Not Observed} + \text{Not Forecast but Observed} + \text{Not Forecast Not observed}) \times 100)$
<b>Means of verification</b>	Aviation Evaluation Reports, Monthly Report (Mrep)
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	90% accuracy of Terminal Aerodrome Forecast (TAF)
<b>Indicator Responsibility</b>	Senior Manager: Aviation Services

<b>Indicator Title</b>	Percentage availability of marine products (SOLAS)
<b>Definition</b>	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.
<b>Source of data</b>	Message Handling System
<b>Method of Calculation / Assessment</b>	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
<b>Means of verification</b>	Monthly Report (Mrep)
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	95% availability of marine products (SOLAS)
<b>Indicator Responsibility</b>	Senior Manager: DRR





<b>Indicator Title</b>	Number of research outputs
<b>Definition</b>	Research output measured in terms of the number of publications published in the following media: Peer-reviewed articles published in scientific journals Peer-reviewed conference papers Theses (MSc. And PhD) Book Chapters
<b>Source of data</b>	Publications through Scientific Journals. Publications through peer-reviewed conference proceedings. Theses (MSc or PhD)-reviewed by academic reviewers.
<b>Method of Calculation / Assessment</b>	Quantitative
<b>Means of verification</b>	Quarterly Report on Journal publications, conference proceedings & thesis.
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	40 Research outputs
<b>Indicator Responsibility</b>	Senior Manager: Research

<b>Indicator Title</b>	Number of new or enhanced climate solutions for climate-sensitive sectors signed-off
<b>Definition</b>	The indicator measures the number of climate solutions that can be used as a decision-making tool. To provide value-added climate data and services towards building resilience to climate change
<b>Source of data</b>	The information is mainly forthcoming from observational weather data stored on the climate database. In addition, media sources are utilised to summarise significant weather and climate events.
<b>Method of Calculation / Assessment</b>	Quantitative
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	One (1) new or enhanced climate solution for climate-sensitive sectors signed-off
<b>Indicator Responsibility</b>	Senior Manager: Climate Services



<b>Indicator Title</b>	Number of new or enhanced non-climate-specific solutions signed-off
<b>Definition</b>	Indicator measures the number of new products and services as well as enhancements to existing products in order to provide value-added decision-making services for different economic sectors.
<b>Source of data</b>	SAWS Observation Platforms and networks (ARS, AWS, Radar, Lightning, Satellite etc.) Numerical Weather Prediction model output (UM, ECMWF etc.) Other Data sets
<b>Method of Calculation / Assessment</b>	Quantitative
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	Availability of quality data from observation platforms as well as the reliability of computational systems (HPC, Servers).
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	4 new or enhanced non-climate-specific solutions signed-off
<b>Indicator Responsibility</b>	Senior Manager: Research



<b>Indicator Title</b>	Percentage availability of Automatic Weather Stations infrastructure
<b>Definition</b>	Automatic weather stations with all parameters available for $\geq 85\%$ in a particular month are deemed to be operational. Operational stations are then calculated as a percentage of the number of stations in operations.
<b>Source of data</b>	Climate Database - five-minute tables
<b>Method of Calculation / Assessment</b>	Quantitative: $\% \text{temperature} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $\% \text{humidity} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $\% \text{pressure} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $\% \text{speed} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $\% \text{winddir} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $\% \text{gust} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $\% \text{Rain} = \text{number of reporting days} \div \text{number of days in month} \times 100$ $= \text{IF}(\text{AND}(\% \text{temperature} \geq 85; \% \text{humidity} \geq 85; \% \text{pressure} \geq 85; \% \text{speed} \geq 85; \% \text{winddir} \geq 85; \% \text{gust} \geq 85; \% \text{Rain} \geq 85));$ "Operational"; $\text{IF}(\text{AND}(\% \text{temperature} = 0; \% \text{humidity} = 0; \% \text{pressure} = 0; \% \text{speed} = 0; \% \text{winddir} = 0; \% \text{gust} = 0; \% \text{Rain} = 0));$ "Non-Operational"; "Semi Operational")
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	Spares necessary for the maintenance of infrastructure is available
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	85% Automatic Weather Stations infrastructure
<b>Indicator Responsibility</b>	Senior Manager: Technical Services



<b>Indicator Title</b>	Percentage availability of Automatic rainfall stations infrastructure
<b>Definition</b>	Automatic rainfall stations with all parameters available for $\geq 85\%$ in a particular month are deemed to be operational. Operational stations are then calculated as a percentage of the number of stations in operations.
<b>Source of data</b>	Climate Database - five-minute tables
<b>Method of Calculation / Assessment</b>	Quantitative: $\%Rain = \text{number of reporting days} \div \text{number of days in month} \times 100$ $=IF((AND(\%Rain \geq 85)); "Operational"; IF((AND(\%Rain = 0)); "Non-Operational"; "Semi Operational"))$
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	Spares necessary for the maintenance of infrastructure is available
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	80% availability of Automatic rainfall stations infrastructure
<b>Indicator Responsibility</b>	Senior Manager: Technical Services

<b>Indicator Title</b>	Percentage availability of Global Atmospheric Watch infrastructure
<b>Definition</b>	One of the WMO obligations for SAWS, is to manage the Global Atmospheric Watch station at Cape Point and Regionally to measure background elements of trace gas increases as a result of climate change. The indicator measures the percentage availability of the GAW infrastructure over a reporting period.
<b>Source of data</b>	The Global Atmospheric Watch Cape Point and Global Atmospheric Watch Regional suite of instruments
<b>Method of Calculation / Assessment</b>	Quantitative: $(\text{Actual data availability} \div \text{Predetermined data availability from Global Atmospheric Watch infrastructure}) \times 100$
<b>Means of verification</b>	Quarterly Global Atmospheric Watch Data Recovery report. The performance results are derived from numerous data sets analysed by scientists. Management is unable to provide absolute numbers for presentation in quarterly performance reports.
<b>Assumptions</b>	Performance of instrumentation (Infrastructure) + Availability of supporting consumables (gasses)
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	85% availability of Global Atmospheric Watch infrastructure
<b>Indicator Responsibility</b>	Senior Manager: Research



<b>Indicator Title</b>	Percentage availability of radar Infrastructure
<b>Definition</b>	Radar is the critical component for short-term forecasting and issuing of weather warnings. It is critical to track average percentage of the radar infrastructure availability over a reporting period.
<b>Source of data</b>	TITAN
<b>Method of Calculation / Assessment</b>	Quantitative: Uptime measured in 24 hours cycle, monthly average and quarterly average
<b>Means of verification</b>	Quarterly radar performance report, TITAN files. The performance results are system generated TITAN files which are analysed by radar specialists. Management is unable to provide absolute numbers for presentation in quarterly performance reports.
<b>Assumptions</b>	Network access to files received in a 24-hour system operation, Ravis uptime
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	75% availability of radar Infrastructure
<b>Indicator Responsibility</b>	Senior Manager: Technical Services

<b>Indicator Title</b>	Percentage availability of Lightning Detection Network infrastructure
<b>Definition</b>	Average percentage of the Lightning Detection Network (LDN) infrastructure availability over a reporting period.
<b>Source of data</b>	Lightning processing server
<b>Method of Calculation / Assessment</b>	Quantitative: Uptime measured in 24 hours cycle, monthly average and quarterly average
<b>Means of verification</b>	Quarterly LDN performance report, SUDD files. The performance results are system generated SUDD files which are analysed by LDN specialists. Management is unable to provide absolute numbers for presentation in quarterly
<b>Assumptions</b>	Network access to files received in a 24-hour system operation
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	90% availability of Lightning Detection Network infrastructure
<b>Indicator Responsibility</b>	Senior Manager: Technical Services



<b>Indicator Title</b>	Percentage availability of the South African Air Quality Information System
<b>Definition</b>	The percentage of South African Air Quality Information System (SAAQIS) uptime over a given period i.e., the availability of full SAAQIS functionality for use over a reporting period.
<b>Source of data</b>	External/third party monitoring tool or Envitech – SAAQIS Service Provider
<b>Method of Calculation / Assessment</b>	Quantitative: SAAQIS availability expressed as a percentage, provided by an external electronic website monitoring tool
<b>Means of verification</b>	Website Monitoring Report
<b>Assumptions</b>	N/A
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	95% availability of the South African Air Quality Information System
<b>Indicator Responsibility</b>	Senior Manager: Air Quality Services

<b>Indicator Title</b>	Percentage of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements
<b>Definition</b>	This indicator refers to the percentage (%) of SAWS operated ambient air quality monitoring stations (AAQMS) within the Priority Areas which are available on SAAQIS that meet minimum (75%) data requirements over a reporting period.
<b>Source of data</b>	SAAQIS report / station monthly reports and Excel Spreadsheet where computation is illustrated
<b>Method of Calculation / Assessment</b>	Quantitative: The number of 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 within the Priority Areas.
<b>Means of verification</b>	Monthly Reports of HPA, VPA and WBPA stations
<b>Assumptions</b>	Only refers to SAWS operated ambient air quality monitoring stations in the National Priority Areas (HPA, VPA and WBPA)
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	80% of Priority Areas Air Quality Stations available on SAAQIS meeting minimum data requirements
<b>Indicator Responsibility</b>	Senior Manager: Air Quality Services





<b>Indicator Title</b>	Percentage of AWS & ARS climate data available on National Climate Database meeting minimum data requirements
<b>Definition</b>	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 such quality data on the national database over a reporting period.
<b>Source of data</b>	Climate Database - five-minute tables
<b>Method of Calculation / Assessment</b>	Quantitative: $((\text{Received five-minute values} \div \text{by expected values}) \times 100)$ Expected value is number of open stations x 288 records x number of days in month.
<b>Means of verification</b>	Monthly generated availability reports
<b>Assumptions</b>	No lack of spares for AWS and ARS. Adequate sensor uptime.
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	82% of AWS & ARS climate data available on National Climate Database meeting minimum data requirements
<b>Indicator Responsibility</b>	Senior Manager: Climate Services

<b>Indicator Title</b>	Percentage of local expenditure on affirmative procurement (Level 1 to 4)
<b>Definition</b>	Indicator measures the total affirmative procurement from BEE levels 1 to 4 suppliers as a percentage of the total expenditure from local suppliers
<b>Source of data</b>	Accounting Software (ERP)
<b>Method of Calculation / Assessment</b>	Quantitative: Total of procurement from BEE Level 1 - 4 suppliers as a percentage of the total procurement from local suppliers
<b>Means of verification</b>	Quarterly procurement report
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	70% local expenditure on affirmative procurement (Level 1 to 4)
<b>Indicator Responsibility</b>	Senior Manager: Supply Chain Management



<b>Indicator Title</b>	Level of B-BBEE rating
<b>Definition</b>	A measure of the B-BBEE level of the organisation
<b>Source of data</b>	B-BBEE Certificate
<b>Method of Calculation / Assessment</b>	Qualitative: B-BBEE verification report
<b>Means of verification</b>	B-BBEE Certificate
<b>Assumptions</b>	Availability of required documentation for the measurement elements
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Annual
<b>Desired performance</b>	Level 5 B-BBEE rating
<b>Indicator Responsibility</b>	Senior Manager: Governance, Risk and Compliance

<b>Indicator Title</b>	Unregulated commercial revenue generated
<b>Definition</b>	Commercial revenue (non-regulated) for the financial period
<b>Source of data</b>	NetSuite, Revenue and Pricing Models
<b>Method of Calculation / Assessment</b>	Quantitative: Non-regulated Revenue from financial reports
<b>Means of verification</b>	Financial Management Reports and Audited Financials
<b>Assumptions</b>	Quality (accuracy and completeness) as well as availability of the data
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	R44.2 mil unregulated commercial revenue generated
<b>Indicator Responsibility</b>	Senior Manager: Business Development



<b>Indicator Title</b>	External audit opinion
<b>Definition</b>	Measures the effectiveness of developed and implemented internal controls for effective and efficient financial management and organisational performance management. Ensure compliance with relevant laws and regulations to achieve an unqualified audit opinion.
<b>Source of data</b>	Audit Report of the Auditor-General of South Africa
<b>Method of Calculation / Assessment</b>	Qualitative: Opinion of the Auditor-General of South Africa
<b>Means of verification</b>	Audit Report of the Auditor-General of South Africa
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Annual
<b>Desired performance</b>	Unqualified external audit opinion
<b>Indicator Responsibility</b>	CFO

<b>Indicator Title</b>	Percentage of attrition rate
<b>Definition</b>	Rate at which employees leave the workforce through resignations and dismissals over a period. This excludes terminations due to end of internships/learnerships, fixed-term contracts and death.
<b>Source of data</b>	HR employee records
<b>Method of Calculation / Assessment</b>	Quantitative: $(\text{Terminations} \div \text{Average number of employees over the period}) \times 100$
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	None
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	≤8% attrition rate
<b>Indicator Responsibility</b>	Senior Manager: Human Resources



<b>Indicator Title</b>	Percentage of Workplace Skills Plan targets met
<b>Definition</b>	Refers to the planned skills programmes that will be executed in the financial year for a targeted number of employees
<b>Source of data</b>	Employee Personal Development Plans, Learning and Development Report
<b>Method of Calculation / Assessment</b>	Quantitative: $(\frac{\text{The number of people trained}}{\text{the number of people planned to train}} \times 100)$
<b>Means of verification</b>	Quarterly WSP Report and proof of training
<b>Assumptions</b>	All training needs are identified
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Cumulative (year-to-date)
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	75% Workplace Skills Plan targets met
<b>Indicator Responsibility</b>	Specialist: Talent Management

<b>Indicator Title</b>	Percentage compliance to Employment Equity on women in management
<b>Definition</b>	Ratio of women in management and leadership positions within SAWS (Management Positions as per EEA)
<b>Source of data</b>	HR employee records
<b>Method of Calculation or Assessment</b>	Quantitative: $(\frac{\text{Number of women employees in management positions}}{\text{Total number employees in management at end of period}} \times 100)$
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	Women are prioritised for All vacant management positions
<b>Disaggregation of Beneficiaries</b>	Women
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	40% compliance to Employment Equity on women in management
<b>Indicator Responsibility</b>	Senior Manager: Human Resources



<b>Indicator Title</b>	Percentage compliance to Employment Equity on Persons Living with Disabilities
<b>Definition</b>	Ratio of persons living with disability within SAWS (Disability as defined by the EEA)
<b>Source of data</b>	HR employee records
<b>Method of Calculation or Assessment</b>	Quantitative: (Number of employees living with disabilities ÷ Total number of employees at end of period x 100)
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	<ul style="list-style-type: none"> <li>• Employees/ candidates declare their disability(ies)</li> <li>• Designate/identify suitable positions deemed are appropriate for persons living with disability(ies)</li> <li>• Appetite for persons living with disability(ies) to apply</li> </ul>
<b>Disaggregation of Beneficiaries</b>	Persons living with disabilities
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	2% compliance to Employment Equity on Persons Living with Disabilities
<b>Indicator Responsibility</b>	Senior Manager: Human Resources

<b>Indicator Title</b>	Number of youths in internship and learnership
<b>Definition</b>	Number of youths appointed for Meteorological Technician learnership and Forecasting internship
<b>Source of data</b>	Employee records and Learning and Development records
<b>Method of Calculation or Assessment</b>	Quantitative: Number of appointed learners and interns at end of reporting period
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	<ul style="list-style-type: none"> <li>• Enough funding from TETA</li> <li>• Willingness for training providers and learners to enter into agreements</li> </ul>
<b>Disaggregation of Beneficiaries</b>	Unemployed graduates and youth of South Africa
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	10 youths in internship and learnership
<b>Indicator Responsibility</b>	Specialist: Talent Management



<b>Indicator Title</b>	Number of placements in work-integrated learning
<b>Definition</b>	Number learners placed as work-integrated learners (WIL)
<b>Source of data</b>	Employee records and Learning and Development records
<b>Method of Calculation or Assessment</b>	Quantitative: Number of appointed work-integrated learners at end of reporting period
<b>Means of verification</b>	Quarterly Report
<b>Assumptions</b>	There is appetite and reasonable accommodation for persons living with disability(ies)
<b>Disaggregation of Beneficiaries</b>	Learners currently studying and learners living with a disability
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	5 placements in work-integrated learning; 3 being persons living with disabilities
<b>Indicator Responsibility</b>	Specialist: Talent Management

<b>Indicator Title</b>	Number of positioning and profiling programmes conducted locally and internationally
<b>Definition</b>	To position SAWS product and services to all weather consumers
<b>Source of data</b>	Integrated Communication, Marketing and Stakeholder Relations Strategy
<b>Method of Calculation or Assessment</b>	Quantitative: Actual number of positioning and profiling programmes conducted both locally and internationally
<b>Means of verification</b>	Reports on the positioning and profiling programmes per quarter
<b>Assumptions</b>	Minimal Business disruptions
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	14 positioning and profiling programmes conducted locally and internationally
<b>Indicator Responsibility</b>	Senior Manager: Communications and Stakeholder Relations





<b>Indicator Title</b>	Number of public awareness programmes conducted
<b>Definition</b>	To create and maintain awareness on SAWS the brand, product and services to all weather consumers
<b>Source of data</b>	Integrated Communication, Marketing and Stakeholder Relations Strategy
<b>Method of Calculation or Assessment</b>	Quantitative: Actual number of public awareness programmes conducted
<b>Means of verification</b>	Reports on public awareness programmes implemented per quarter
<b>Assumptions</b>	Minimal business disruptions due to COVID-19
<b>Disaggregation of Beneficiaries</b>	Women, Youth, Persons living with disabilities
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	18 public awareness programmes conducted
<b>Indicator Responsibility</b>	Senior Manager: Communications and Stakeholder Relations

<b>Indicator Title</b>	Number of collaborations through partnerships implemented locally and internationally
<b>Definition</b>	To create and maintain beneficial and implementable collaborations through partnerships for SAWS
<b>Source of data</b>	Integrated Communication, Marketing and Stakeholder Relations Strategy
<b>Method of Calculation or Assessment</b>	Quantitative: Actual number of collaborations through partnerships programmes implemented
<b>Means of verification</b>	Actual collaborations through partnerships programmes implemented
<b>Assumptions</b>	Business disruptions due to COVID-19
<b>Disaggregation of Beneficiaries</b>	N/A
<b>Spatial Transformation</b>	N/A
<b>Calculation type</b>	Non-cumulative
<b>Reporting cycle</b>	Quarterly
<b>Desired performance</b>	11 collaborations through partnerships implemented locally and internationally
<b>Indicator Responsibility</b>	Senior Manager: Communications and Stakeholder Relations



## **South African Weather Service**

Eco Glades Block 1B, Eco Park,  
Cnr Olievenhoutbosch and Ribbon Grass Streets,  
Centurion, 0157  
Private Bag X097, Pretoria, 0001

Telephone: 012 367 6000  
[www.weathersa.co.za](http://www.weathersa.co.za)  
Weatherline: Dial \*120\*7297#  
Follow us on Twitter: @SAWeatherServic