



SAEON
South African Environmental
Observation Network

Advancing sustainable development through collaboration: the role of SAEON

NEOSS CoP Workshop
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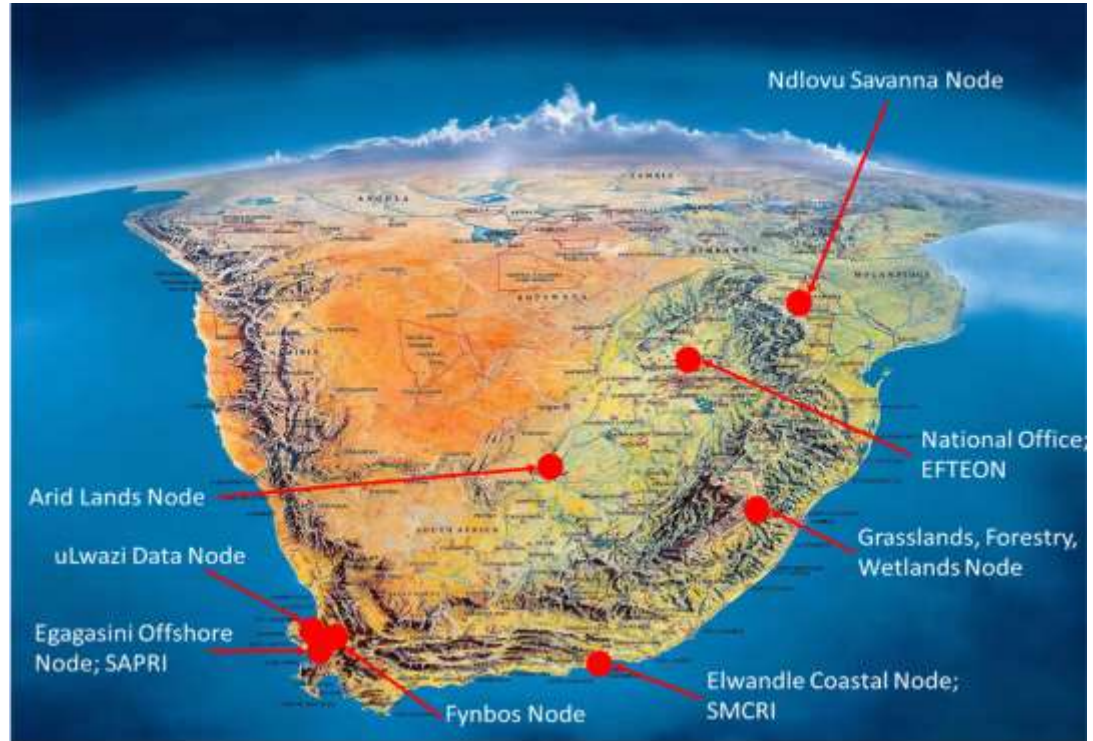
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South African Environmental Observation Network

- Established in 2002 within the National Research Foundation (NRF)
- Vision “*Environmental research platforms for a sustainable society*”
- A dedicated institution for enabling long-term, *in situ* **Global Change** research
- 7 Nodes: 4 focused terrestrial sciences, 2 on marine sciences, and 1 on data and infrastructure
- 3 Research Infrastructures: EFTEON, SMCRI and SAPRI



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Scientific approach and areas of operation

- SAEON and its Research Infrastructure sites enable detailed long-term research within defined geographic locations
- The intention is not a national footprint but rather detailed case studies in representative areas
- Valuable for calibration of remote sensing products
- Scale in terrestrial systems is more discrete than the scale of observation in the marine system
- Measurements co-located where possible to enable integration between biodiversity, biogeochemical and meteorological and hydrological (includes water, energy and carbon fluxes) variables.
- Research and collaboration enabled by Open Data Policy



Prince Edward Islands and Antarctica



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SAEON science engagement programme



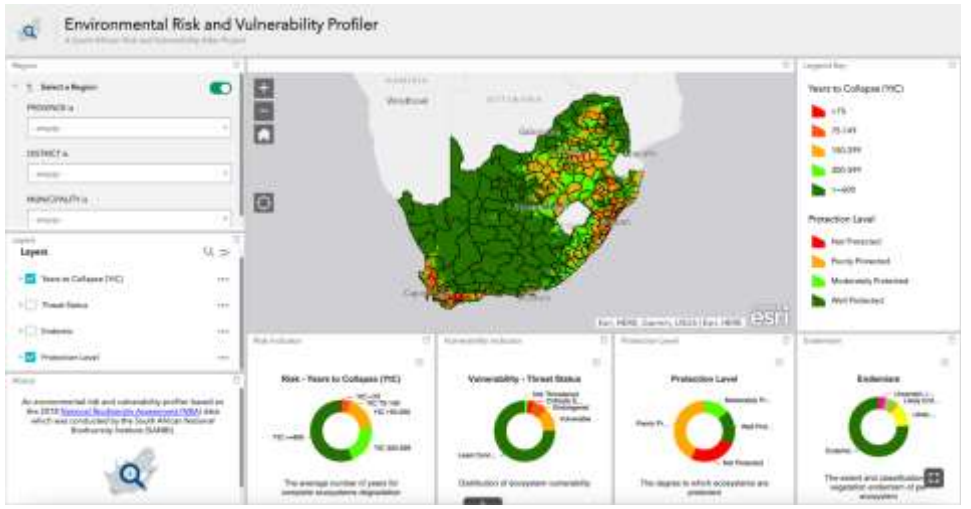
SAEON Open Data Platform: Products and services to enable decision support



Data Catalogue
<https://catalogue.saeon.ac.za/>



Indicator Dashboards



Data visualisation capabilities: atlases, dashboards, risk profilers



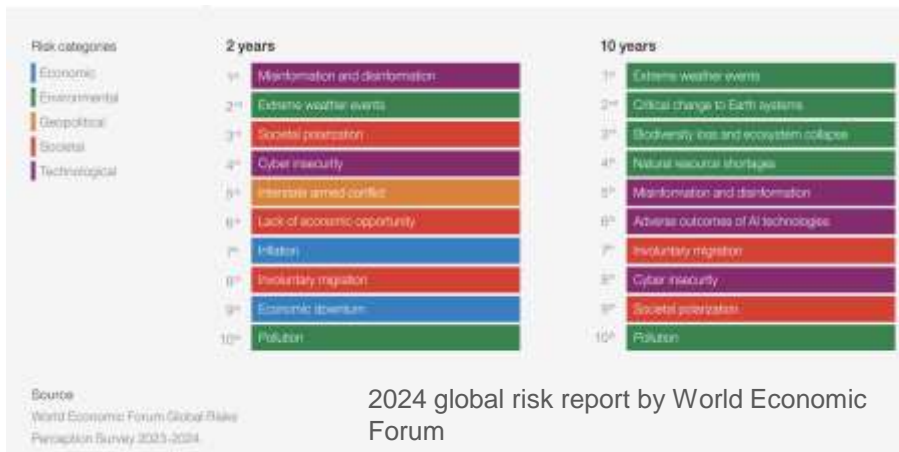
SAEON data centre certified by the CoreTrustSeal

Trust and Sustainability

System engineering process is usually based on developing independent, scalable and interoperable components. Using existing tools (where possible) lowers development and maintenance costs in the long run



SARVA: Facilitating the interpretation of global change data



2024 global risk report by World Economic Forum

- The South African Risk and Vulnerability Atlas (SARVA) was established in 2008 as part of DSI's **10-year Global Change Grand Challenge**.
- Currently hosted by the NRF-SAEON uLwazi Node
- Open data access and the development of decision-support tools.
- Platform to preserve and provide access to global risk data for South Africa.

<https://sarva.saeon.ac.za/>

- South Africa not spared
- SARVA to assist with decision making in dealing with issues such as





5,537
Open Datasets



3
Risk Profiles



53
Vulnerability Indicators

External infrastructure integration for enhanced visibility



WMO Information System

GOSS Portal



Currently Operational

Facilitated by open data policies and standards

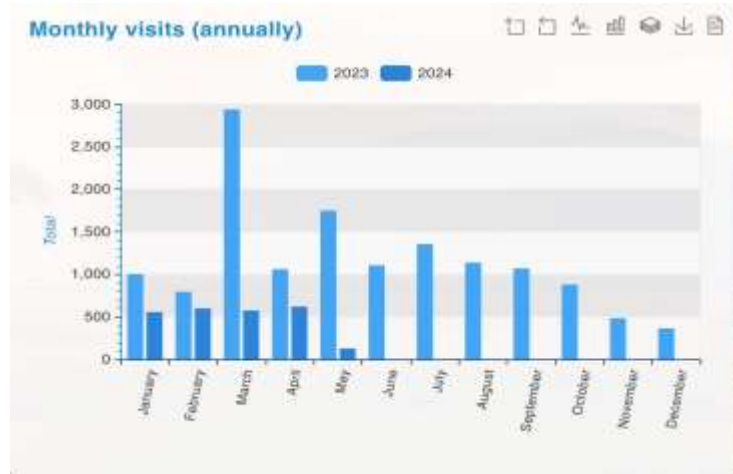
Planned: based on current engagements and collaborations

Monitoring: usage metrics

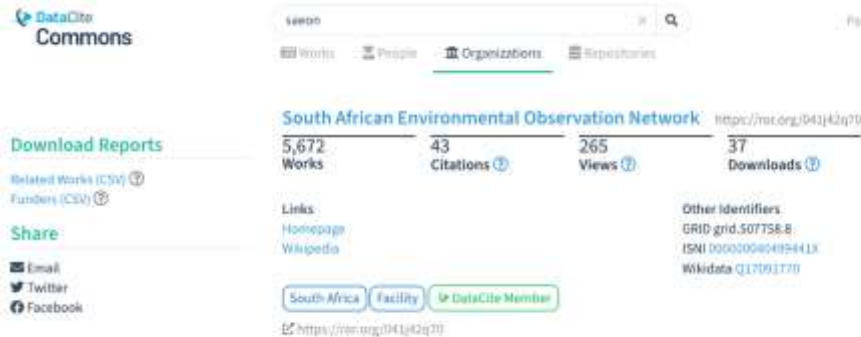
SAEON users



Geographic location



Monthly visits and comparison with previous logs



DataCite Commons

saeon

Works: 5,672 | Citations: 43 | Views: 265 | Downloads: 37

South African Environmental Observation Network <https://ror.org/04142q770>

Links: Homepage, Wikipedia

Other Identifiers: GRID grid.507758.8, ISNI 000000040499441X, Wikidata Q17091770

South Africa | Facility | DataCite Member

5,672 Works

Data Metrics:

- Over 5600 DOIs issued
- Views, downloads, citations



Technical team comprises 4 focus areas



Infrastructure Management

A team managing ICT platforms hosted in Cape Town, Gqebera and Pretoria



Data Curation

Responsible for data standardisation and publication, including data governance processes and sustainability metrics for SAEON's data infrastructure.



Systems Development

Responsible for overall system architecture of the SAEON Open Data Platform



Data Science

Conceptualisation, design, and development of data products to assist with the interpretation of data and its translation into knowledge



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Technology components



Data formats:

NetCDF
GeoTiff
Shapefiles
CSV

...

Standard data services

OGC (WMS,
...)
OpenDAP

...



Thank you

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Map: <https://goo.gl/maps/aopjjsJgX4o>

Website: <https://ulwazi.saeon.ac.za/>