



World Food Programme

SAVING
LIVES
CHANGING
LIVES

Satellite Derived Information for Effective Humanitarian Response

From Data to Decisions to Humanitarian Action

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JPTM 2025



World Food
Programme

SAVING
LIVES
CHANGING
LIVES

The United Nations World Food Programme

The largest humanitarian organization

The 'Food' Agency of the United Nations with the mandate to deliver life saving emergency assistance during disasters and conflict in 120 countries.

2020 Nobel Peace Prize Winner

20,000 + Staff Operating in 120+ Countries

Headquarters in Rome, Italy



Saving Lives



Palestine, 2025



Palestine, 2025



Mozambique Flood 2026



Mozambique Flood 2026



Mozambique Flood 2026

Changing Lives



Chad, 2026



Burkina Faso, 2023



Niger, 2024

How does WFP respond to Disasters and Emergencies?

Our Hubs

Our network of five strategically located humanitarian support hubs provide free storage and easy access to essential supplies along with technical support, enabling the international humanitarian community to respond quickly and effectively to people in need.

Click a Hub on the map to display its facilities



WFP delivers food (and non-food) assistance to the most vulnerable and to the most challenging locations during disaster, crisis and conflict.



140+
Aircrafts



20+
Ships



6,500+
Trucks

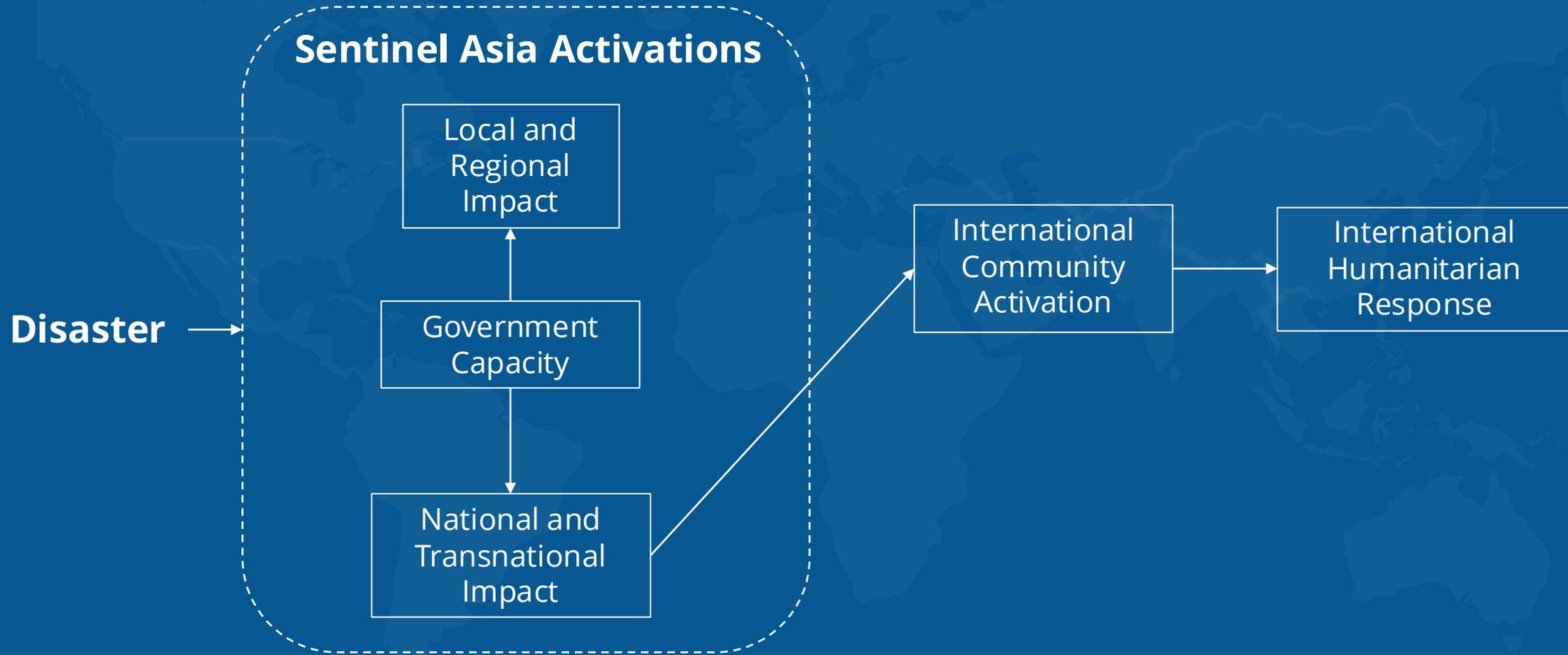


50
Sherpas



*Number
Unknown

WFP's Response to Disasters



Why TIME is critical for Humanitarian Responders

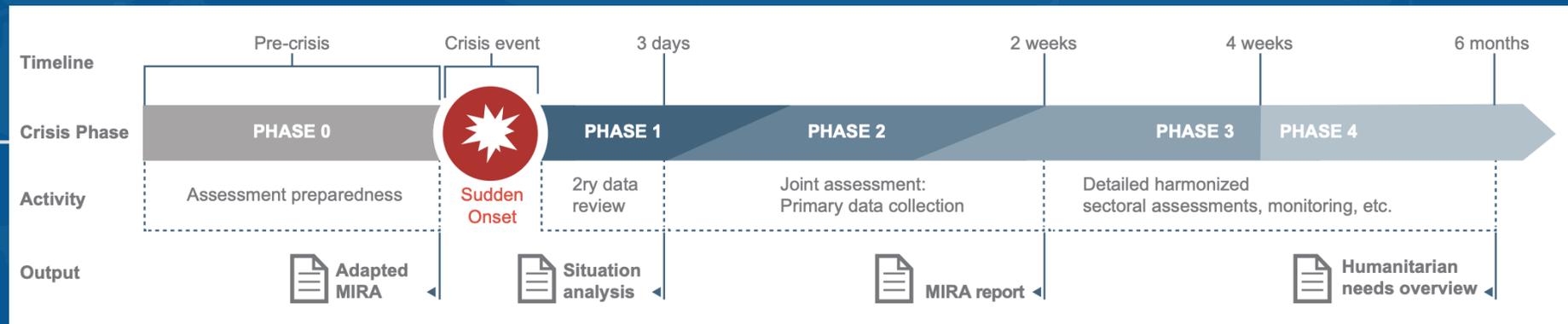
Satellite Data

Impact Data

Field Verification Data

Satellite Data

DATA



INFORMATION

Baseline Condition

Answers:

- Who
- What
- Where

Answers:

- How
- Which

Is it effective

Why TIME is critical for Humanitarian Responders

INFORMATION

Baseline Condition

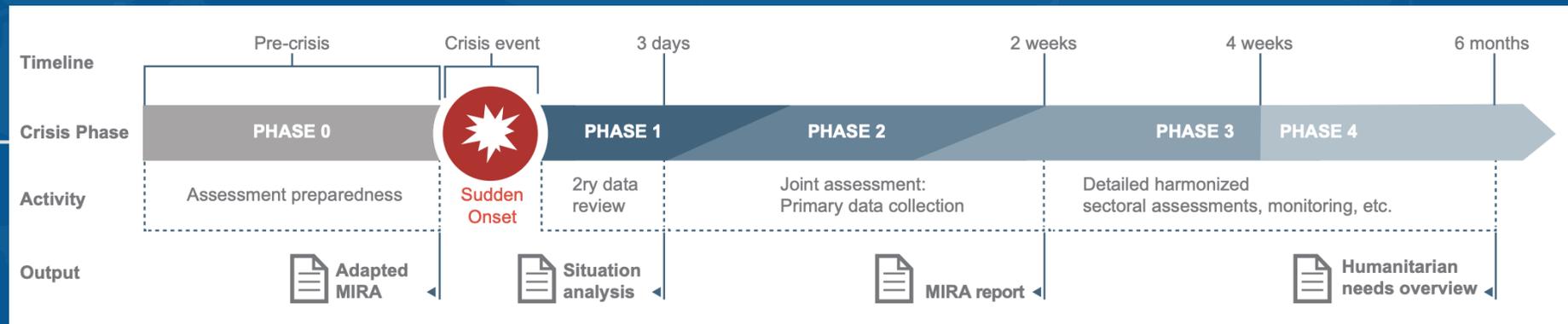
Answers:

Who needs what and where

Answers:

- How
- Which

Is it effective



HUMANITARIAN ACTION

Exposure prior to the shock

Food insecure people and kids affected by shock in village X. About 30,000 people are in urgent need of assistance (food, shelter, medicine, blanket, etc)

Who is doing what and where and what else is needed

- Were basic needs provided?
- What is required to rebuild?
- How do we make sure if this happens again it will not impact as much as now

The OPTEMIS Dashboard (Demonstration)

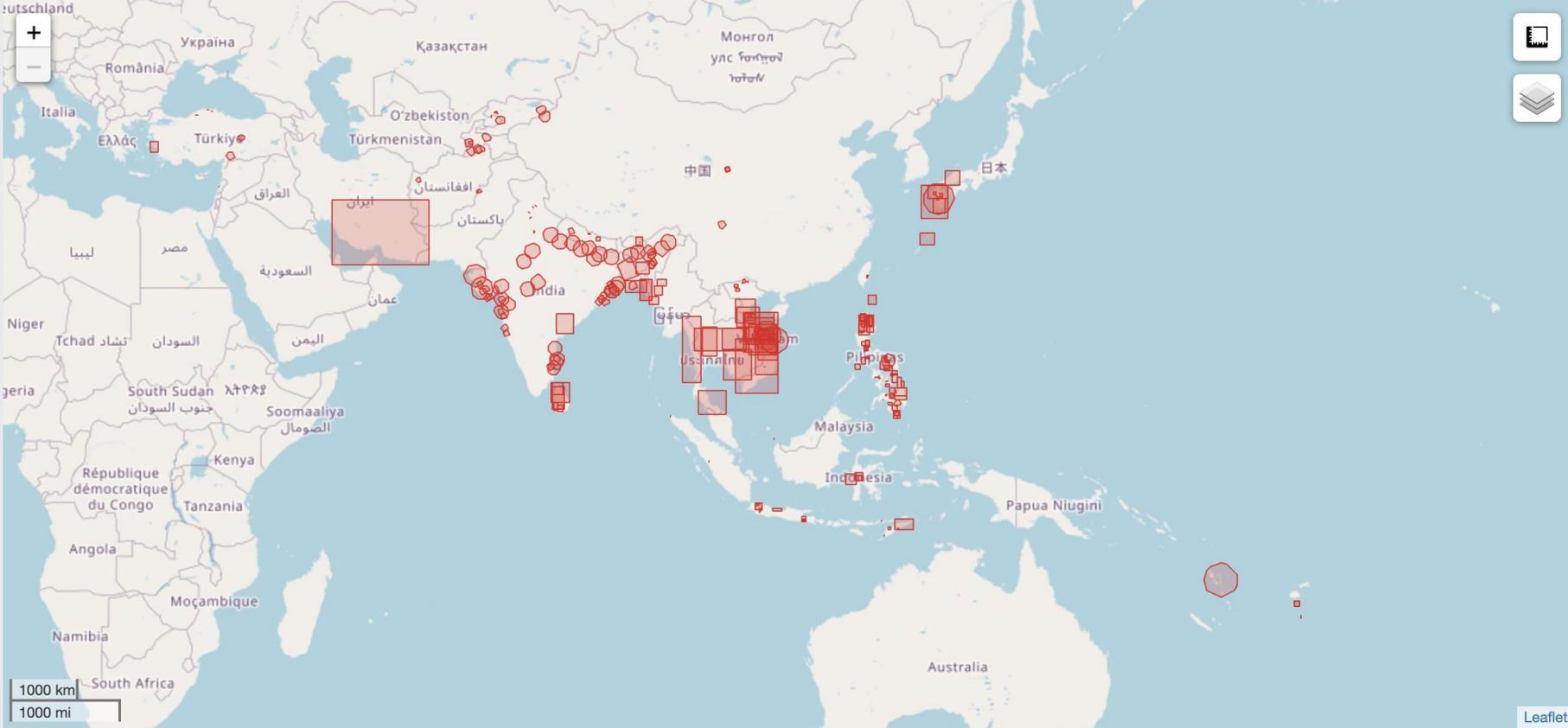


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DASHBOARD

The Summary Dashboard

140 REQUESTS | 140 ACTIVATE



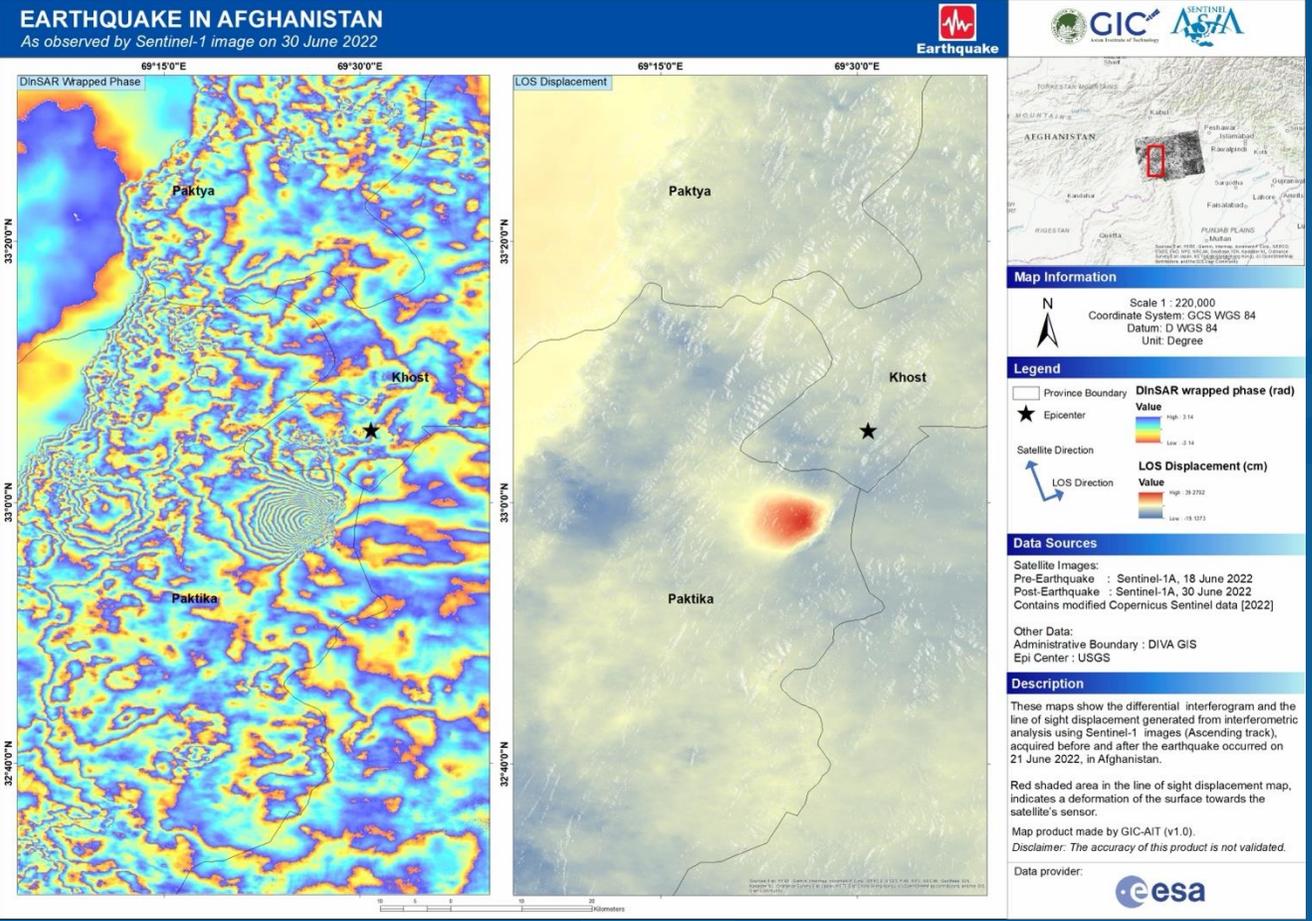
2013-1-1 | 2023-12-2

1000 km | 1000 mi

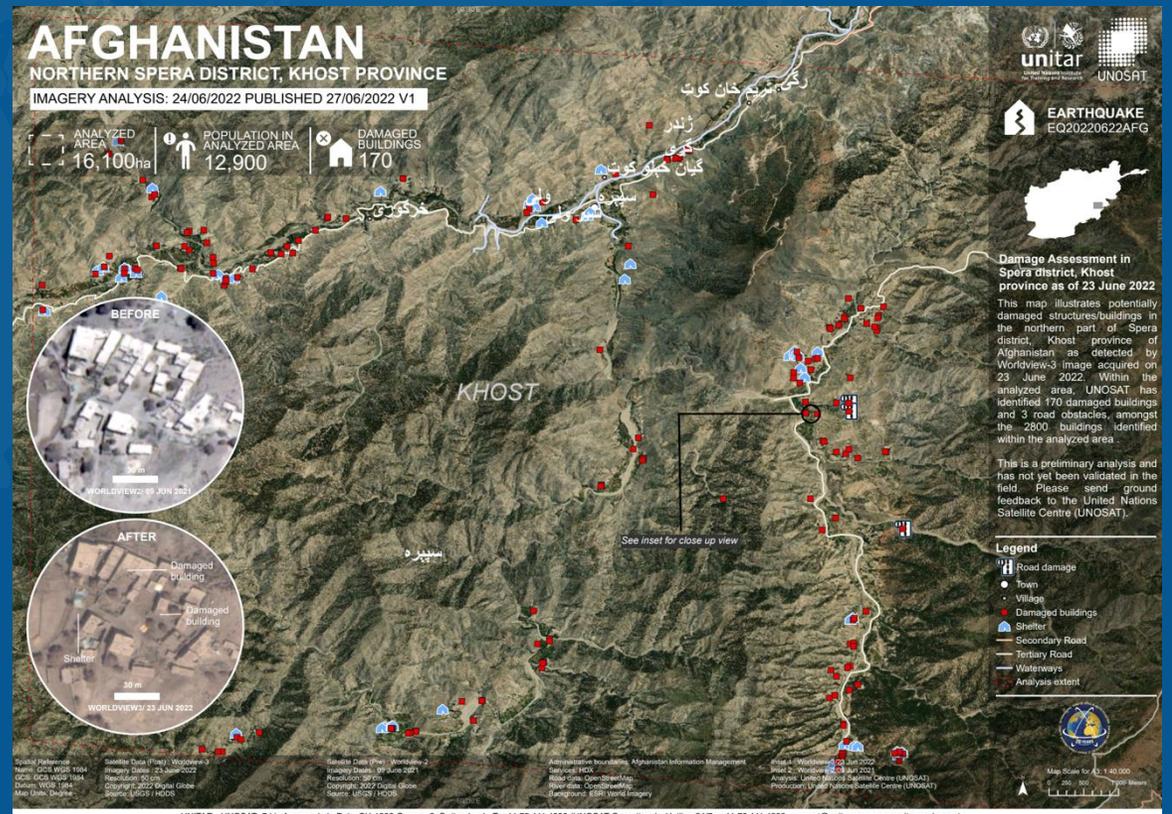
Leaflet

- DASHBOARD
 - Overview
- MANAGE
 - EOR Management
 - DAN Management
 - Summary
- ACCOUNT
 - Change Password
- MAINTENANCE
 - User Manual
- Contact & Report
 - Email

Afghanistan Earthquake (Khost, 2022)



WFP Use the VAP from partners to assess damage to infrastructure which informs operation on access and logistics.



Afghanistan Earthquake (Khost, 2022 & Nangarhar 2025)

ie Afghanistan Physical Access Constraints

Warning

- Information
- Others
- Landslide
- Other

Roads

- Primary
- Secondary
- Tertiary

Roads Status

- Passable/Undamaged
- Passable with restrictions/Damaged

Landslide

PAC Type: **Landslide**

Reported Remarks: **Road partially damaged**

Share update

Latest Updates

- Torghundi**
Open -
18 February 2025
- Salang Pass - Salang Pass: Open with restriction.**
Passable with restrictions/Damaged - Salang Pass: The weather is sunny on both the north and south sides of Salang Pass. The roadway is open to traffic in both directions; however, icy surface conditions are present along the route. Long trucks are restricted to nighttime transit only from either direction. Drivers are advised to use caution and adjust driving operations due to hazardous road conditions.
15 January 2026
- Torkham - Torkham Crossing Point**
Not Passable - Torkham crossing : The Pakistan Government has approved the re export of all Afghan transit trade consignments currently stranded at Karachi and Gwadar ports. The decision aims to ease port congestion and support traders and humanitarian actors affected by prolonged border closures. This approval also covers Afghan Transit Trade (ATT) containers originating from Vietnam and Malaysia. Exporters and clearing agents may now request re export through any Pakistani seaport. The Ministry of Commerce and FBR will soon issue detailed guidelines, including timelines, documentation requirements, and applicable fees.
15 January 2026
- Chaman / Spinboldak**
Closed - Chaman/ Spinboldak Crossing remains completely closed for all types of bilateral movements between both countries. Only repatriated Afghan refugees from across Pakistan are being allowed to cross the border into Afghanistan.
15 January 2026
- **Not Passable** - Chaman Crossing remains closed for the second consecutive day for all types of transport and pedestrian movements with no official update or progress toward reopening.
13 October 2025
- Landslide**
Road partially damaged
26 September 2025
- Landslide**

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Afghanistan Earthquake (Khost, 2022 & Nangarhar 2025)

Herat, Afghanistan - Earthquake 2023 by HQ GIS, WFP Emergencies

Field Assessment : Nawzadiha

Area Office	HAO
Province	Hirat
District	Injil
Village Name	Nawzadiha
GPS Point	34.6011462 62.2454453 1599.1000000000001 4.4
Comments	111hh not covered

Legend

Field Assessment as of 23 October

HHs caseload

HHs

- > 245 - 1,000
- 201 - 245
- 142 - 200
- 55 - 141

ADAM Epicenter

Field Assessment as of 23 October | HHs caseload | ADAM Epicenter | Airports | Warehouses | WFP Facilities | Airports | Supply Routes | Districts

Options | Filter by map extent | Zoom to | Clear selection | Refresh

Select Area Office	Select Province	Select District	Village Name	GPS Point	comments:
HAO	Hirat	Injil	Chahak	34.5312462 62.0816381 1166.6 4.733	400 houses were affected WFP provided GFA assistance.
HAO	Hirat	Zindajan	Chashma Ahmad Baland	34.7260203 61.8946263 1344.0 4.833	43 households were impacted by a recent earthquake in this village, WFP provided GFA assistance.
HAO	Hirat	Zindajan	Stekhwan Chil	34.7330396 61.8842894 1364.0 4.800	24 HHs are in urgent need of assistance including food and nutrition. Immediate action is required to ensure their basic necessities are met, providing them with the essential support they need to recover from this devastating event.

82 features 0 selected



Afghanistan Earthquake (Khost, 2022 & Nangarhar 2025)



By Road



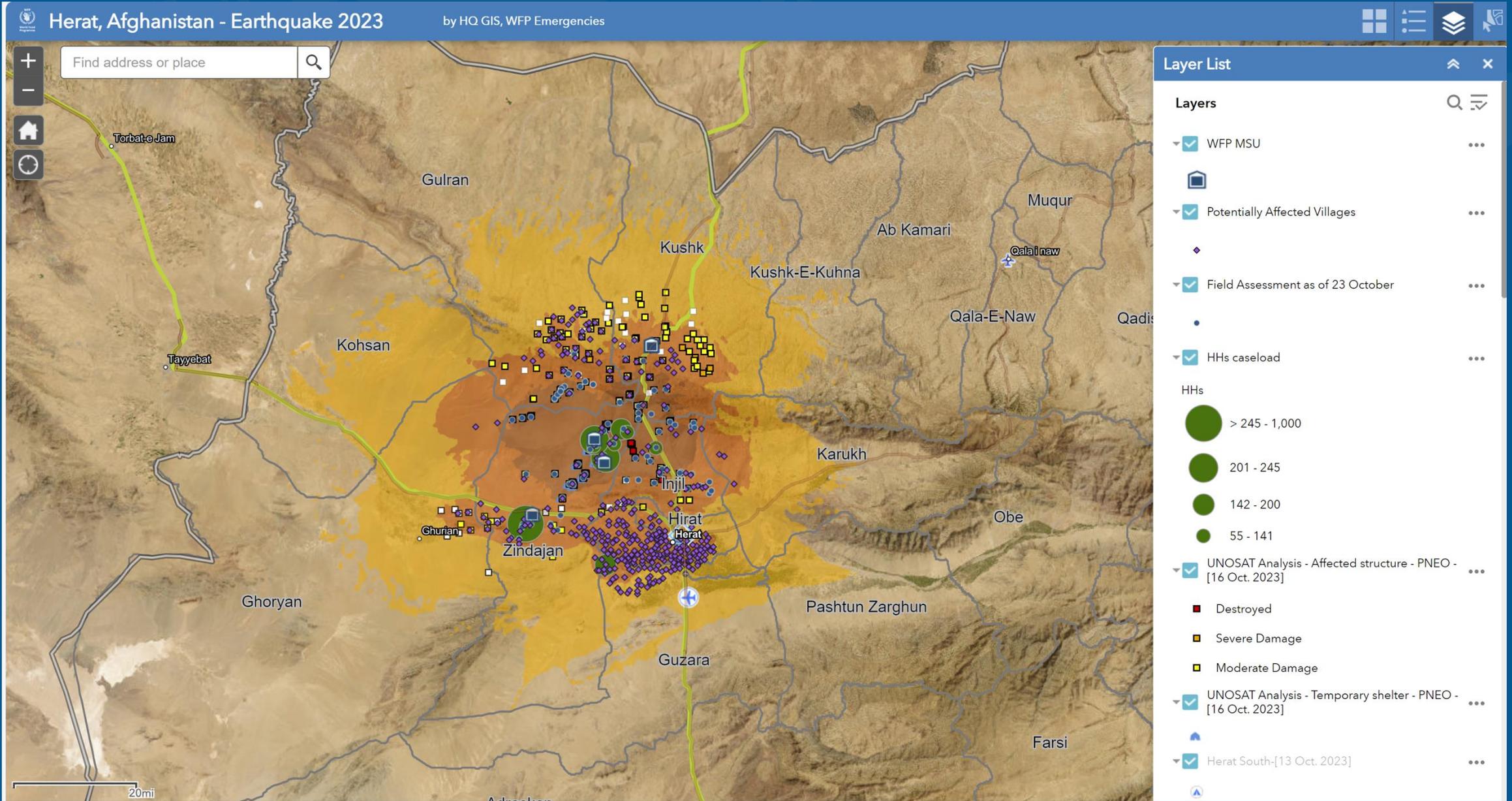
By Air



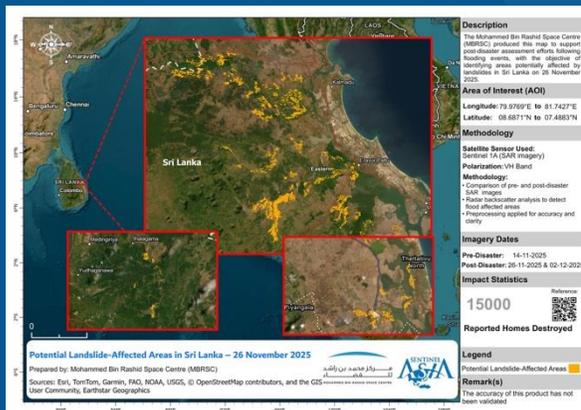
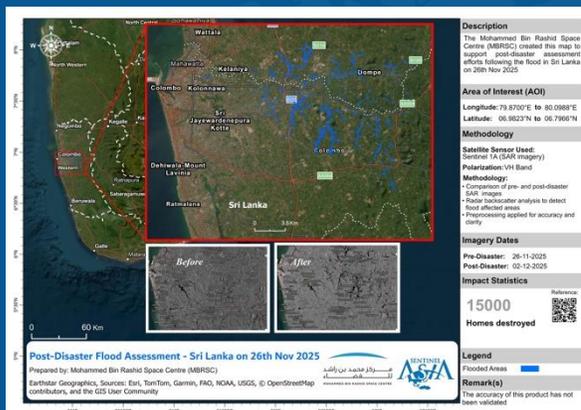
By Foot



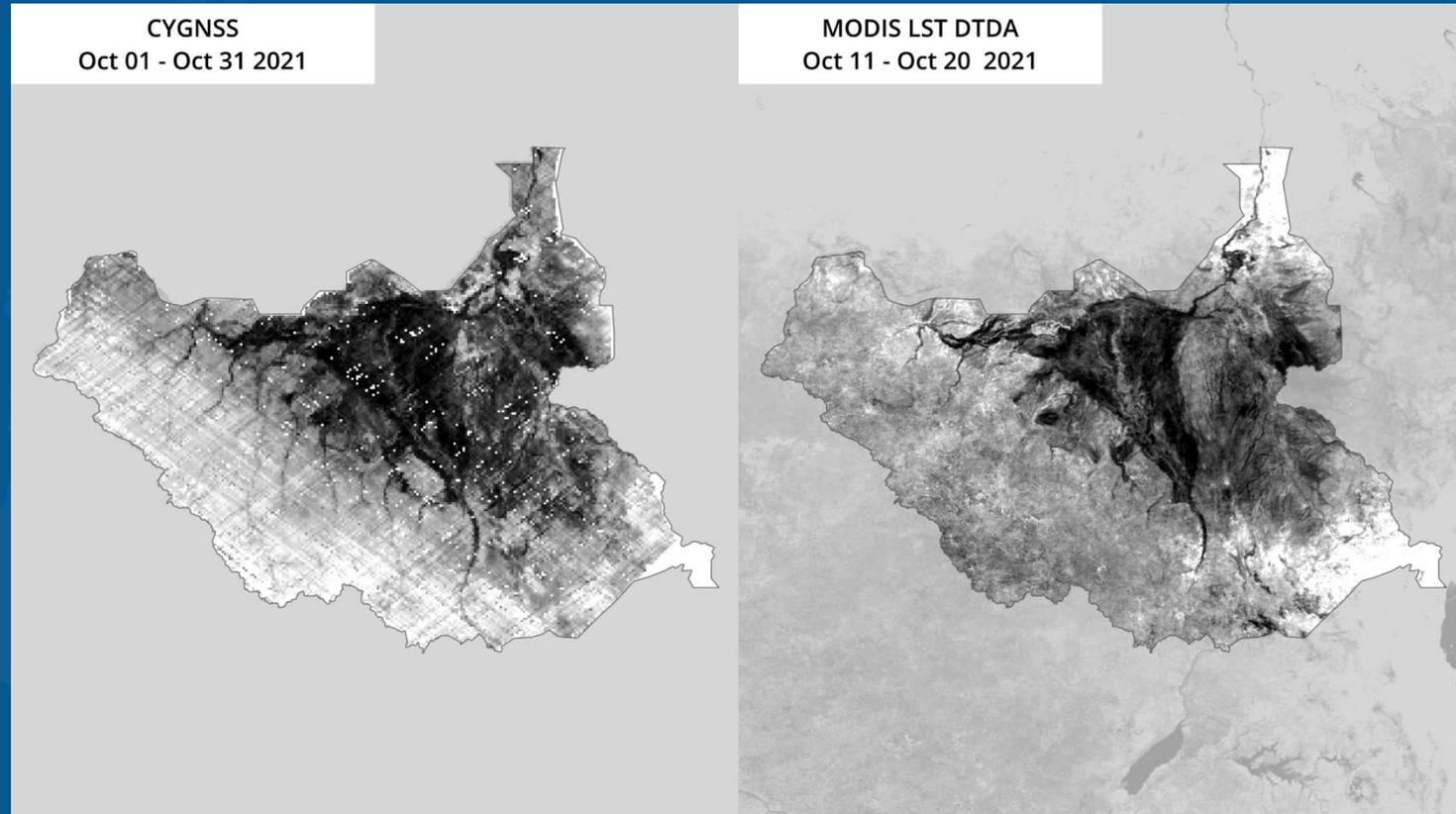
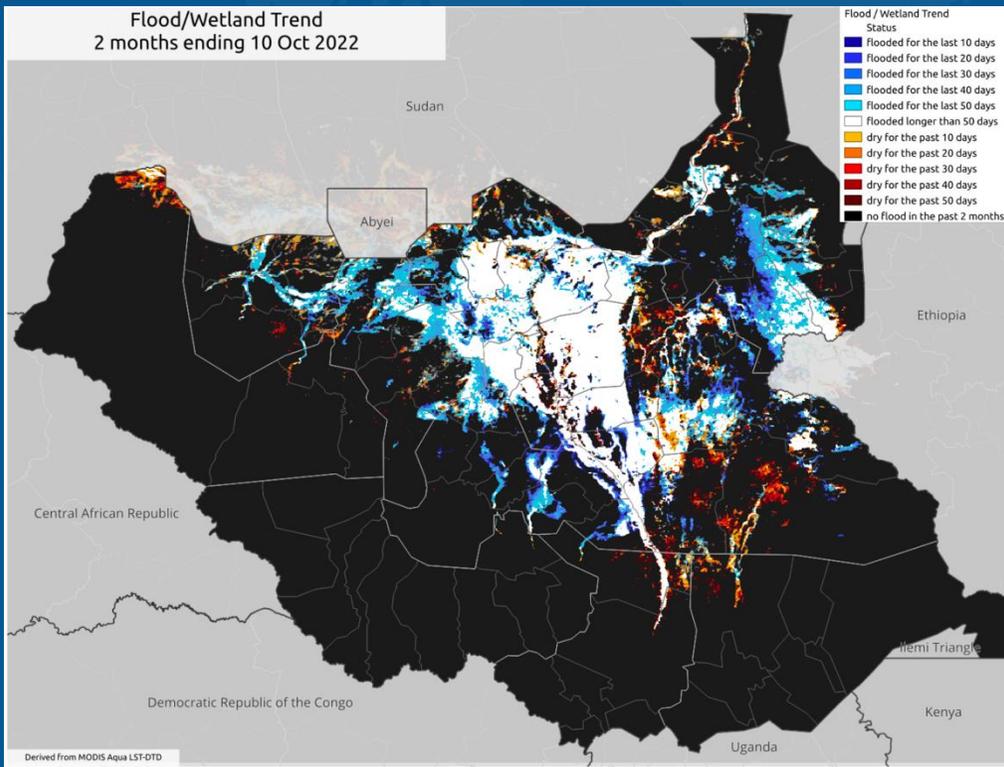
Informing Decisions: Down is Up



Sri Lanka Cyclone & Flooding (2025)



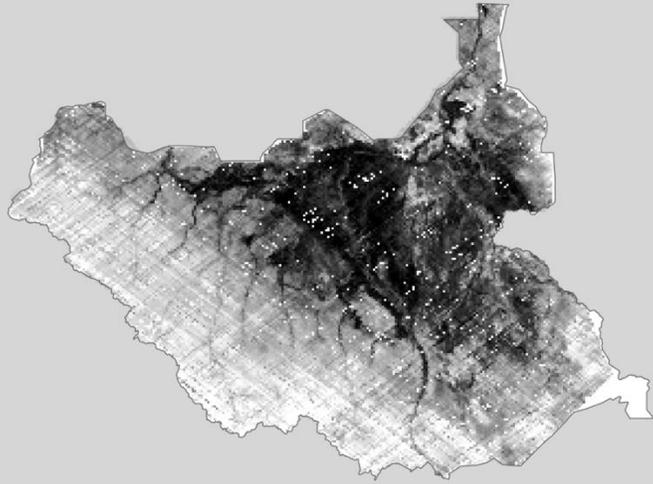
South Sudan Floods



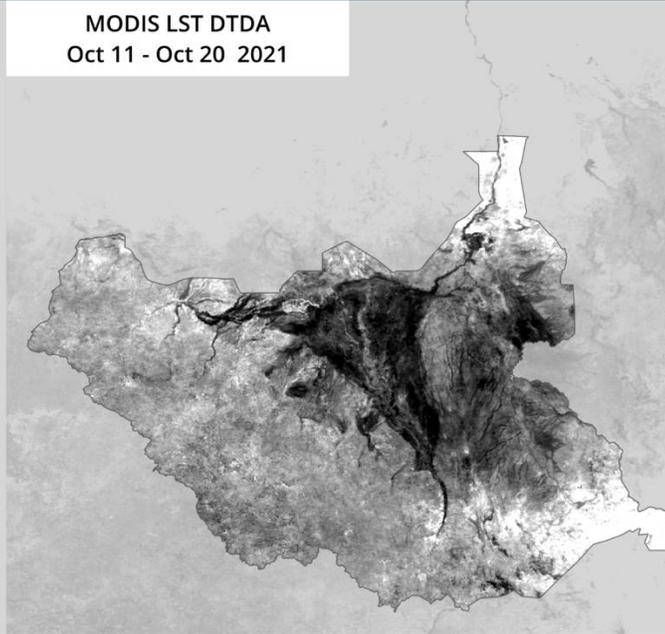
Both Optical and SAR data fall short in identifying the full extent of flooding and wetland extent in South Sudan. Without this information, UN agencies and partners are not able to properly plan for relocating population in a safe location where water has not reached historically and seasonally.

South Sudan Floods

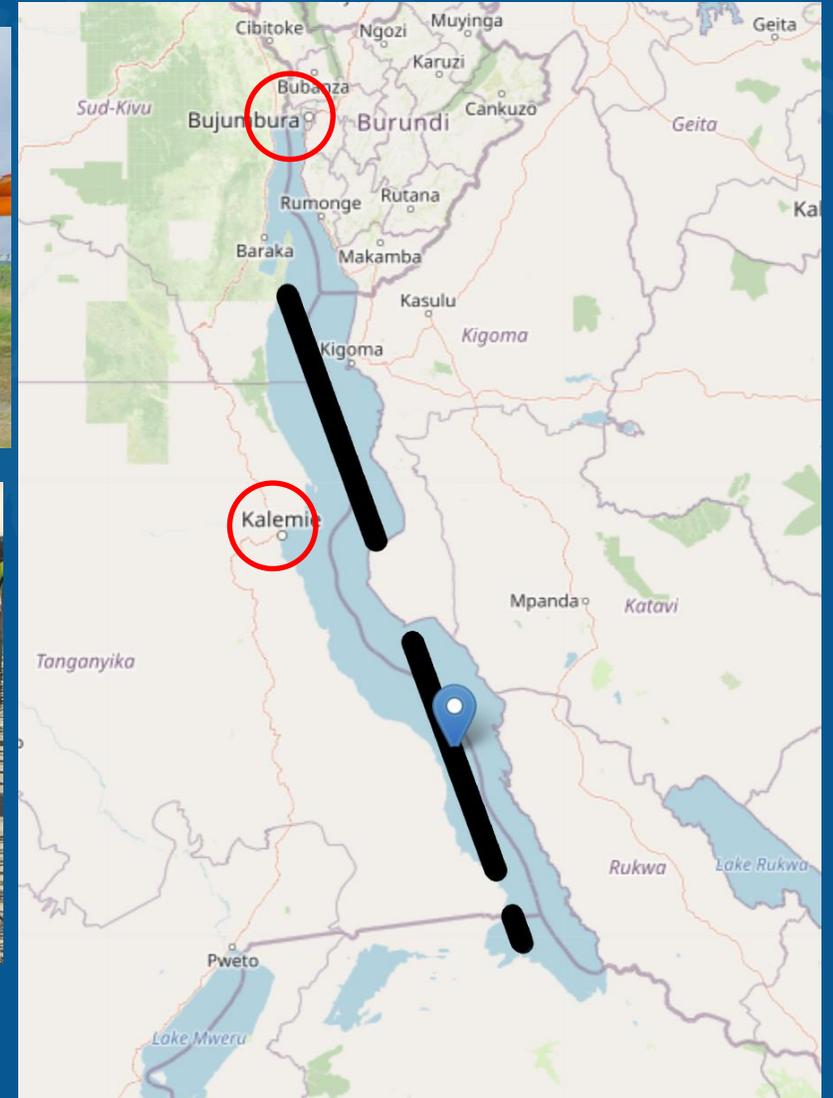
CYGNSS
Oct 01 - Oct 31 2021



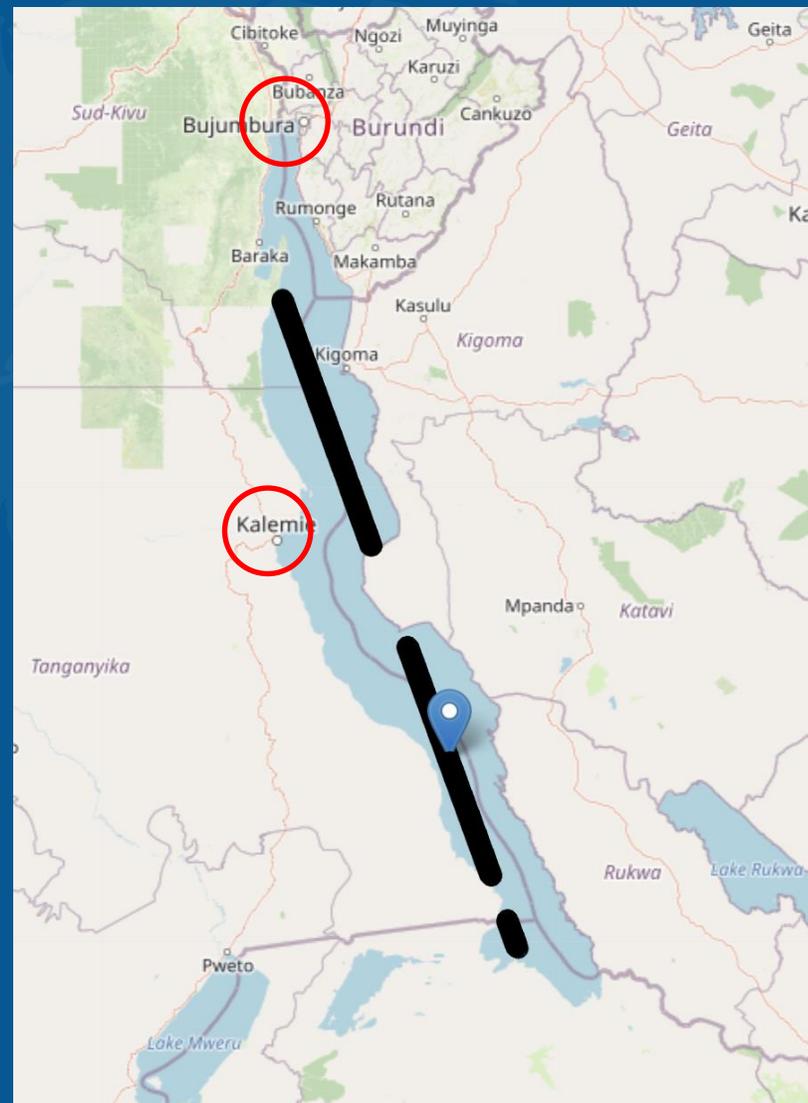
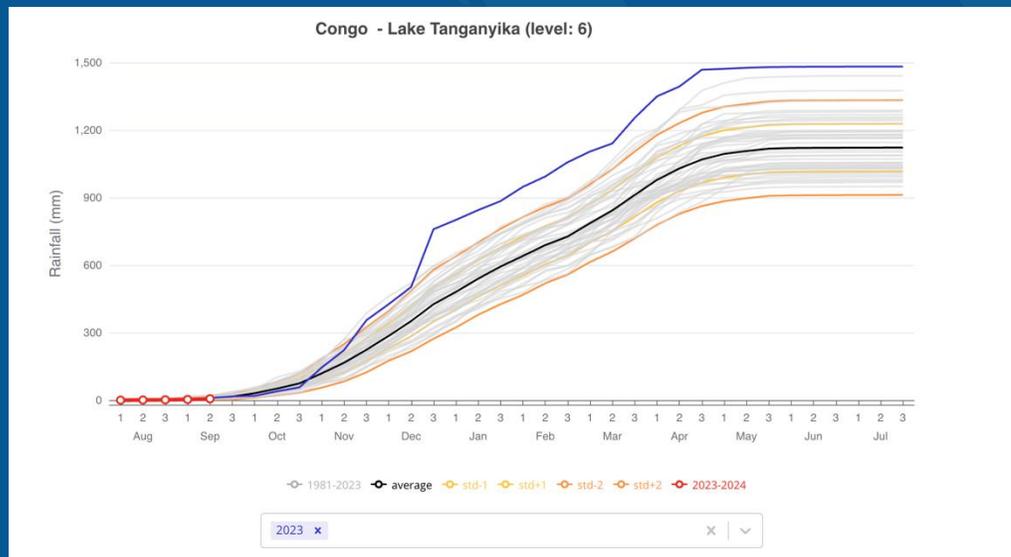
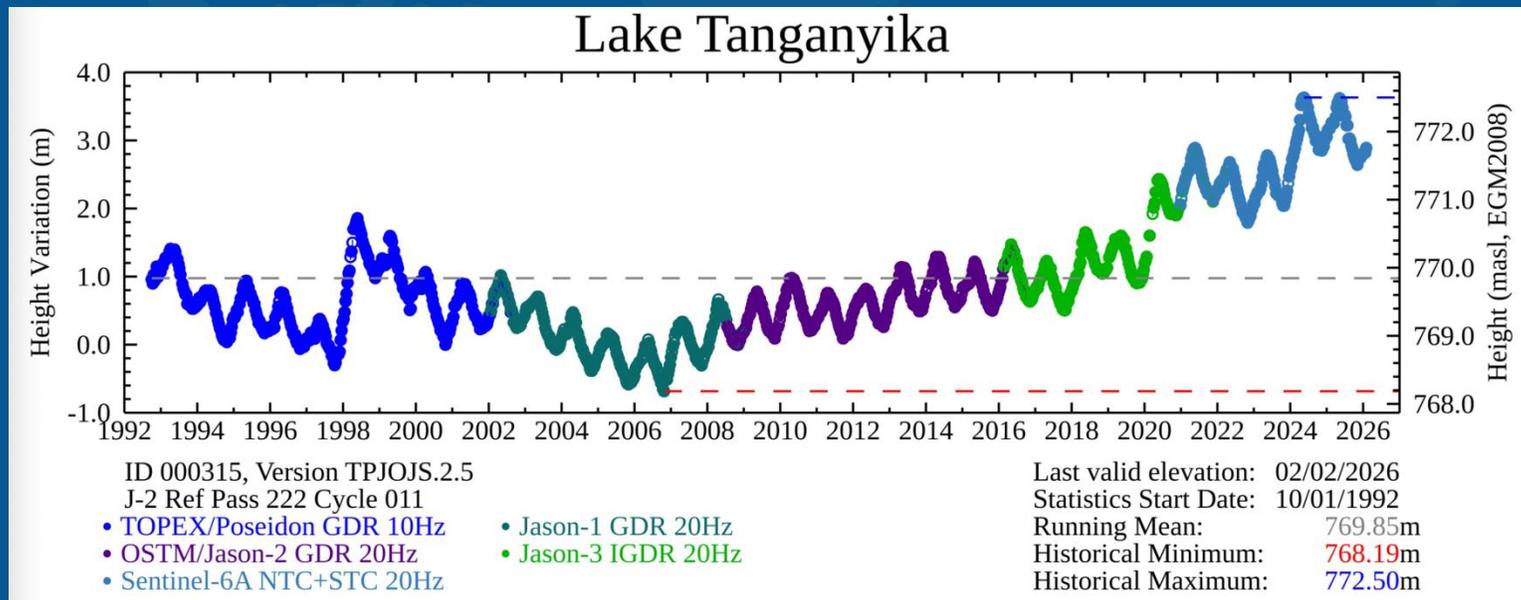
MODIS LST DTDA
Oct 11 - Oct 20 2021



Lake Tanganyika (Burundi and Eastern Dem. Rep. of the Congo)



Lake Tanganyika (Burundi and Eastern Dem. Rep. of the Congo)



AI is coming to the Humanitarian Operations

SKAI – Building Damage Assessment using AI

Google Research – Geospatial Reasoning / Geospatial Foundation Models

Microsoft AI for Good Lab

NVIDIA is developing and testing on-board processing of satellite data in-orbit

Elon Musk is building data canter in space as we speak



Food for thought

Humanitarian fund is shrinking, and disasters are becoming more frequent and more damaging – automation is inevitable

Humanitarian operations are now shifting from reactive to predictive humanitarian action– imagine from counting damaged buildings to number of people saved because of proper community based early warning

AI and Technology will transform how we respond to disasters and we are already seeing huge progress in the last 5 years

