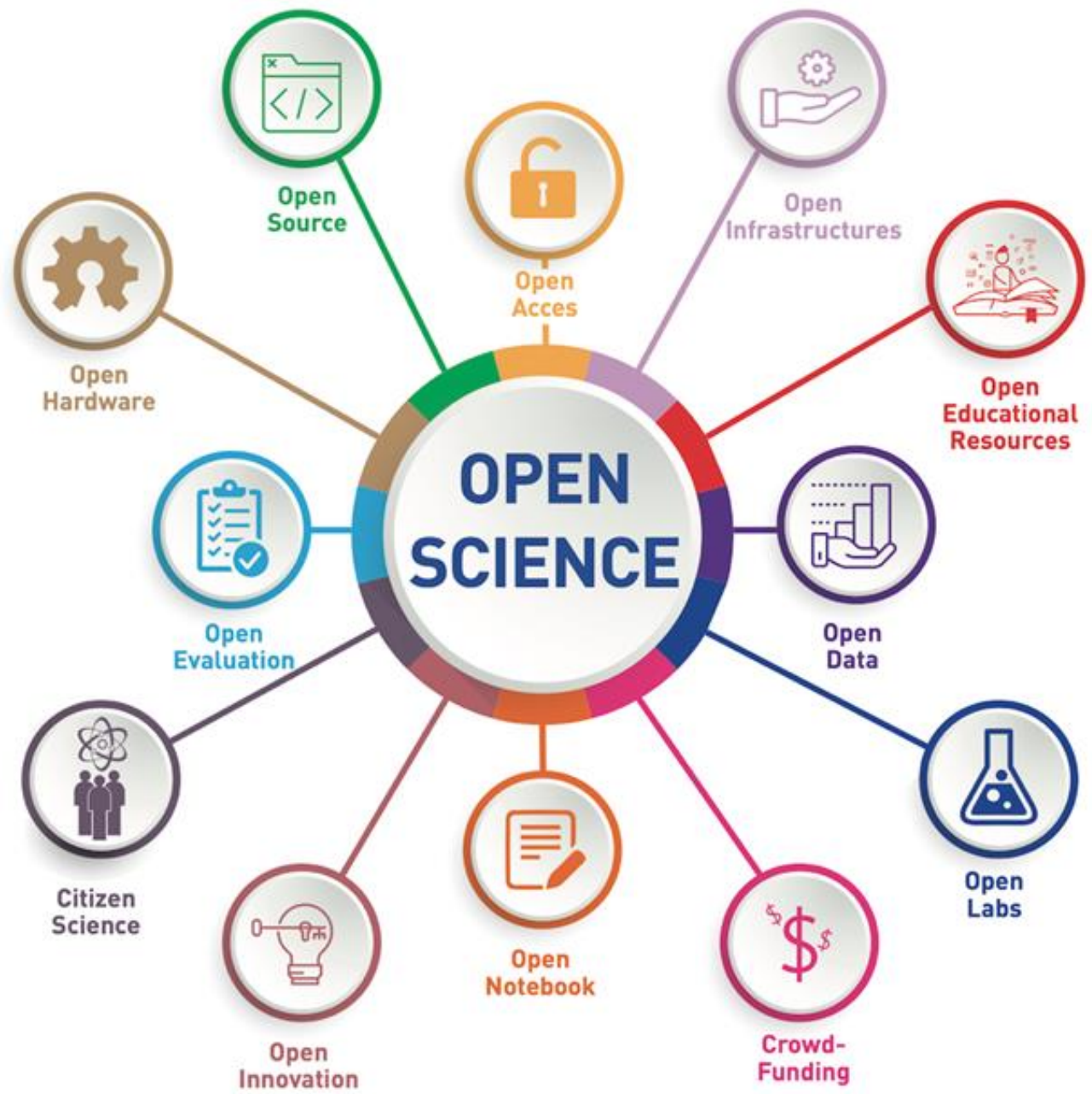


Open Water Science – Software & Data

Ann van Griensven

Celray James CHAWANDA, Katoria Lekankar, Albert Nkwasa, Sofia La Fuente, Mateusz Zawadzki,

Maria Nakazzi, Anly Baltodano, Afnan Agramont, Abdellah Touhafi



Open Science is...

...an approach to the scientific process that focuses on spreading knowledge as soon as it is available using digital and collaborative technology. Expert groups, publications, news and events.

Open Water Network...

aims at sharing knowledge on Open Source Software and Open Access Tools supporting Water Resources Engineering and Management

Open Water Symposium & Workshops, Delft 2011
Open Water Symposium & Workshops, Brussels 2013
Open Water Symposium & Workshops, Addis Ababa 2015
Open Water Symposium & Workshops, Brussels, 2017
Open Water Symposium & Workshops, Arusha, 2019
Open Water Symposium & Workshops, Rabat, 2019
Open Water Symposium, Brussels, 2022
Open Water Symposium, Cape Town, 2024

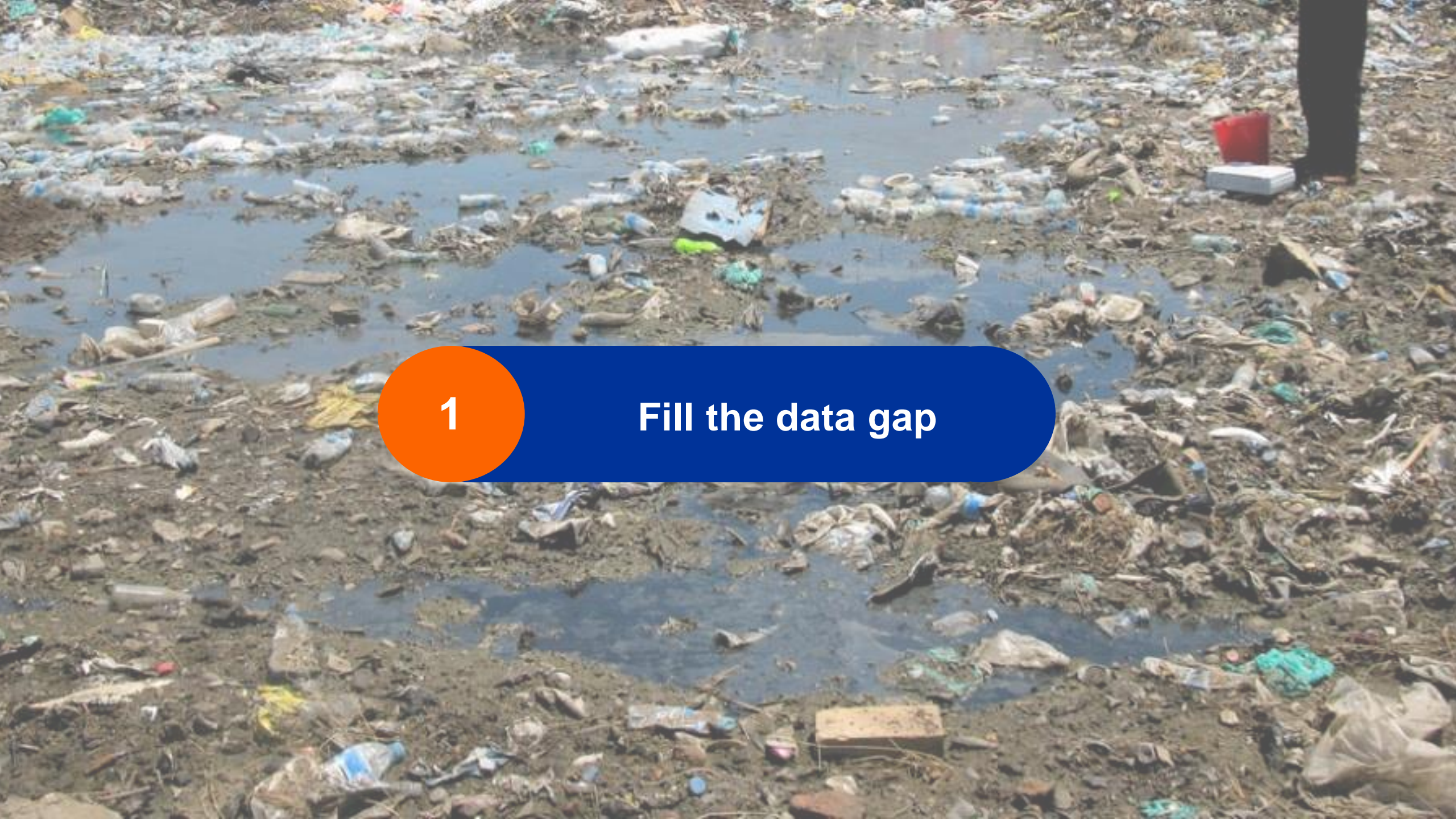


UNESCO Chair on open water science and education



- Fill the data gap
- Build open source high resolution models (local/global scale)
- Solve local water problems





1

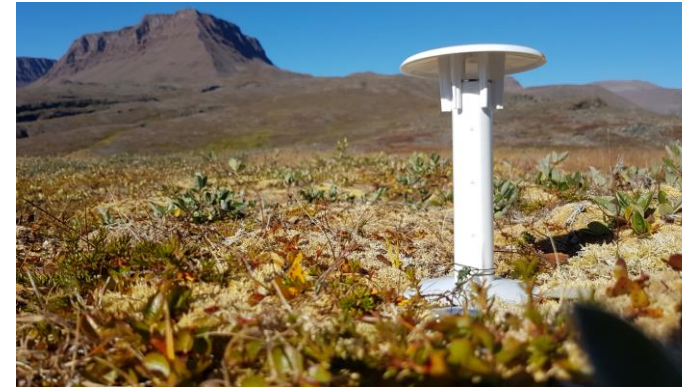
Fill the data gap

Soil moisture Monitoring

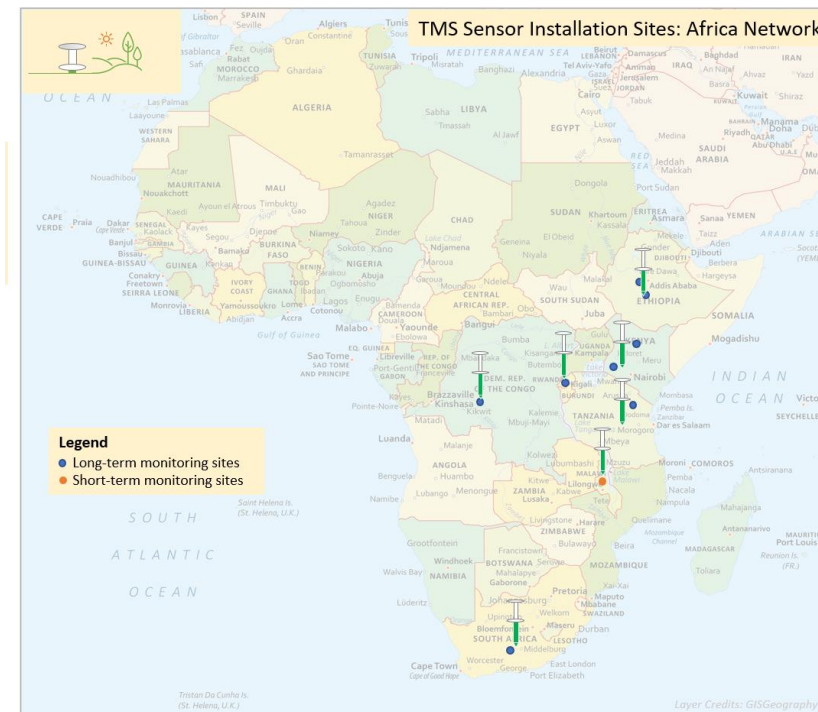
SoilTemp provides a harmonized database for storage of TMS measurements with a footprint in all continents

...including Antarctica!

More than 8,000 observations globally and growing



Katoria Lekarkar



Internet of Things / low-cost sensors



Mimoun
Lamrini

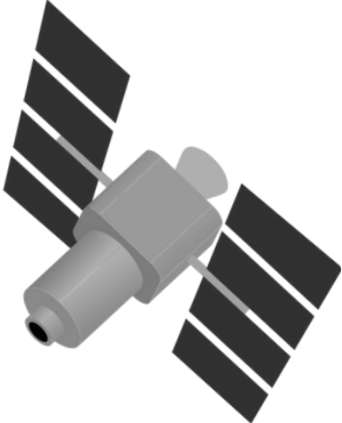


Abdellah
Touhafi

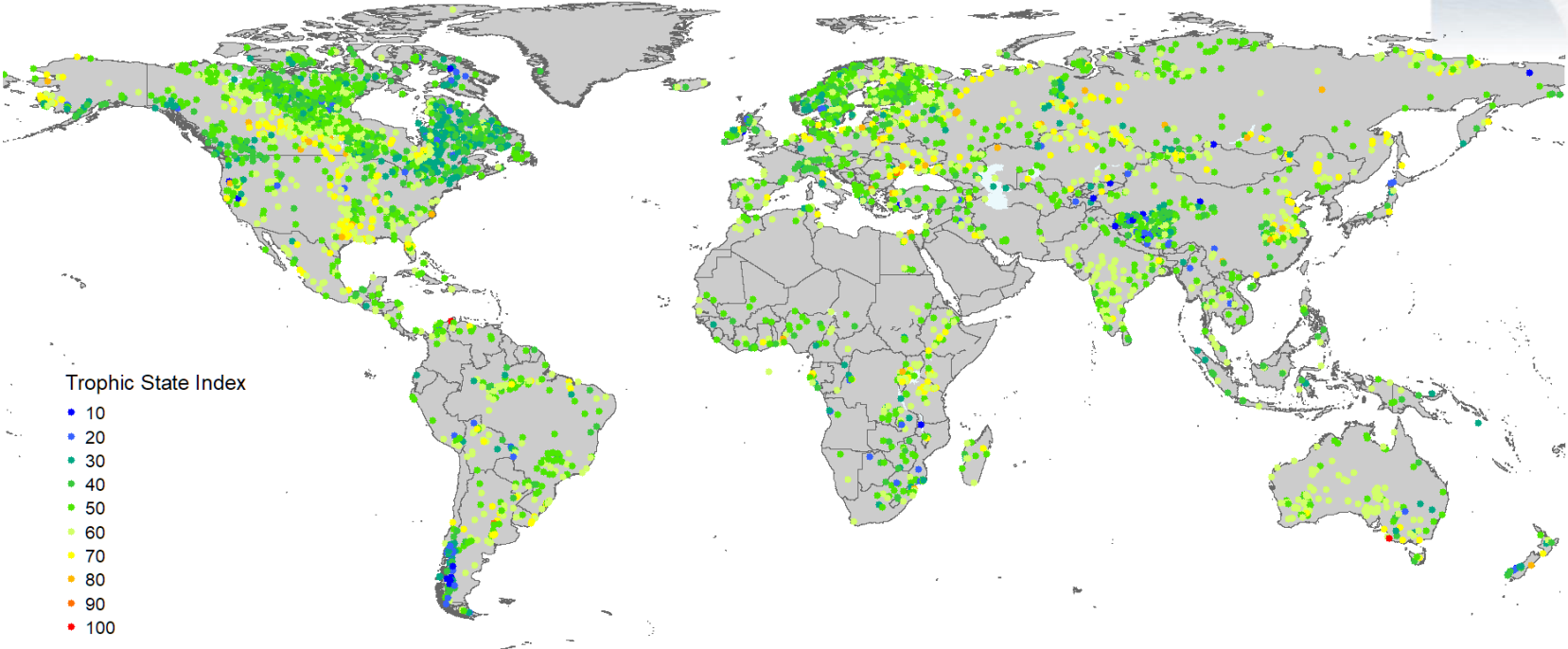


Mateusz
Zawadzki

Remote sensing



Sofia La Fuente



Analy Baltodano



Maria Theresa Nakkazi

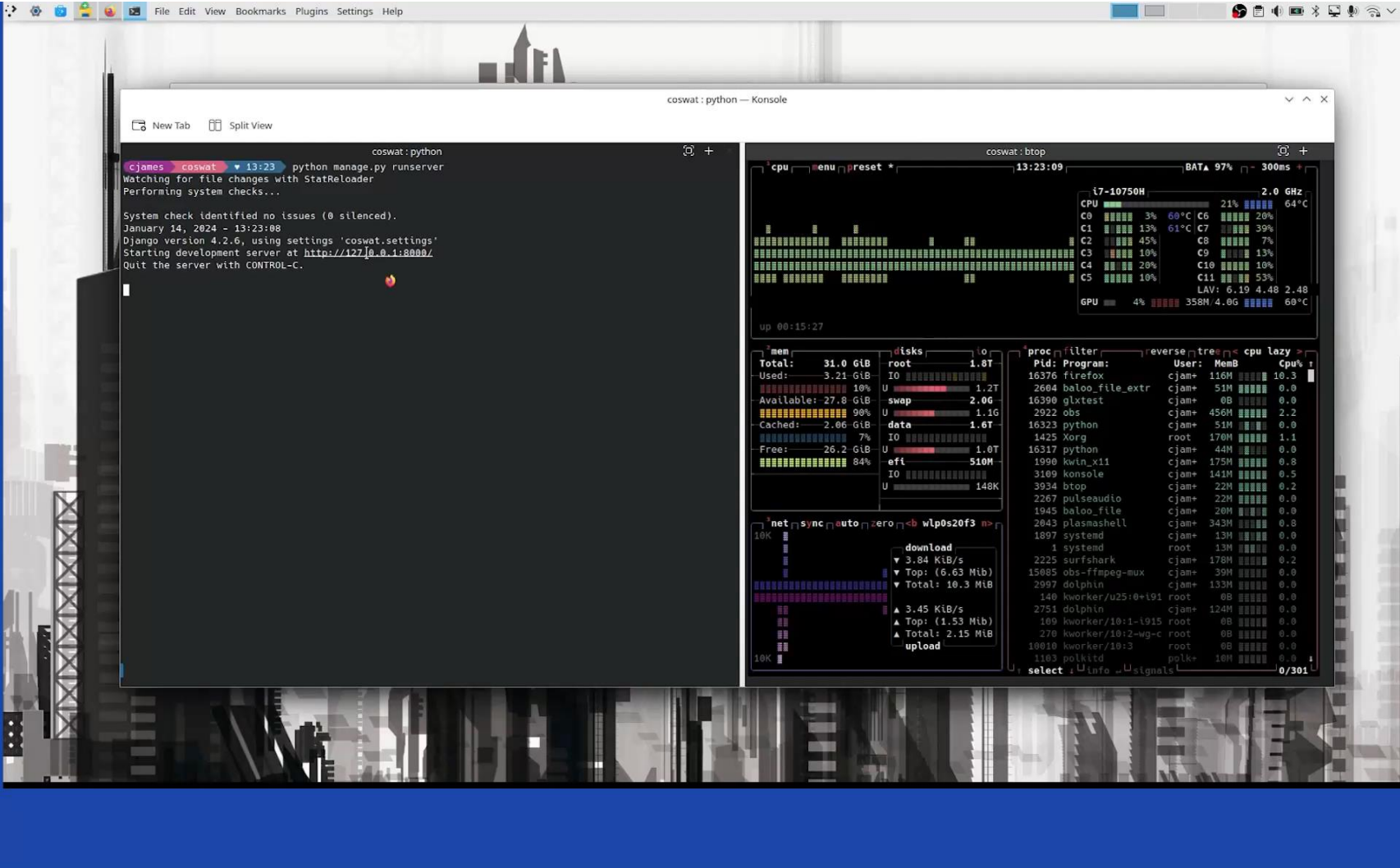
123% expansion of urban areas increasing trend ($p < 0.05$) at a rate of $8 \text{ km}^2/\text{year}$

A photograph of a polluted river. In the background, several industrial smokestacks are visible against a blue sky with light clouds. The river is filled with various pieces of trash, including plastic bags, bottles, and other debris, floating on the surface. The water is dark and reflects the sky and the surrounding greenery. A blue banner with white text is overlaid on the right side of the image, and an orange circle with a white number '2' is on the left side of the banner.

2

**High resolution global
hydrological model**

Global high resolution water quality model



Celray James Chawanda

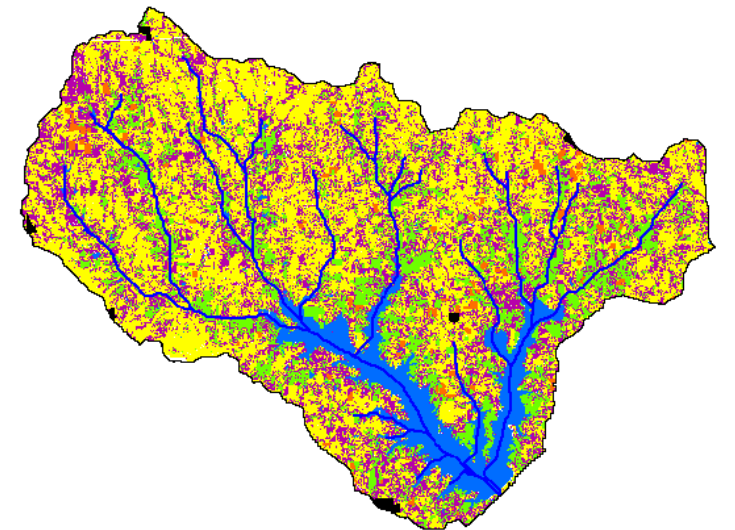
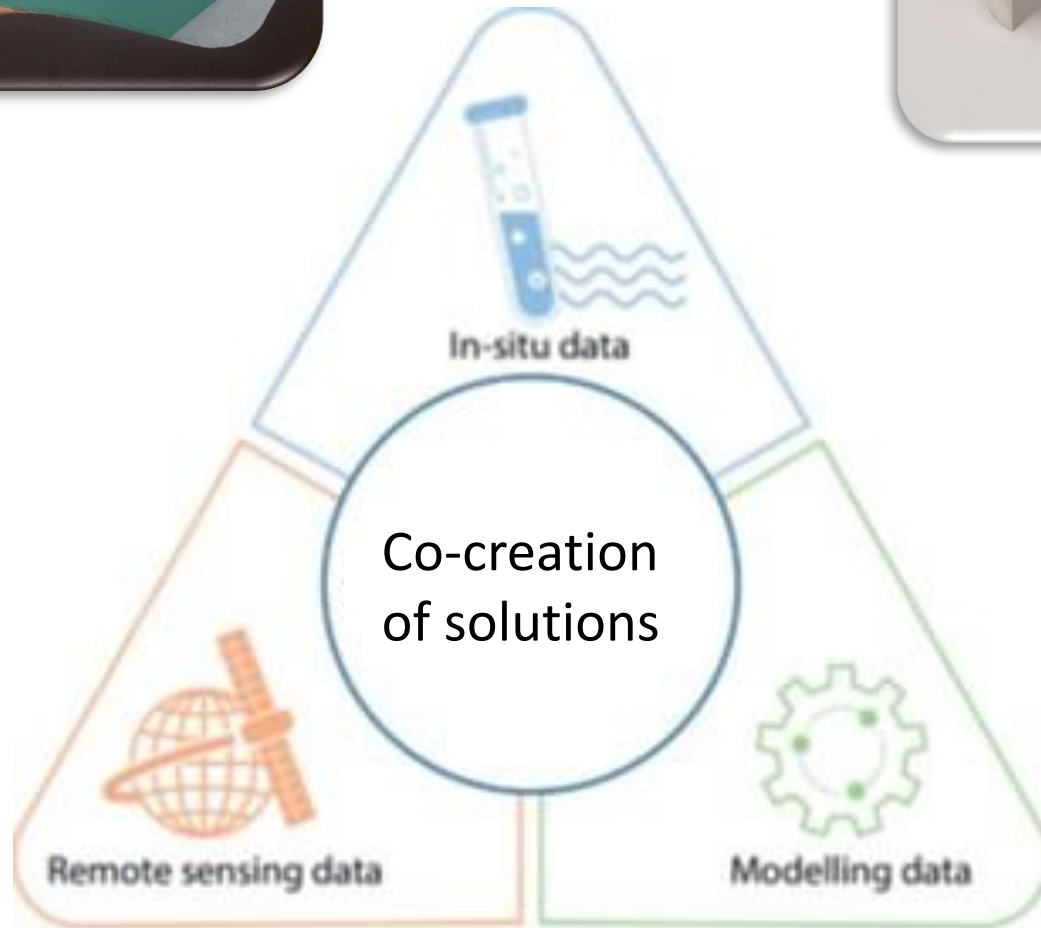
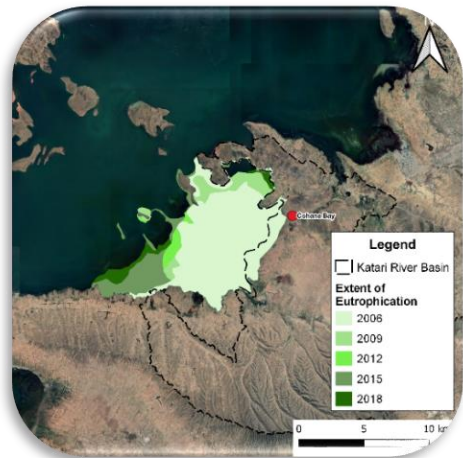


Albert Nkwasa

A sunset over a large body of water. The sun is low on the horizon, creating a bright reflection on the water. In the foreground, three people are silhouetted against the water, standing in a long, narrow boat and using long poles to navigate. The background shows a distant shoreline with trees.

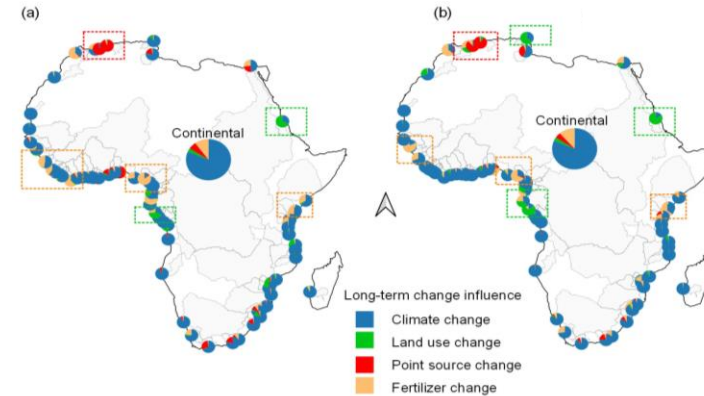
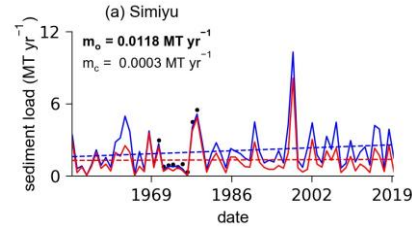
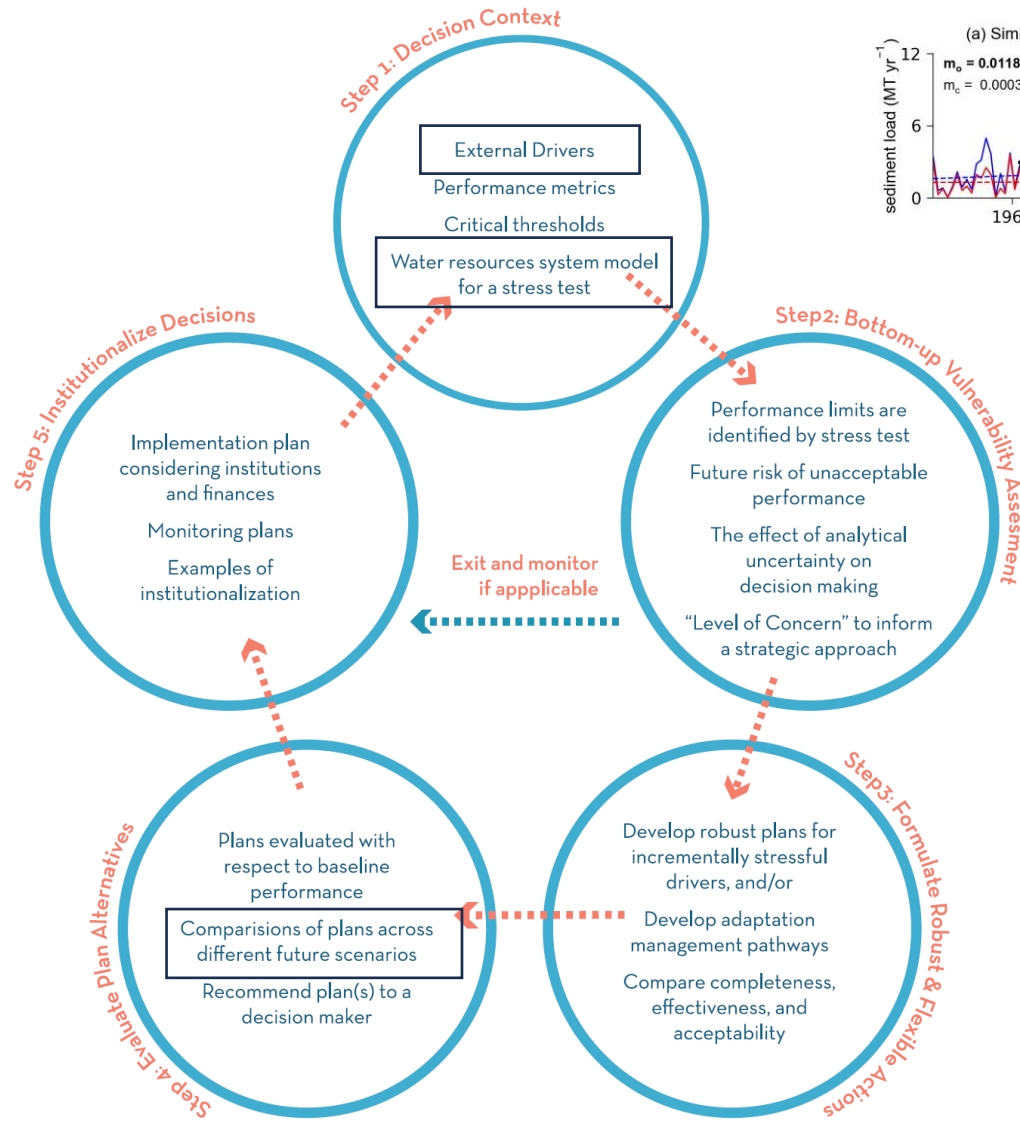
3

Solving local water problems



CRIDA:

Climate Risk Informad Decision Analysis



Citizen Science for Environmental Justice in Lake Titicaca-Bolivia

- Increased community interest and awareness.
- Enhanced school engagement.
- Empowered youth engagement.
- Increased environmental literacy.
- Potential policy implications.





From unengaged to engaged basins!



Afnan Agramont



Analy Baltodano

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