TEMBO Africa

Transformative Environmental Monitoring to Boost Observations in Africa

Soil Moisture Maps



TEMBO Africa Soil Moisture Maps provide information about how much of the rainfall runs off over the surface, how much is stored in the rootzone to feed crops and vegetation, and how much seeps down to replenish the groundwater. For this purpose, a combination of data from TAHMO hydrometeorological stations, satellites and the BLOSM sensors is leveraged, while the same procedure as the Copernicus European Flood Awareness System is used. These maps are scalable across the entire continent and feature a low latency of two days.

Overview

Where?

The soil moisture maps are first made for the Volta basin in Ghana and the Luangwa basin in Zambia, with a resolution of 1 km. They can then be scaled up for the whole continent, with a low latency of 2 days.

For whom?

Ideal for stakeholders interested in providing Flood Early Warnings, dam reservoir managers, and agriculture and feedstock insurance providers.

Precision soil data for smarter decisions

Information on **root zone** water balance, essential for crop health and water resource planning.

Fair and data-driven insurance schemes with high-resolution data (down to 1 ha) minimizing disputes and enhancing trust between farmers and insurers.
Insights into how much water the land can absorb before runoff occurs, supporting flood early warnings and dam reservoir management.
Bias removal, ensuring accurate and timely data for various applications.
Cost-effective generation of the desired information.
Improvement of the accuracy of existing satellite-based soil moisture products, e.g. RZSM-ASCAT-NRT-10.





This project has received funding from the European Union under the Horizon Europe Research & Innovation Programme 2021-2027 (grant agreement no. 101086209). The Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither can the European Union nor the granting authority be held responsible for them.

Flexible, customizable, and adaptable!

TEMBO Soil Moisture Maps can combine two different **sensors**, while can be leveraged by all **TEMBO services**, under a "Lego[®]-ised" approach.



Specifically:

- The BLOSM Neutron Counter captures soil moisture variations across wide areas and at root-zone depth, offering continuous, reliable data at the scale of satellite pixels.
- The GNSS Receiver supports soil moisture monitoring by collecting additional environmental parameters and ensuring high-precision geolocation of measurements.

Partners involved in Soil moisture Maps



Contact us and learn more!

🌐 temboafrica.eu 🖂 info@temboafrica.eu 📊 TEMBO Africa

