

Early Warning and Civil Protection for floods and droughts in Sudan

Sudan is particularly exposed to weather-related disasters, such as floods and droughts and **conditions are expected to worsen in a changing climate**. These extreme hydrometeorological events impact on a highly vulnerable population and often exacerbate ongoing human-driven emergencies, causing major human and economic losses. It is of utmost importance to mitigate these negatives impacts by acting timely with the support of an efficient Early Warning System (EWS). Based on the suggestions provided by local and international institutions, the three-years initiative aims at **improving weather-related risk monitoring, forecasting and management capabilities in Sudan** by:

- **developing a national risk profile for floods and droughts** to identify the areas most exposed to hydrometeorological risks, in current and future climate
- **providing a tailored configuration of the multi-stakeholder Decision Support System myDEWETRA** (developed by CIMA Research Foundation for the Italian Civil Protection Department)
- **enhancing weather monitoring and forecasting capacities** through innovative (open-hardware) equipment provision.
- **improving hydrological forecasting** by integrating local data and refinements in the flood forecasting system operational at ICPAC for the IGAD region.
- **monitoring drought conditions and evolution at the national level**, to anticipate location and severity of impacts on agriculture and food security.
- **creating a national Situation Room** for supporting disaster preparedness and civil protection.
- **training**, in collaboration with local universities, experts and technical officers of local institutions.
- together with AICS Khartoum, **increasing awareness of hydrometeorological risks** at both institutional and community levels, improving the dissemination, comprehension and interpretation of warnings.

MAIN OBJECTIVES



improving the knowledge and understanding of risks that threatens Sudan



enhancing hydrometeorological monitoring and forecasting capacities, by providing innovative tools, models and training



supporting the inter-institutional coordination in warning and emergency management



increasing institutional and community awareness about risk exposure and preparedness actions

PURPOSE

Exceedance or deficit of water is a major issue for Sudan, where the two Niles join and cross the Sahara Desert. The project envisages to implement operational services for monitoring and forecasting possible impacts due to flood and drought conditions by:

- A tailored refinement of the riverine flood forecasting system Flood-PROOFS implemented at ICPAC, covering main watersheds of Sudan including the Nile.
- A flash-flood tools to anticipate abrupt rises in water flows on ephemeral rivers (wadis), a characteristic feature of arid regions.
- A set of weather, hydrological and agricultural indexes, based on ground and satellite information, to spot emerging drought conditions.
- Specific tools for real-time estimate of the potential impacts on population, agriculture and displacement of these extreme hydrological events.



National Council for Civil Defense
(Sudan, composed by 41 members)



AGENZIA ITALIANA
PER LA COOPERAZIONE
ALLO SVILUPPO

