

# SASSCAL WeatherNet to support regional weather monitoring and climate-related research in Southern Africa

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## Introduction

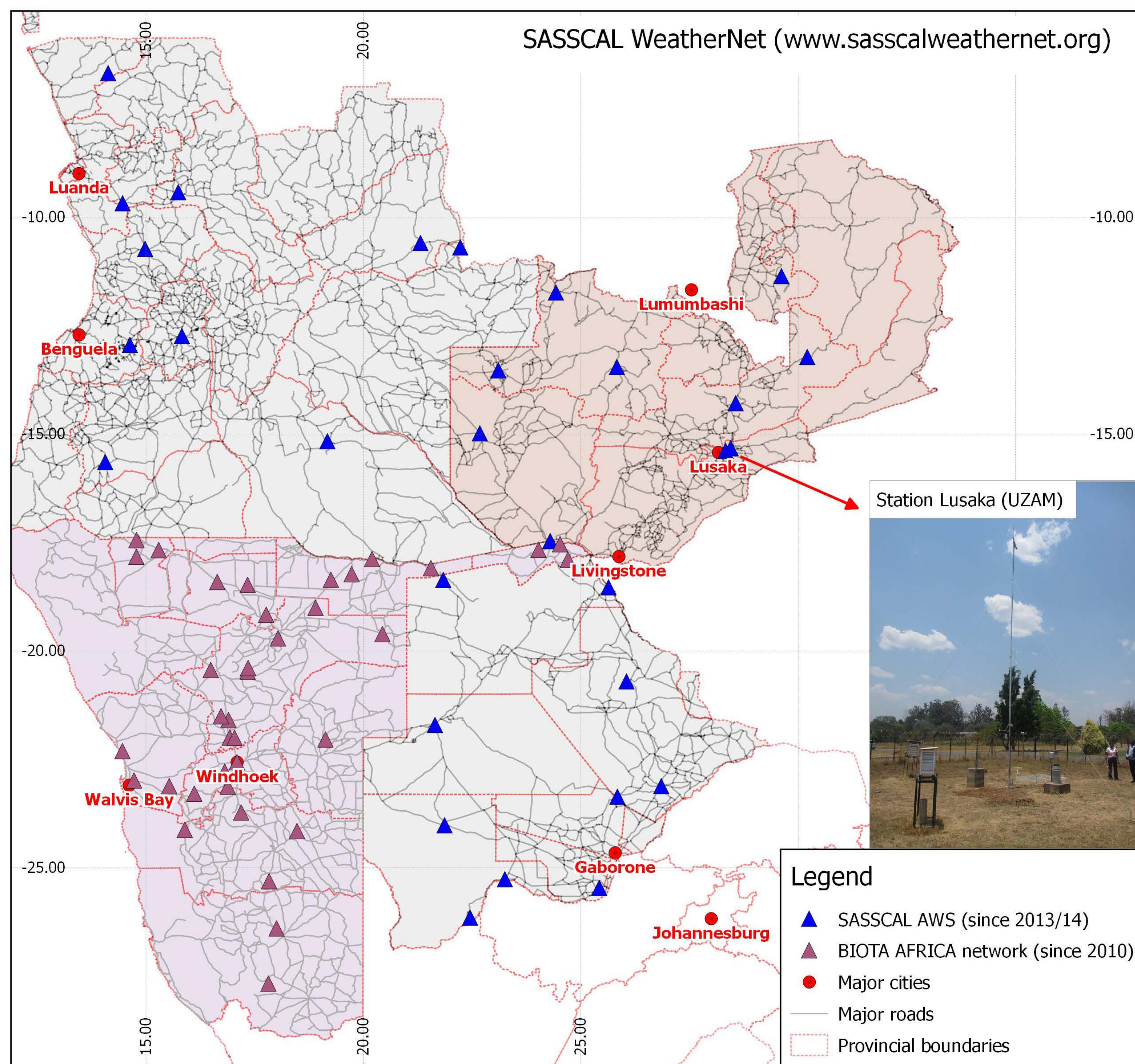
Considering projected climate scenarios and socio-economic development for sub-Saharan Africa, the overall challenge in the southern African region is to secure water at sufficient quality and quantity for both, the stability of ecosystems with their functions and services as well as for human well-being. Many countries of southern Africa face inadequate weather monitoring networks to provide reliable information for the development of efficient management strategies for sustainable water and land resources management, drought and flood risk analysis and forecasts as well as climate change impacts assessments.

For example, large areas in Angola, Botswana and Zambia are barely monitored, thus, there is a strong need to improve existing national

weather monitoring networks in order to provide reliable, consistent and up-to-date information for research, decision making authorities, stakeholders and the wider public.

As a joint effort of Angola, Botswana, Germany, Namibia, South Africa and Zambia, the SASSCAL Initiative (Southern African Science Service Centre for Climate Change and Adaptive Land Management; [www.sasscal.org](http://www.sasscal.org)) addresses this deficit and extends existing national monitoring networks in order to provide a consistent data set at regional scale. Funded by the German Federal Ministry of Education and Research (BMBF), altogether 67 weather stations of the SASSCAL WeatherNet provide accessible near-real time data of major climatological variables as well as up-to-date statistics for the SASSCAL region.

## SASSCAL WeatherNet: Station network



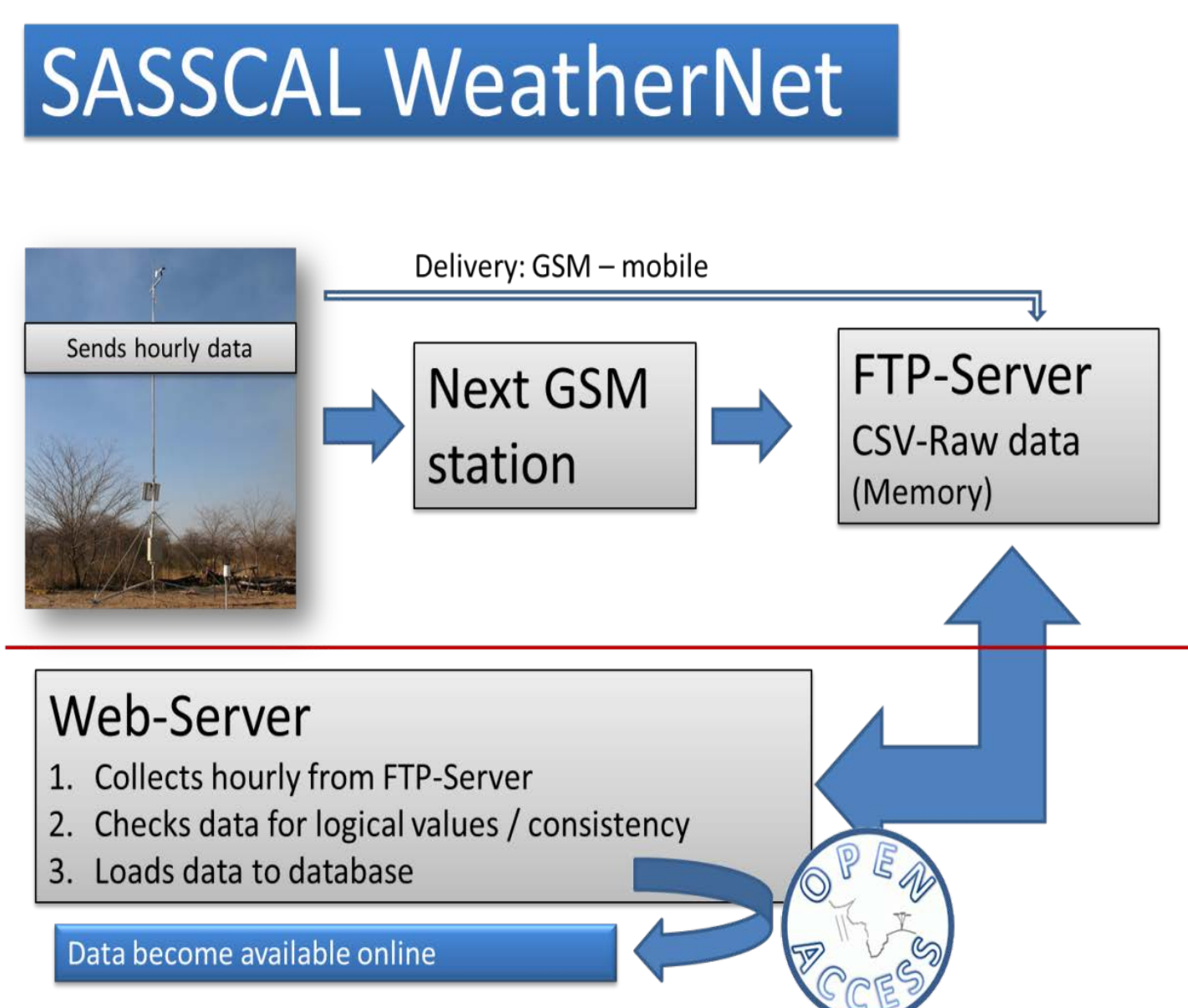
- Installation and operation of 30 AWS in 2013 (WMO standard)
- Recording rainfall, air temp, solar radiation, pressure, relative humidity, wind speed/direction, soil temperature (+ optional)
- Resolution: 15-mins, hourly intervals, daily, monthly

## WeatherNet website: [www.sasscalweathernet.org](http://www.sasscalweathernet.org)

- station overview with up-to-date rainfall/temperature (a)
- station information sheet incl. position, google earth link, sensor setup, installation date (b)
- e-mail-based daily weather report, 70 users (c)
- near real-time data (hourly) (d)
- daily and ten days rainfall summaries (d)
- export functions (e,f)
- various statistics for selected variables like e.g. diagrams for selected variables (e,f)

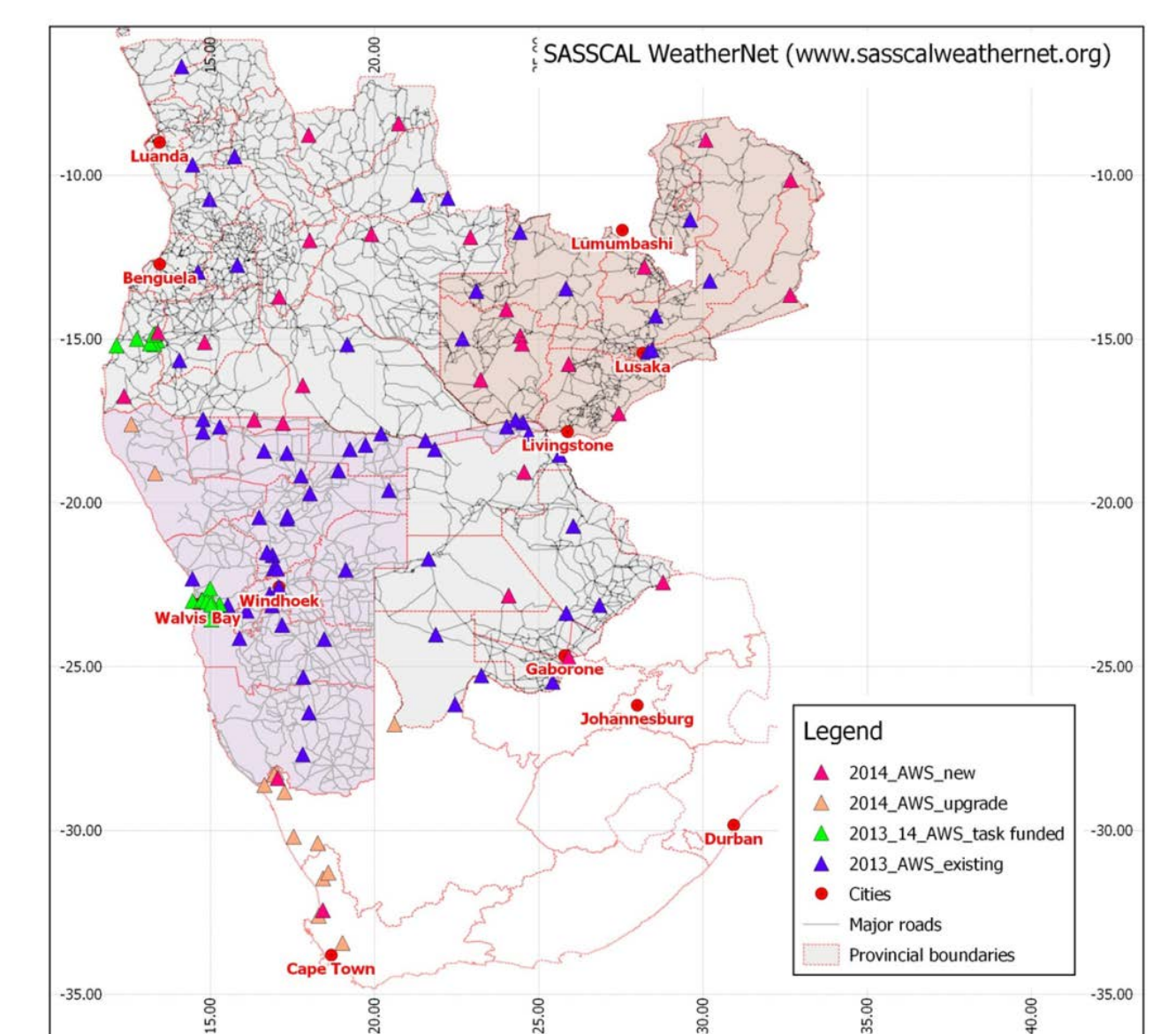
## Data transmission/access

- 3 different transmission systems (provider-dependending)
- basic setup (GSM/GPRS)
- near real-time data transmission and web upload (15 mins, hourly)
- data repositories/backups at each national weather service and SASSCAL
- Open access



## Conclusion and outlook

In total, 67 weather stations of the SASSCAL WeatherNet provide accessible near-real time data of major climatological variables and up-to-date statistics for the SASSCAL region. In 2014, the SASSCAL WeatherNet will be completed by additional 30-50 stations in selected areas of the region, some of them with satellite-based data transmission.



## Funded by



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