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Southern African Science Service Centre for Climate Change and Adaptive Land Management

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SAEON Carbon Flux Workshop

11/09/ 2018

Towards an integrated pan-African research infrastructure network for long-term GHG monitoring

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SASSCAL / Trinity College Dublin
SEACRIFOG Project

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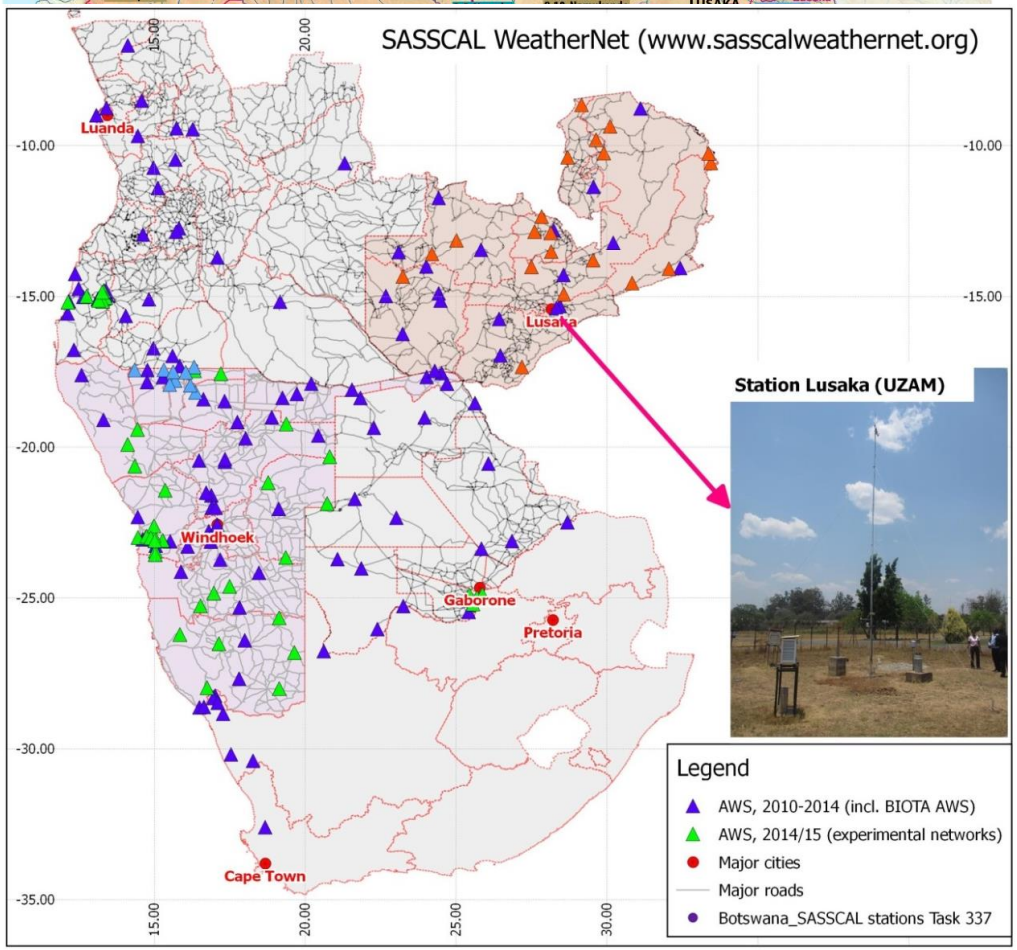

- Regional organization to build capacities and facilitate research on climate change and related environmental changes in Southern Africa
- Member countries: Angola, Botswana, Germany, Namibia, South Africa, Zambia
- Seed funding from German Ministry of Education and Research
- Pillars of Activity:
  - Research
  - Capacity Building
  - Products and Services

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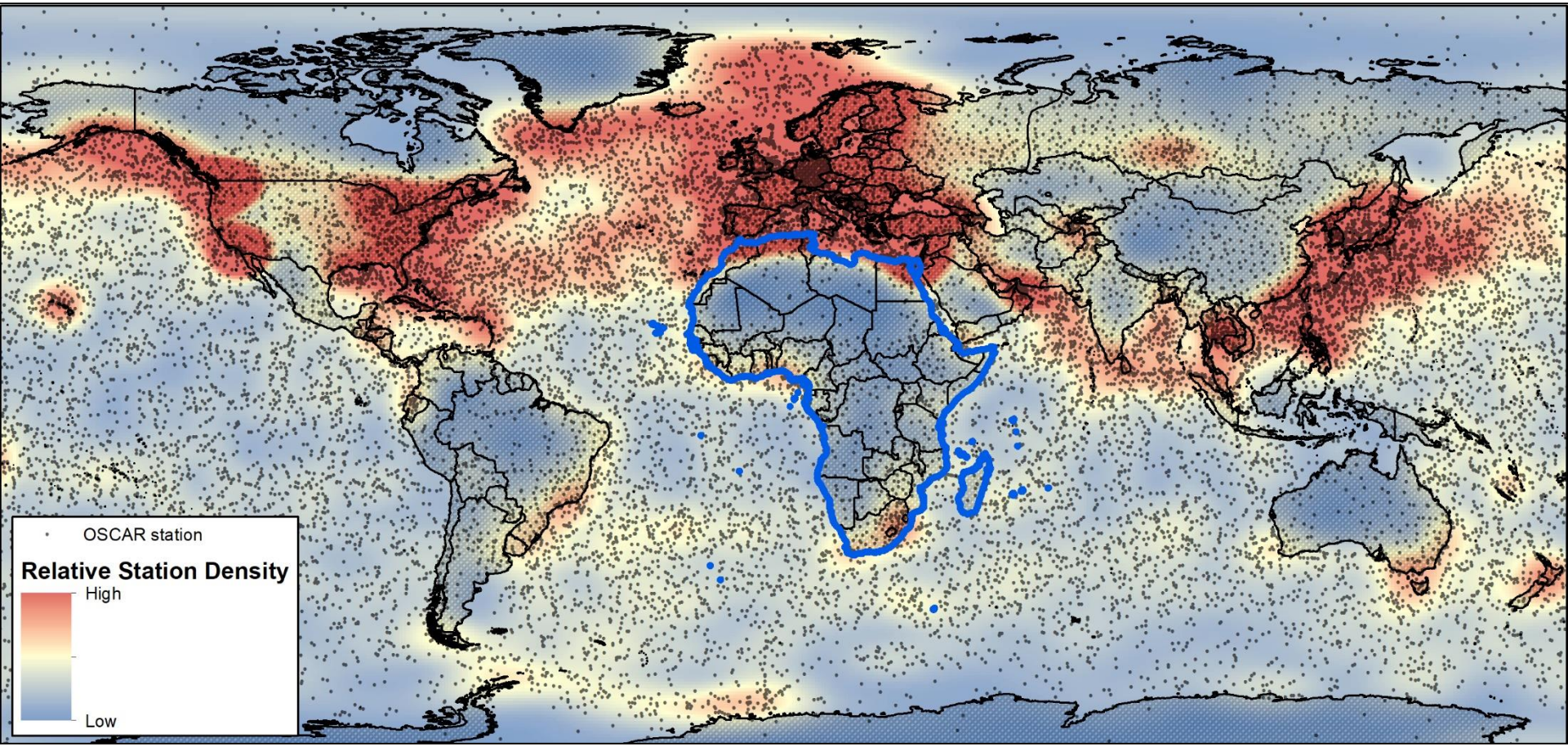
Global observation of climate-relevant variables:

Major gaps in Africa→ Large uncertainty regarding GHG fluxes and budget



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Greenhouse Gas Observation & Climate-Smart Agriculture

European Commission

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www.seacrifog.eu

Supporting **E**U-**A**frican **C**ooperation on **R**esearch **I**nfrastructures for **Fo**od Security and **G**HG Observations (2017-2020)

To develop a concept for a pan-African network for GHG observations, taking into account:

- Atmosphere-land-ocean continuum
- Natural vs disturbed ecosystems (land use change)
- Agriculture, farming and mixed systems (CSA)
- Future socio-economical trajectories
- National reporting demands in the UNFCCC & Sustainable Development Goals (2030 Agenda)
- Data access and interoperability

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SEACRIFOG – Work in Progress

What needs to and can be observed across the African continent?
→ Ideal and mandatory set of observational variables

What are the gaps and needs regarding infrastructure?
→ Inventory of existing and planned infrastructures

What are the gaps and needs regarding data?
→ Assessment of available data (Spatial and temporal coverage, quality)

What are existing relevant methodological protocols?
→ Interoperability and harmozation → Define minimum requirements → Adopt existing protocols where possible, modify where necessary

Design of continental observation network tailored to African requirements

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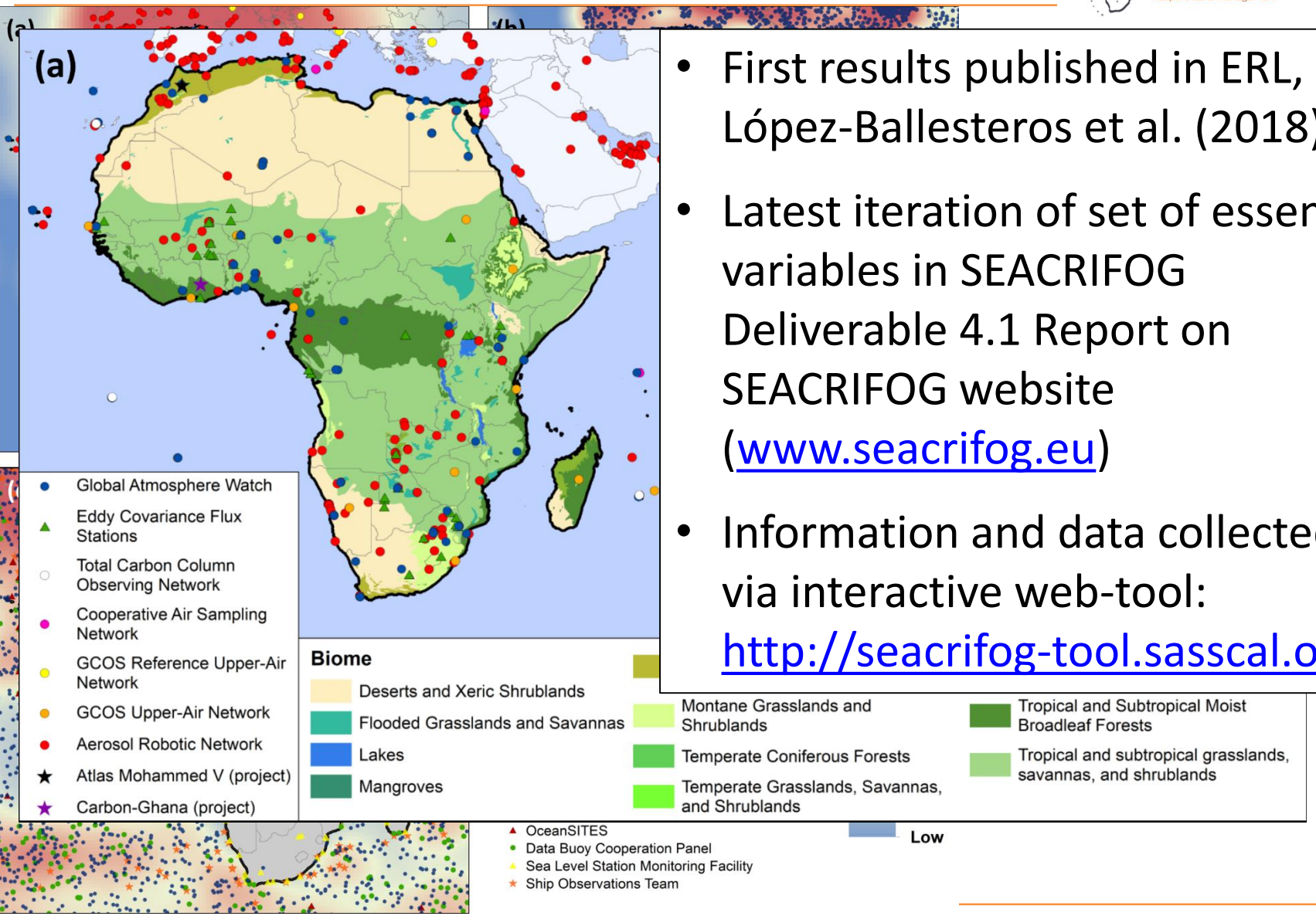
SEACRIFOG – First Results



- First results published in ERL, López-Ballesteros et al. (2018)
- Latest iteration of set of essential variables in SEACRIFOG Deliverable 4.1 Report on SEACRIFOG website (www.seacrifog.eu)
- Information and data collected via interactive web-tool: http://seacrifog-tool.sasscal.org

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Outlook

Next steps:

- Complete inventories of available infrastructure and data
- Inventory/development of standardized measurement protocols for identified variable set
- Optimal observation network design based on spatial optimization through inverse modelling
- Costing estimate of required technology and input

→ **By 2020: Concrete roadmap** (incl. funding recommendations) for development of a continental network of RIs for systematic long-term GHG observation across Africa

Ideally, this will result in the **subsequent establishment of this network (with support from EU and other donors) over the following 10-20 years**

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Thank you for your attention!

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http://seacrifog-tool.sasscal.org/
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We look forward to your feedback and fruitful discussions!