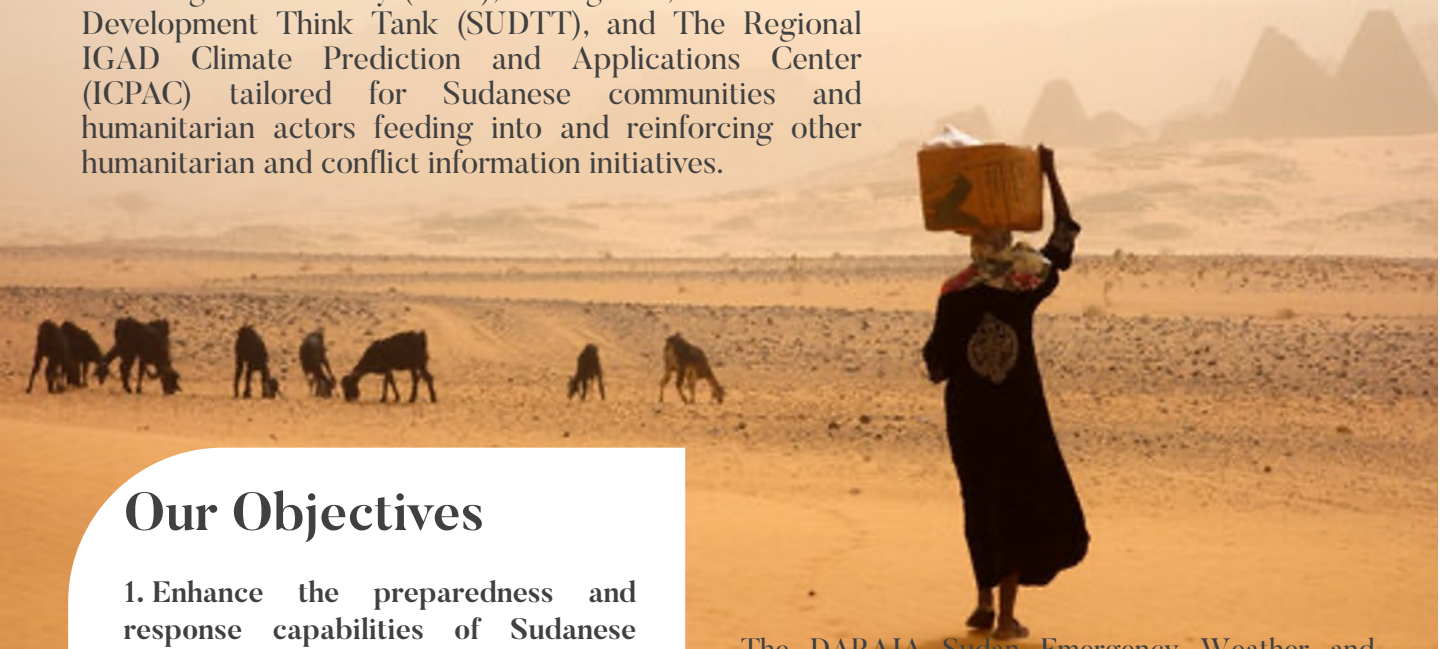
DARAJA Sudan Emergency Weather and Early Warning Service

A remote weather, climate and early warning information service co-led by DARAJA partners, the Sudan Metrological Authority (SMA), Resurgence, Sudan Urban Development Think Tank (SUDTT), and The Regional IGAD Climate Prediction and Applications Center (ICPAC) tailored for Sudanese communities and humanitarian actors feeding into and reinforcing other humanitarian and conflict information initiatives.



Our Objectives

1. Enhance the preparedness and response capabilities of Sudanese communities in the face of weather-related risks and disasters, contributing to saving lives, minimising property damage and improving the overall resilience of communities affected by the ongoing conflict in Sudan.

2. Support farmers and herdsmen by providing daily and weekly forecasts helping them optimize agricultural productivity while mitigating risks related to weather and climate variability.

3. Support the planning and response information needs of humanitarian organisations running relief operations inside Sudan supporting planning and enabling them to predict population movements and humanitarian needs that are linked to weather conditions.

4. Provide emergency stabilisation support to Sudan Meteorological Authority (SMA) weather and climate information management and climate service provision capacity.

The DARAJA Sudan Emergency Weather and Early Warning Service addresses the increasing frequency and intensity of climate-related hazards which in combination with the ongoing armed-conflict, persistent disease outbreak and economic challenge is leading to a significantly reduced resilience of communities and escalating humanitarian needs.

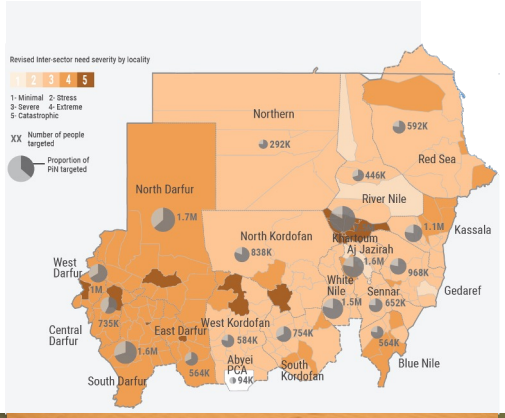
DARAJA, which means 'Bridge' in Swahili and 'Degree' in Arabic, will employ its award-winning co-production approaches to address these needs by creating a humanitarian weather and early warning information 'bridge' for Sudanese communities and humanitarian responders directly linking forecast providers to users.

The emergency weather information service is dedicated to producing and disseminating weather forecasts, warnings, and advice for humanitarian hotspots and operational areas in Sudan. Produced in both English and Arabic, this service will directly support logistics planning and field operations of the humanitarian responders and aid organizations. It also targets affected population groups, including residents in conflict-affected areas and displaced individuals, offering weather information to inform their decision-making and enhance their resilience.

RESURGENCE. تنمية عمرانية ICPAC WISER Weather and Climate Information Services german humanitarian assistance DEUTSCHE HUMANITÄRE HILFE

Our Coverage

The Sudan Meteorological Authority currently provides location-specific forecasts for 33 major cities across Sudan. DARAJA plans to gradually expand its coverage to include all of them, along with humanitarian hotspots that are critical for both local communities and humanitarian actors. New locations are continuously identified through seasonal co-production workshops held with DARAJA's humanitarian partners.



Revised inter-sector need by locality, 17 May 2023, Source: Sudan Revised Humanitarian Response Plan

Our Target Users

At-risk communities residing in conflict-affected areas, IDPs and Host communities, particularly in regions where seasonal rains and flash floods pose significant risks.

communities engaged in farming and livestock herding.

The humanitarian responders that are providing assistance, including UN agencies and INGOs.

Our Services

National overview forecasts and location-specific forecasts in daily and in weekly mode in urban and suburban areas.

Seasonal and subseasonal forecasts relating to planting and harvesting decisions.

Flood, Heat and drought early warnings related to evacuation, health, food, logistics and others.

The standard advice messages have been adapted to the Sudanese context based on the IFRC PAPE 2.0 Guidelines and is validated in collaboration with National stake holders including the National Council for Civil Defense (NCCD). A remote advisory panel will be established to support the development of hazard-specific advice by providing technical input on content and language. It will include meteorologists, hydrologists and humanitarian experts from relevant stakeholders in the international humanitarian community who have first-hand knowledge of local conditions.

The forecasts, warnings, and advice messages are presented in clear, jargon-free language and accompanied by weather icons and easy-to-interpret maps. This user-friendly format facilitates understanding for all recipients. The advice messages contain practical and actionable guidance specifically designed for residents and displaced individuals in conflict-affected regions.

The information is disseminated to vulnerable communities by all trusted channels of communication that are available at the time. These include local radio and TV stations, the communication networks of the international and local humanitarian organizations present on the ground, and via social media and internet-based messaging applications, where access to the internet exists.

Our Forecast Providers

The forecasts are produced by the Sudan Meteorological Authority (SMA) forecasters located at the IGAD Climate Prediction and Application Center (ICPAC) in Nairobi, supported by forecasters located in Port Sudan and in Cairo. The forecast team will also be supported by a remote multi-skilled panel consisting of the meteorologist, humanitarian response and information experts, medical and public health information experts, logistics specialists and agricultural experts. The panel is run by a coordinator based in Nairobi and will work closely with international humanitarian, national coordination mechanisms and key institutions at national level.

Iterative Implementation

The service is implemented iteratively seeking feedback on the accuracy of its forecasts and warnings and the usefulness of its associated messages from partner aid agencies operating on the ground. The service will gradually seek to expand the number and variety of community-based networks through which it disseminates weather information and receives feedback from end users in vulnerable population groups. This feedback will be used to shape the information provided and the way it is expressed.

After six months of operation, an evaluation will be conducted to determine the reach and impact of the information provided. This study will evaluate the impact of the weather information on both aid agency operations and the behavior of vulnerable communities who received it. This will serve as a mid-point review exercise aimed at enhancing the usefulness of the information provided and the channels of communication used for dissemination in a second phase of operation.

Once the Sudan Meteorological Authority (SMA) starts to resume functioning effectively, the emergency weather information service will seek to intensify the involvement of its staff progressively in the creation and dissemination of forecasts and warnings. This will be done with the aim of handing full control of forecasts and warnings back to the SMA as it regains capacity and the situation within Sudan normalises.

Project Duration

The initial project duration is 16 months. However, efforts will be made to secure additional resources to extend the project beyond this period to continue supporting SMA in delivering the service. This is seen necessary as (SMA) have sustained significant damage and disruption to its operational capacity. Sustained engagement will help SMA rebuild its infrastructure, restore core functions, and fully resume its national role in delivering timely, trusted weather and climate information.

Features

- **Delivers daily and weekly weather forecasts** to urban and rural communities across Sudan.
- **Issues early warnings, alerts and impact statements** embedded within forecasts and shared through flash messages.
- **Offers hazard-specific, practical advice** tailored to different scenarios on how to respond to weather forecasts and climate variability, helping communities translate early warnings into anticipatory actions.
- **Produces forecasts and messages in both Arabic and English** to ensure clarity, accessibility, and inclusiveness.
- **Co-designed with stakeholders and end users**—including the National Council for Civil Defense (NCCD), national and international NGOs, media, and telecom providers—to ensure relevance to local contexts and community needs.
- **Supported by a remote advisory panel** with multidisciplinary expertise including weather forecasting, humanitarian response, public health, logistics, and agriculture.
- **Two-way communication** through trusted and accessible channels used by communities—allowing for the exchange of inquiries and feedback.

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