The Potential of Copernicus for Disaster Management in Africa

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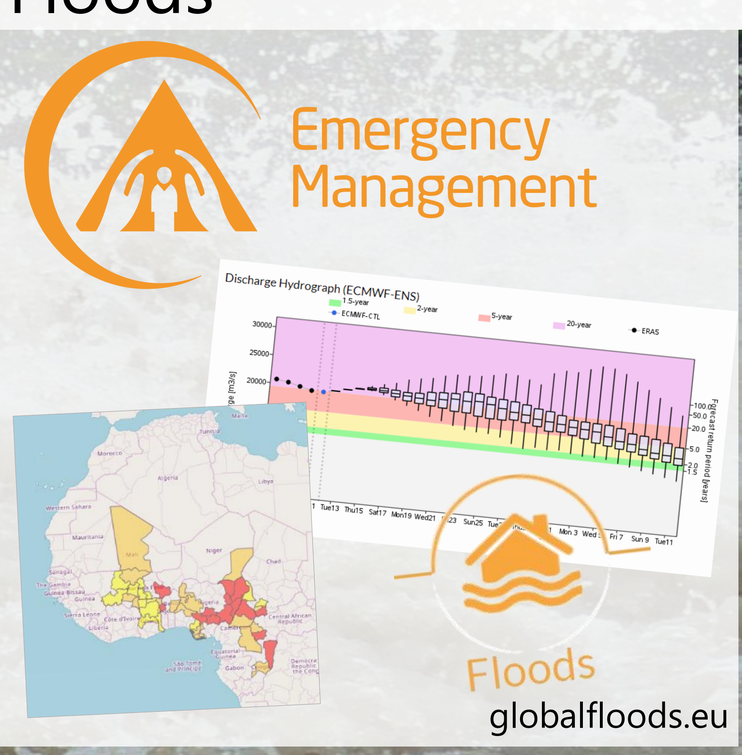
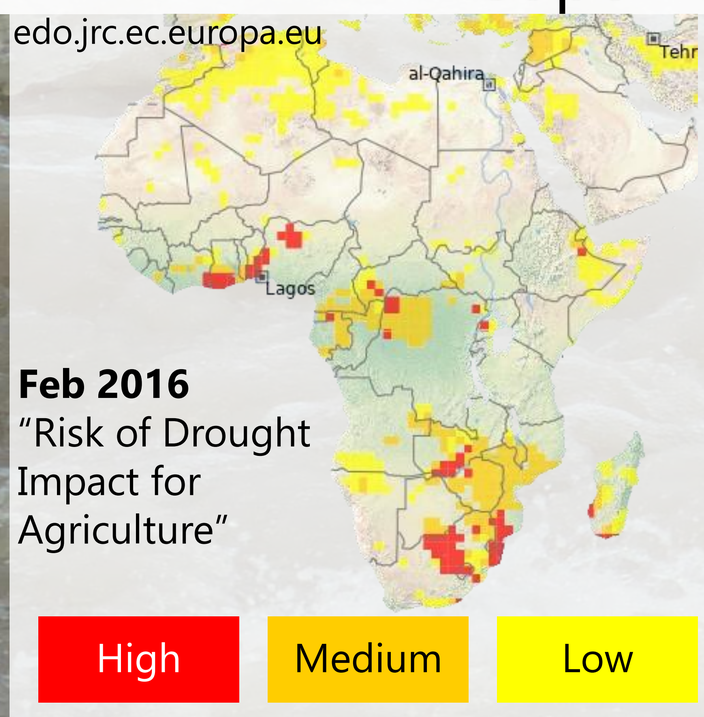
Copernicus for Floods

Many African regions are exposed to frequent, catastrophic floods. Reliable forecasting and early warning can protect lives, livelihoods and food security.

- **EMS** (Emergency Management Service): Key tools to support all stages of the disaster management cycle - from prevention, preparedness, intervention and recovery
- **GloFAS** (Global Flood Awareness System): Online platform with global coverage, especially for **forecasting** and managing **response** to major flood events. Wide range of data sets, accessible via a **map viewer**.
- Ensemble forecasts based on the ECMWF weather model make it possible to estimate river discharge for up to 30 days in advance. Uncertainties and probabilities are shown clearly.



Copernicus for Droughts



Numerous African countries are suffering from severe droughts, in some cases with increasing frequency and duration.

- **GDO** (Global Drought Observatory): Freely available platform for the **detection of drought** conditions with global coverage
- Provides global "Risk of Drought Impact for Agriculture" indicator
- Supports local and regional decision-makers in planning and implementing measures
- Strengthens resilience: Helps to minimize the negative impact on infrastructure, agriculture and socio-economic factors
- Cloud-based solution - **no strong computing capacity required on site**, internet connection and a browser are sufficient
- Other drought-relevant indices and values available, e. g. soil moisture and precipitation anomalies
- Interactive map view enables uncomplicated access for many user groups

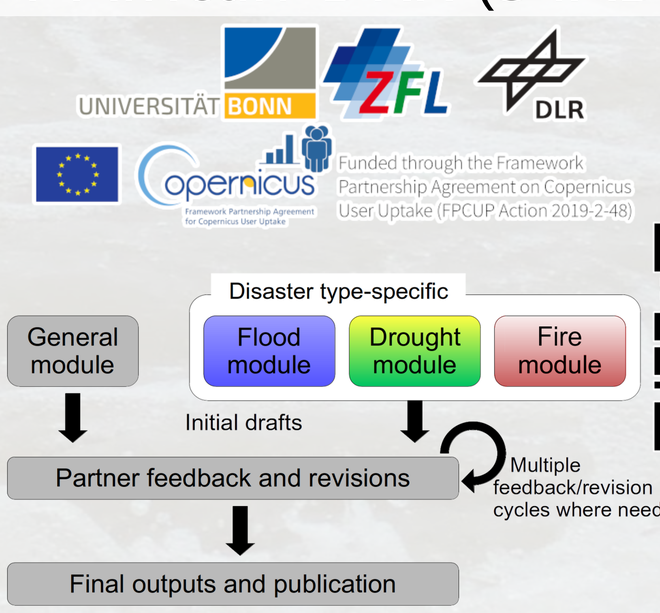
Sentinels-4-African-DRR (S4ADRR)

A project[1] of the German Aerospace Center (DLR) in cooperation with the ZFL of Bonn University on the **use of Copernicus** information products **in Africa**

- Embedded in the activities and networks of UN-SPIDER*
- Aim: Outreach, information and support for national disaster management organizations, disaster risk specialists and regional experts and multipliers
- Products: Background information, step-by-step instructions and video tutorials
- **All materials are available online and free** of charge via the S4ADRR "Training Module Handbook"

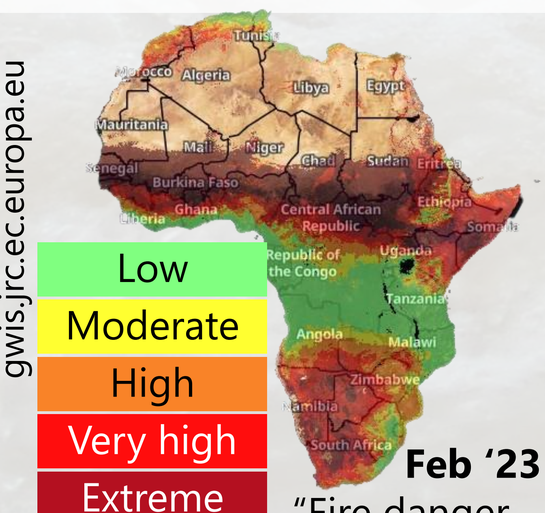
*United Nations Platform for Space-based Information for Disaster Management and Emergency Response

Funded through the Framework Partnership Agreement on Copernicus User Uptake (FPCUP Action 2019-2-48)



Link to the materials:

Copernicus and Wildfires



Global Wildfire Information System (**GWIS**): Joint initiative of the Group on Earth Observations (GEO) and Copernicus

- **Freely available**, like GloFAS and GDO
- Prediction of conditions relevant to fire spreading potential
- Near real-time information on **active fires**
- Tools to support operational management of wildfires from the national to the global level

[1] funded through the "Framework Partnership Agreement on Copernicus User Uptake" of the European Commission (FPCUP Action 2019-2-48)

Literature

Grimaldi, S. et al. (2023): GloFAS v4.0: towards hyper-resolution hydrological modelling at global scale. In EGU General Assembly Conference Abstracts (pp. EGU-3410).

Graw, V. at al. (2022). Land Under Stress: Earth Observation-Based Drought Risk Monitoring for Sustainable Development. Earth Observation Applications and Global Policy Frameworks, 105-118.

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