

South Africa observation networks and progress on establishment Regional WIGOS Centre (RWC) in South Africa

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WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

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Overview of South Africa and the South Africa Weather Service (SAWS)

- South Africa is the southern most country in Africa with the coast-line of approximately 2798km stretching along the South Atlantic and Indian Oceans.
- To the north its neighboring countries are Namibia, Botswana, and Zimbabwe; and to the east and northeast neighboring countries are Mozambique and Eswatini (Swaziland). RSA surrounds the enclaved country of Lesotho.
- Population is approximately 58 million people.
- The Country has three (3) Capital Cities, Cape Town being the legislative capital, Pretoria being the administrative Capital and Bloemfontein being the judicial Capital
- South Africa lies between latitudes 22° and 35°S, and longitudes 16° and 33°E.
- Country is mostly flat except for the eastern escarpment, with Drakensberg to the east and the south most attraction being the Table Mountain.

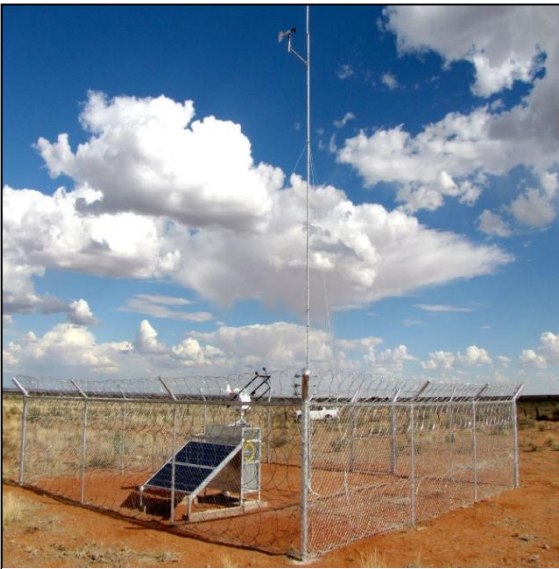


Overview of South Africa and the South Africa Weather Service (SAWS)(Cont.)

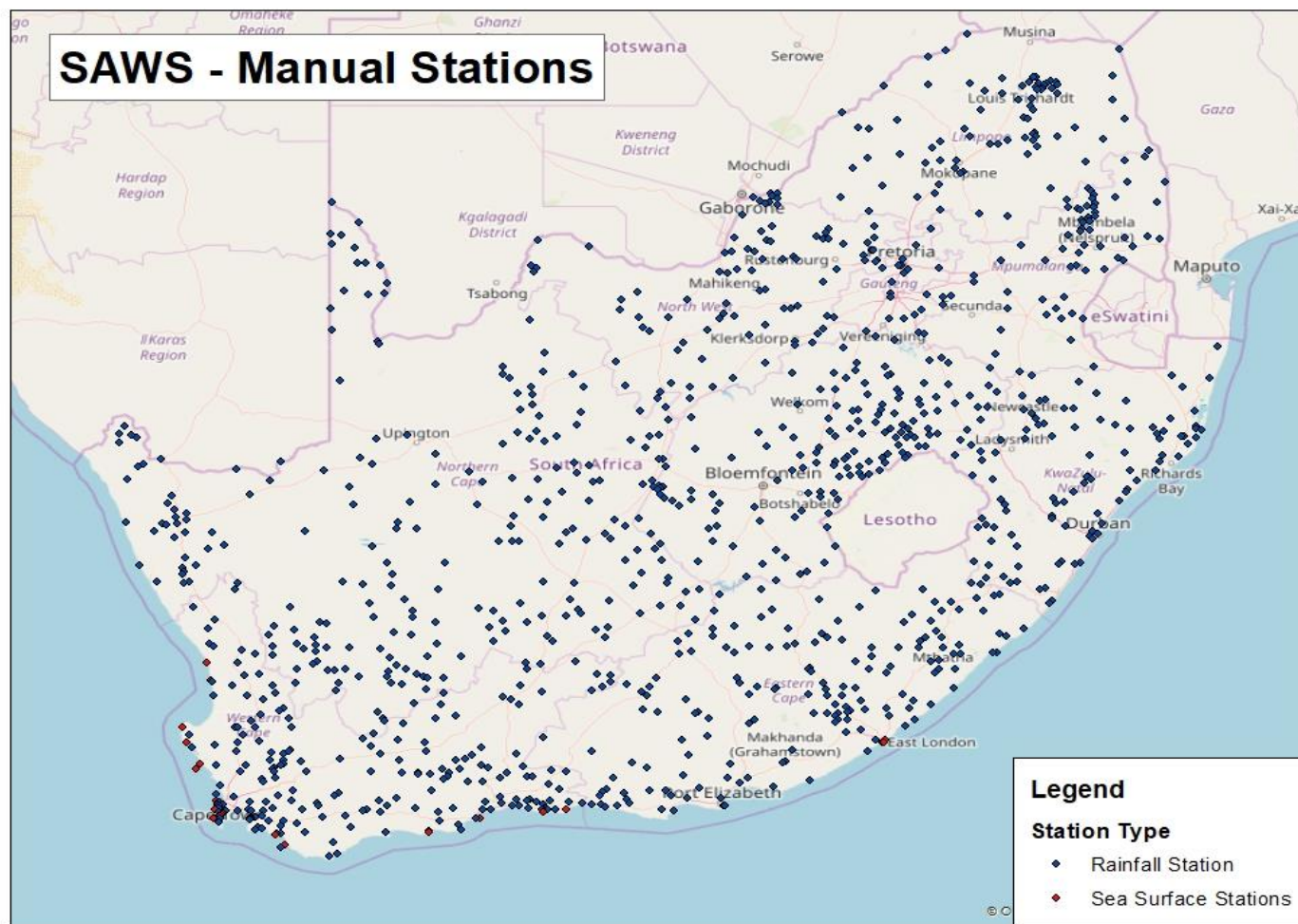
- SAWS derives its mandate from the South African Weather Service Act, Act No. 8 of 2001, as amended through the SAWS Amendment Act, Act No. 48 of 2013, to provide:
 - reliable weather services to support public good and its commercial ventures.
 - aeronautical and marine meteorological services
 - ambient air quality services
- The South African Weather Service maintains 23 regional offices.
- The head office is in Centurion, Pretoria and it serves as the nerve centre for data transmission for the southern half of Africa. (GISC-Global Information System Centre for WMO WIS)
- All regional office are responsible for synoptic, aviation and climatic weather observations.
- Head office also host research, Technical service, Administration and air quality departments.
- Four of the regional offices also performs weather forecasting services for aviation and public.
- SAWS Staff complement is just over 400 employees.



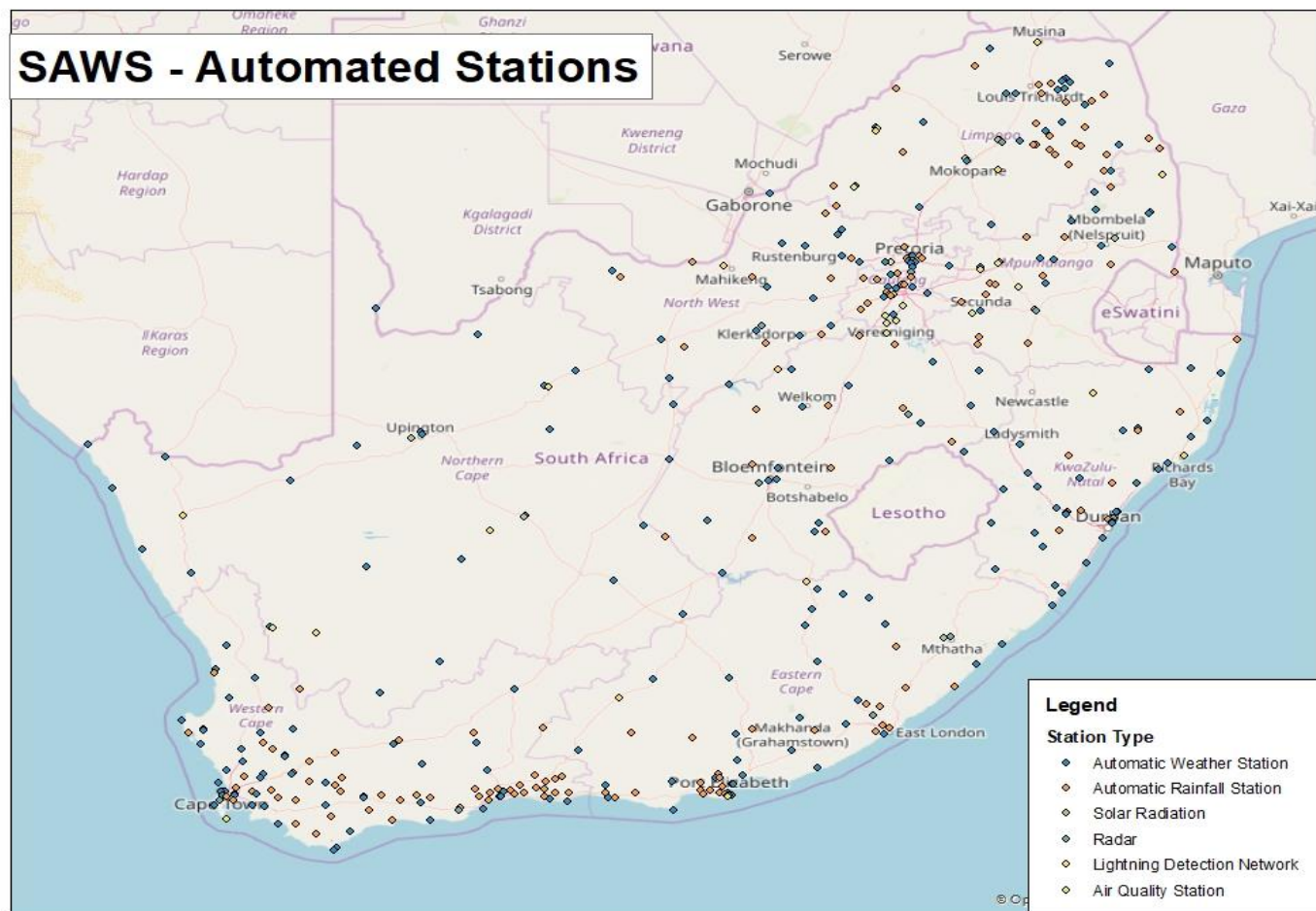
Current national observing capabilities



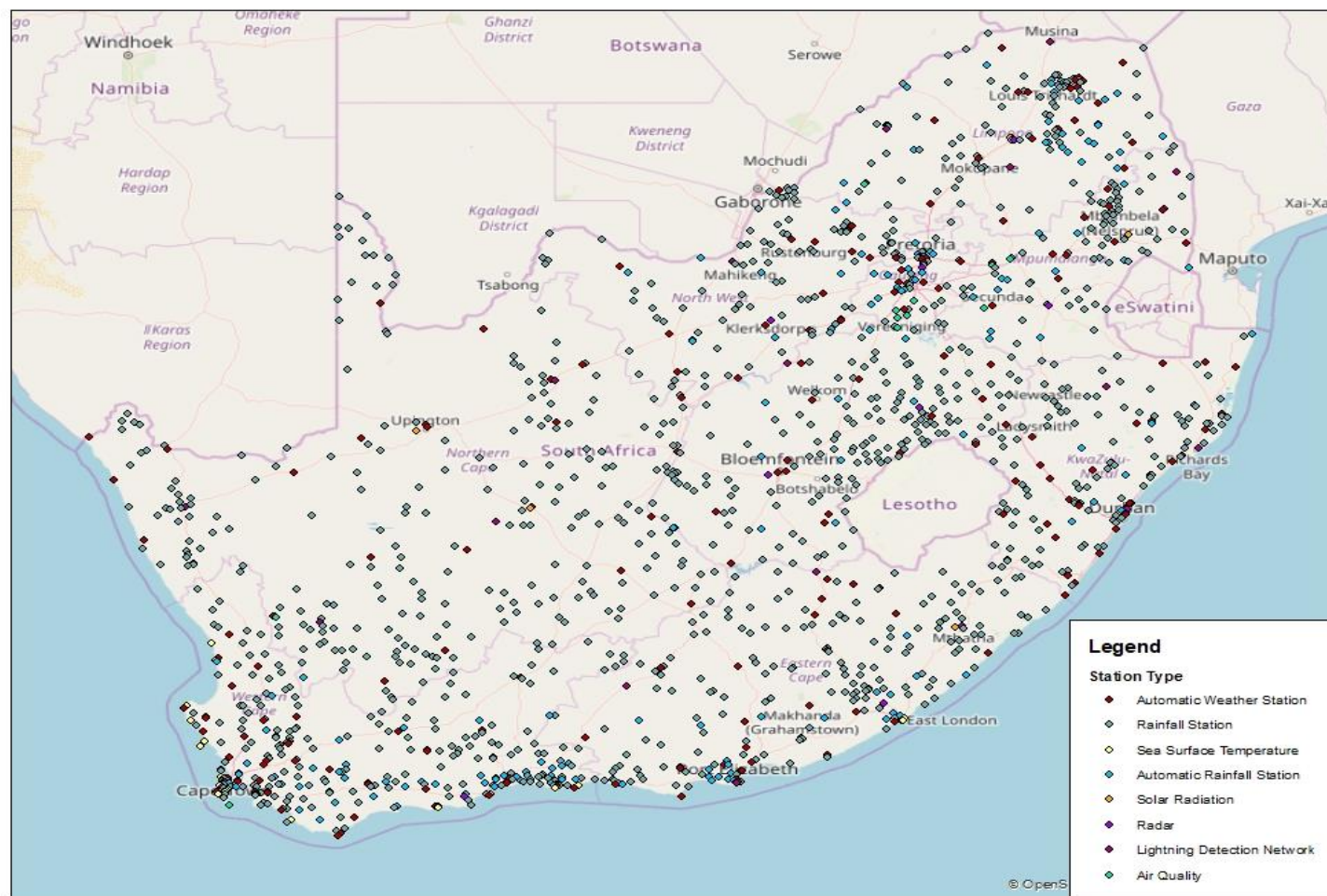
Current national observing capabilities



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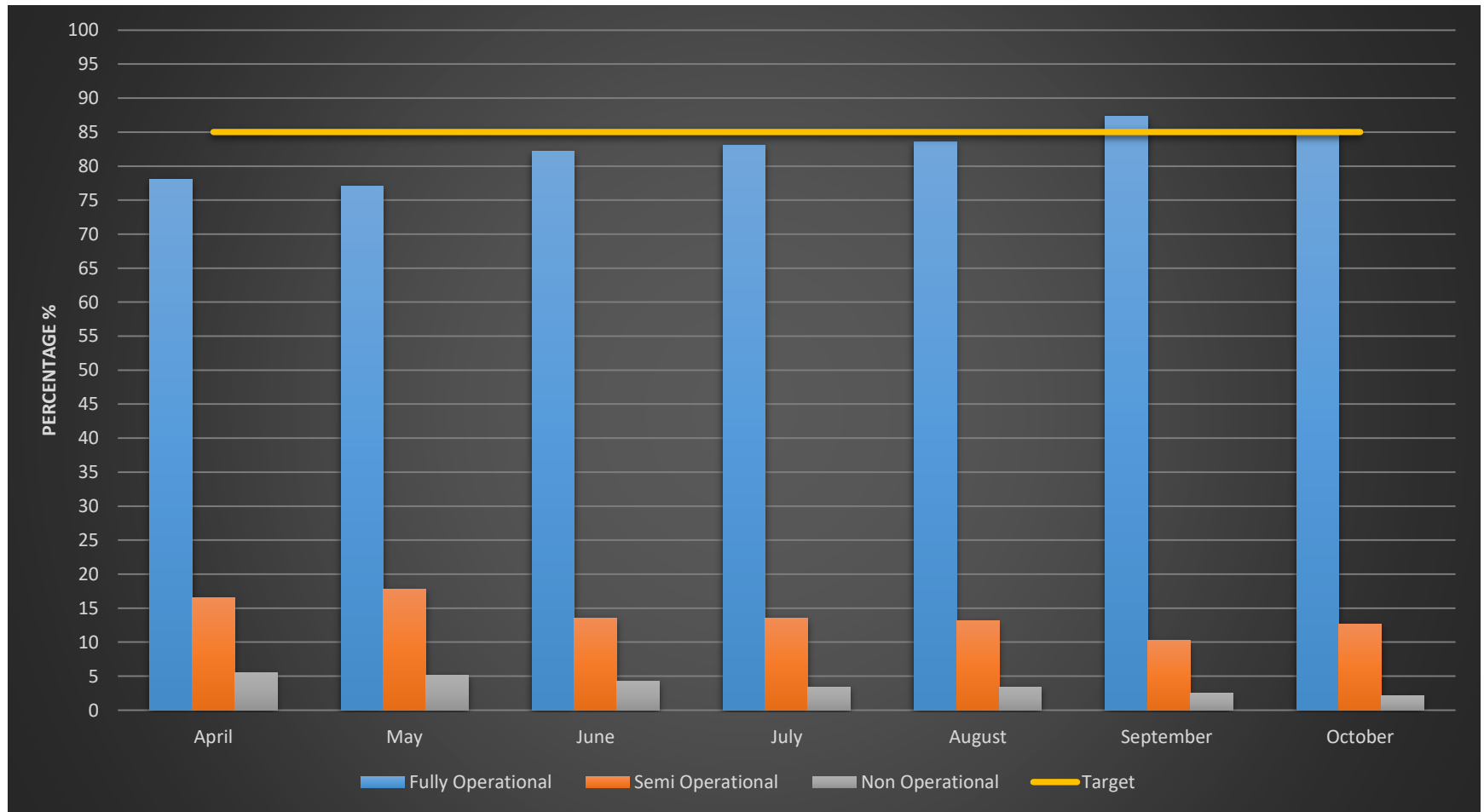


Summary of Current national observing capabilities

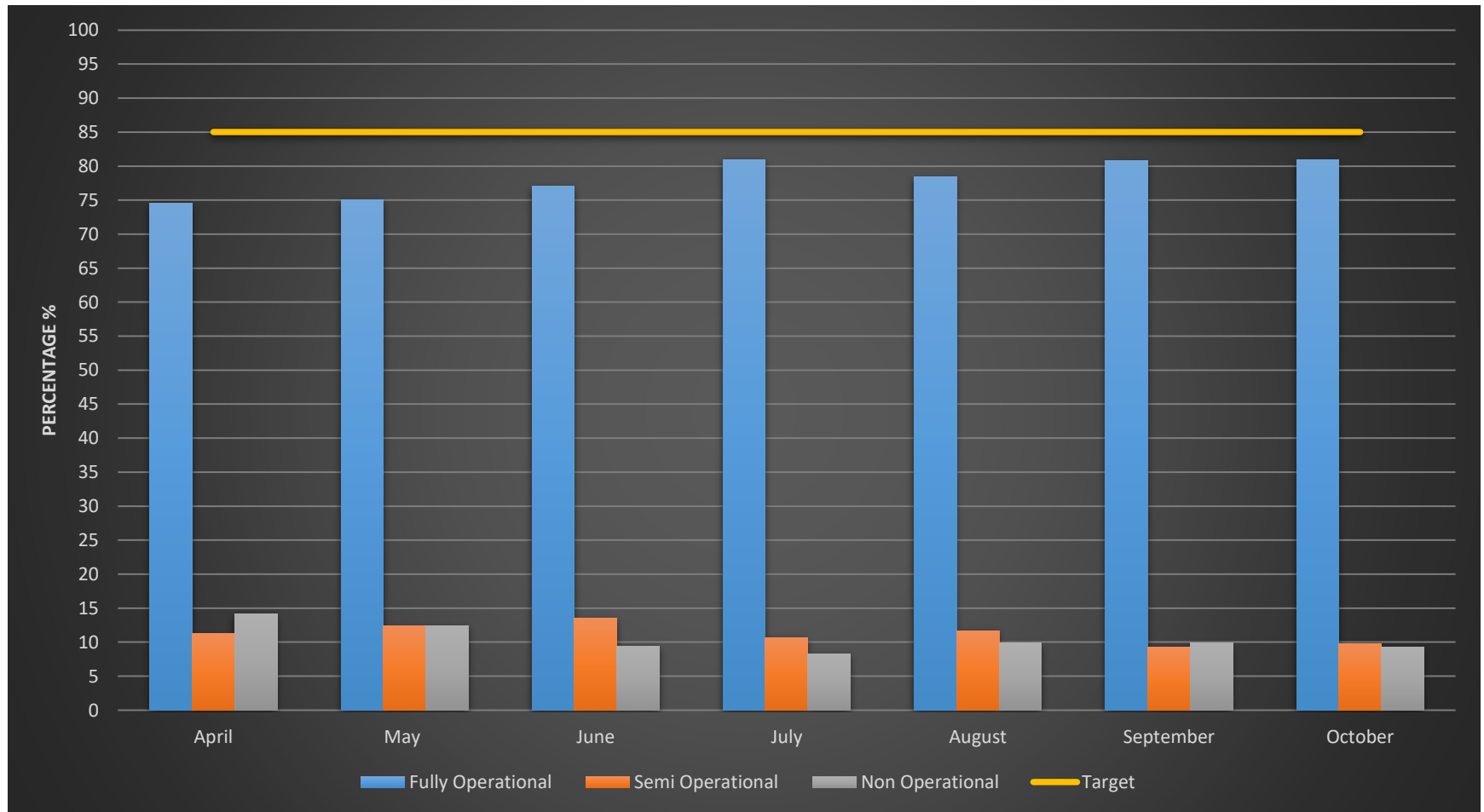
| Operational stations | South African Weather Service | Agricultural Research Council | Dept. of Water and Sanitation |
|---|-------------------------------|-------------------------------|-------------------------------|
| Surface observation stations - Automatic Weather Stations (AWS) | 236 | 537 | |
| Automatic Rainfall Stations (ARS)- Rainfall only | 173 | | 275 |
| Precipitation stations (Manual-Volunteer Observers) | 1087 | | |
| Upper-air/radiosonde stations | 10 | | |
| Weather Radars | 14 | | |
| Lightning detection network | 24 | | |
| Hydrological Stations (Streamflow - only) | | | 550 |
| Dam Level Monitoring Stations | | | 220 |
| Sea surface temperature stations | 23 | | |
| Air quality stations | 17 | | |
| Solar Radiation | 13 | | |
| Ozone Station | 2 | | |



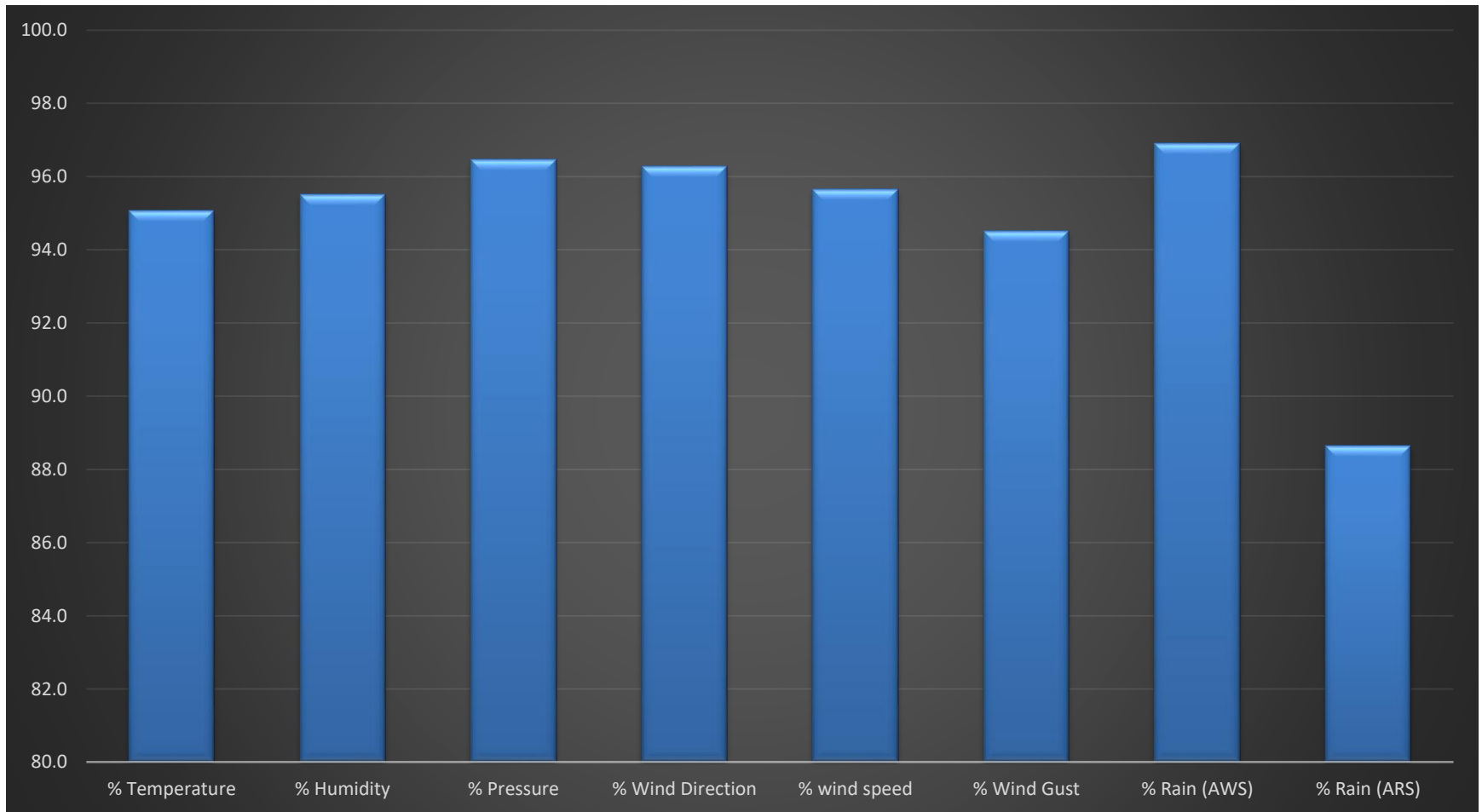
AWS SYSTEM AVAILABILITY



ARS SYSTEMS AVAILABILITY



DATA AVAILABILITY



Current national observing capabilities

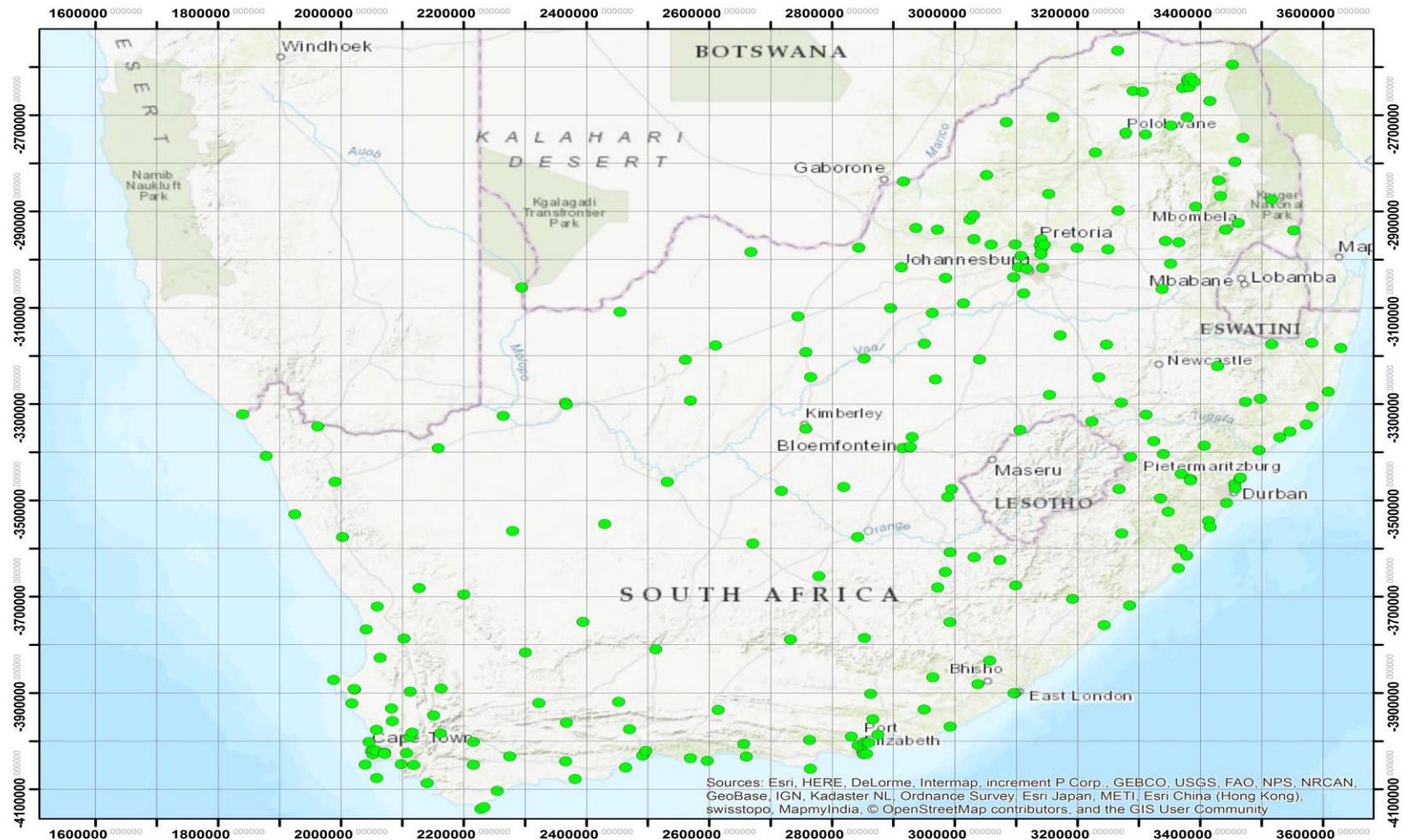
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- I. Known issues and major challenges
 - I. SAWS is not yet transmitting its data through the latest BUFR format for surface observation, however upper air data is being transmitted using the latest BUFR version.
 - II. The cost of consumable for upper air observations affects meeting the minimum requirement of performing two ascent , however all SAWS upper air site are operational.

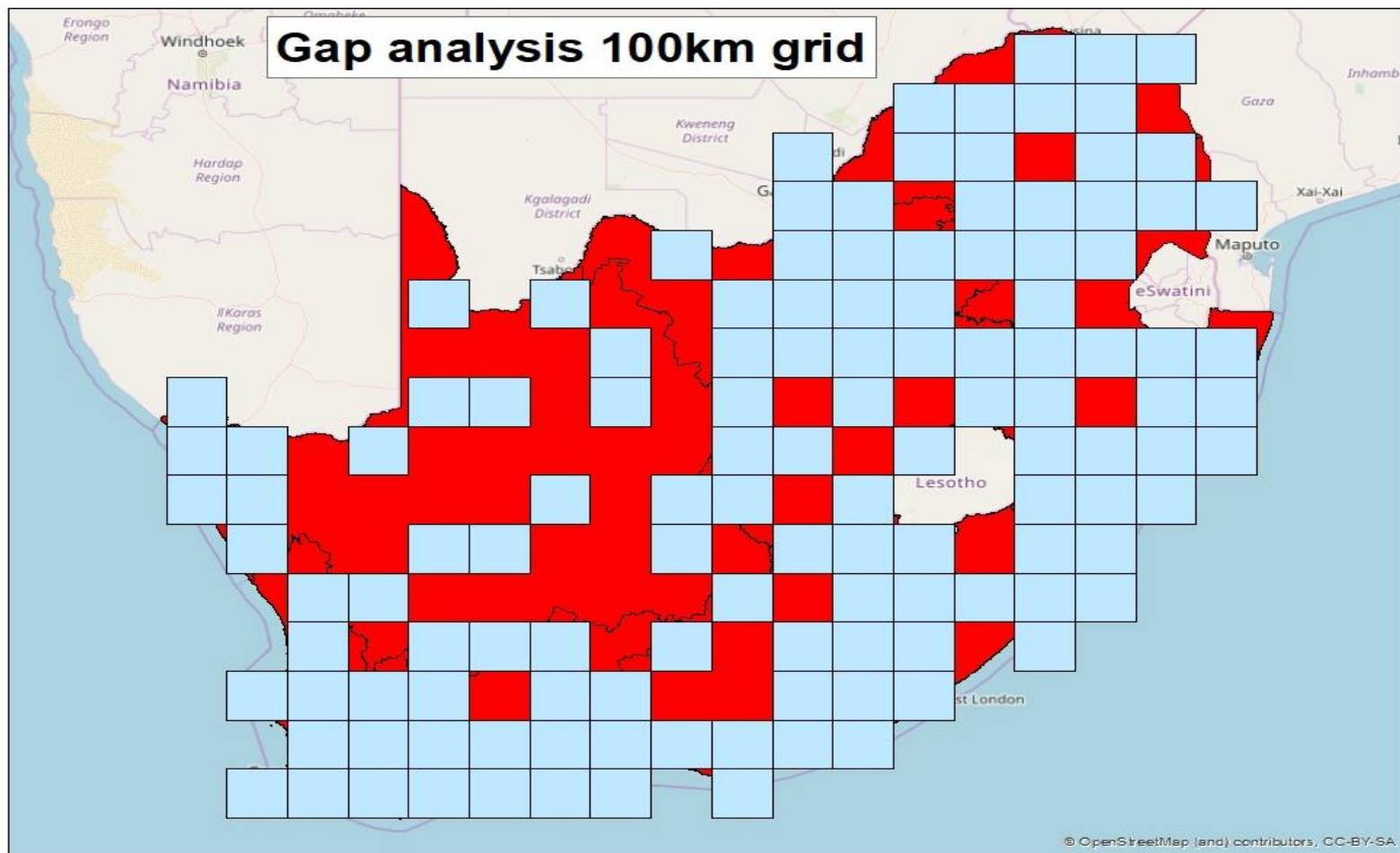
Existing plans for any future changes to the networks

- I. Spatial data coverage is being investigated with view of engaging with other national players in addressing identified gaps. (GBON requirement)
- II. Converting the entire national observation to electronic/automated stations is at an advanced stage.
- III. Many rainfall station are still manned by voluntary observers.
- IV. SAWS has a modernisation plan that seek to convert all manual station to electronic stations.

Plans to comply with GBON for surface observations



Plans to comply with GBON for surface observations



Other remarks

- I. SAWS applied to serve as the RWC for the Southern most Countries within RA I.
 - I. Two Technical personnel were nominated from operational staff to support the RWC operations.
 - II. Basic infrastructure to support the RWC operation is in place.

Thank you

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