

# Automated Disaster Analysis & Mapping (ADAM)

Operationalizing flood data for impact

**WFP Emergencies – Geospatial Support Unit**

Feb 2023



World Food  
Programme

SAVING  
LIVES  
CHANGING  
LIVES

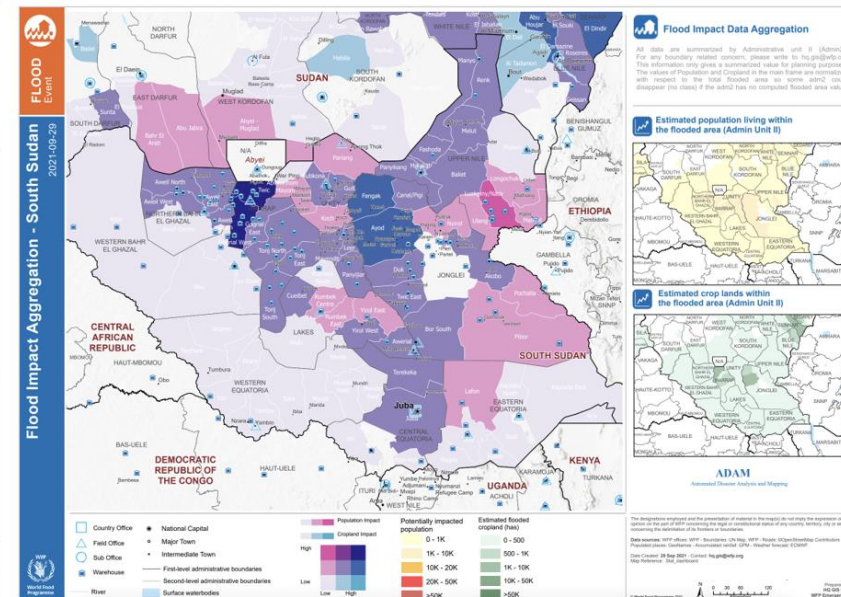
An aerial photograph showing a village that has been severely damaged, likely by a disaster. The image shows numerous buildings with collapsed roofs, scattered debris, and damaged infrastructure. The scene is dark and somber, emphasizing the impact of the disaster.

# Advanced Disaster Analysis & Mapping (ADAM)

WFP's corporate geospatial solution for emergency preparedness, early warning and response

ADAM is an **operational system** for collecting, analysing and mapping geospatial and socio-economic information following sudden onset humanitarian emergencies. Currently operational for **floods, earthquakes and tropical storms**, ADAM **issues alerts** and **response dashboards** aggregating relevant, evidence-based, near-real time risk and impact information.

# Flood



# Use Case 1: Chad Flooding (2022)

## Early warning Watchlist

1-6 months

## Rainfall forecast & flood alert

3-7 days

Event

## Automatic Impact Analysis

72-hour post flood

## On-demand Operational Dashboard

Through the course of response

- Seasonal watch list by internal Early Warning unit
- Sub-national flood risk analysis under development

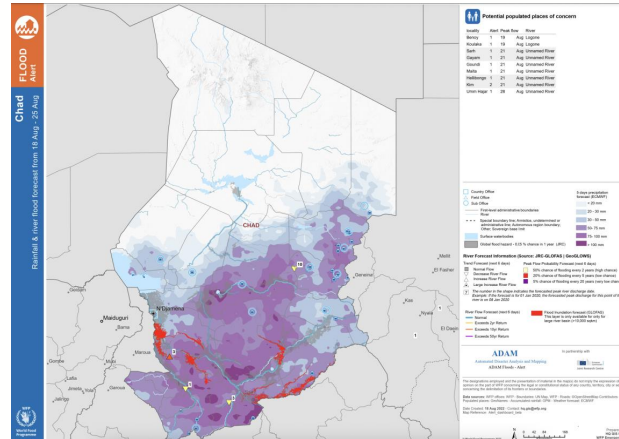


WFP EARLY WARNING WATCH LIST - ACTIVE WARNINGS FOR RBD (1/2)

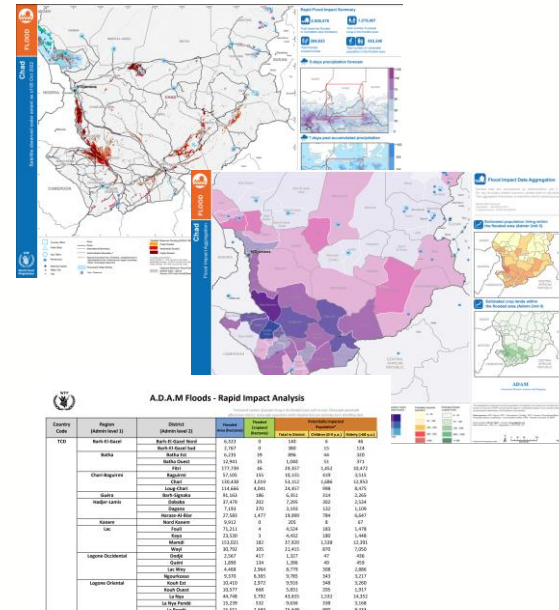
The following are warnings issued on or after 1 Aug 2022 and assessed to be still valid.

Region	Warning	Start Date	End Date	Risk Level	Comments
Eni	Active warning for flood risk	14/08/2022	14/08/2022	High	Active warning for flood risk
Eni	Active warning for flood risk	14/08/2022	14/08/2022	High	Active warning for flood risk
Eni	Active warning for flood risk	14/08/2022	14/08/2022	High	Active warning for flood risk
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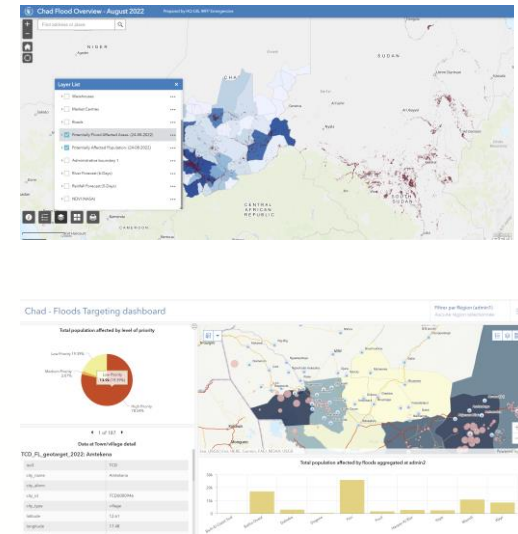
- ECMWF Rainfall forecast (3-day, 5-day and 7-day)
- GLOFAS Flood inundation forecast (6-day)



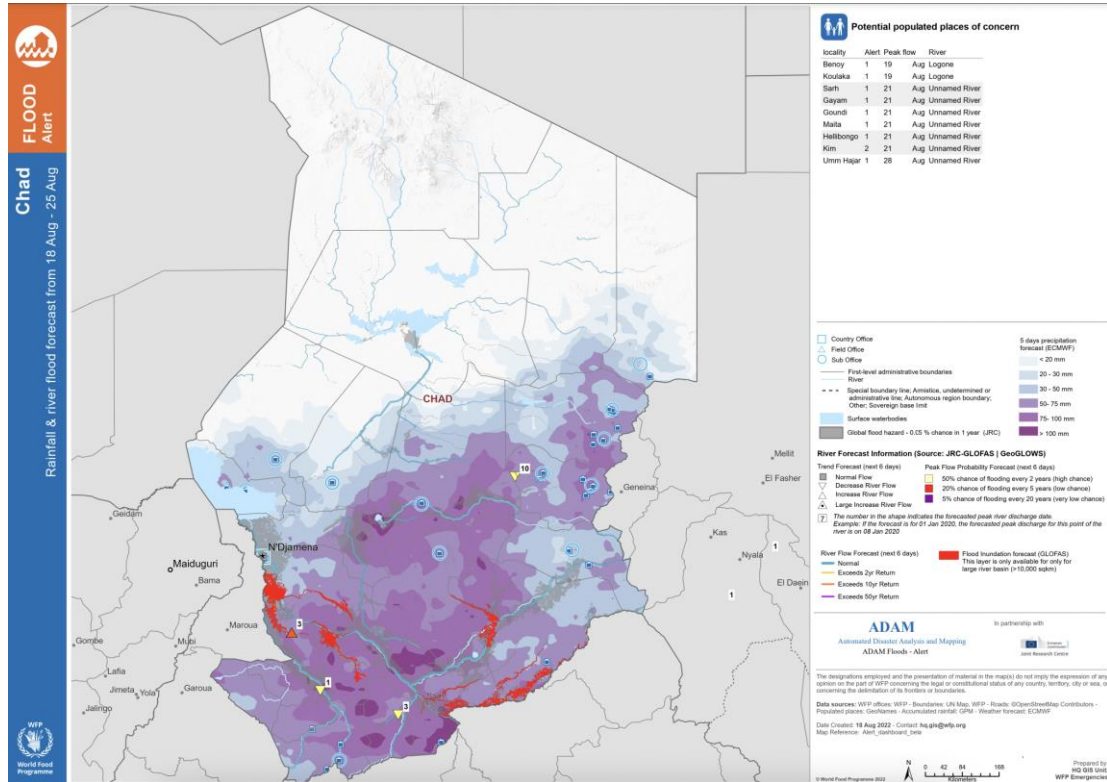
- Satellite-derived impact analysis – NASA VIIRS (population, crop, points of interest)



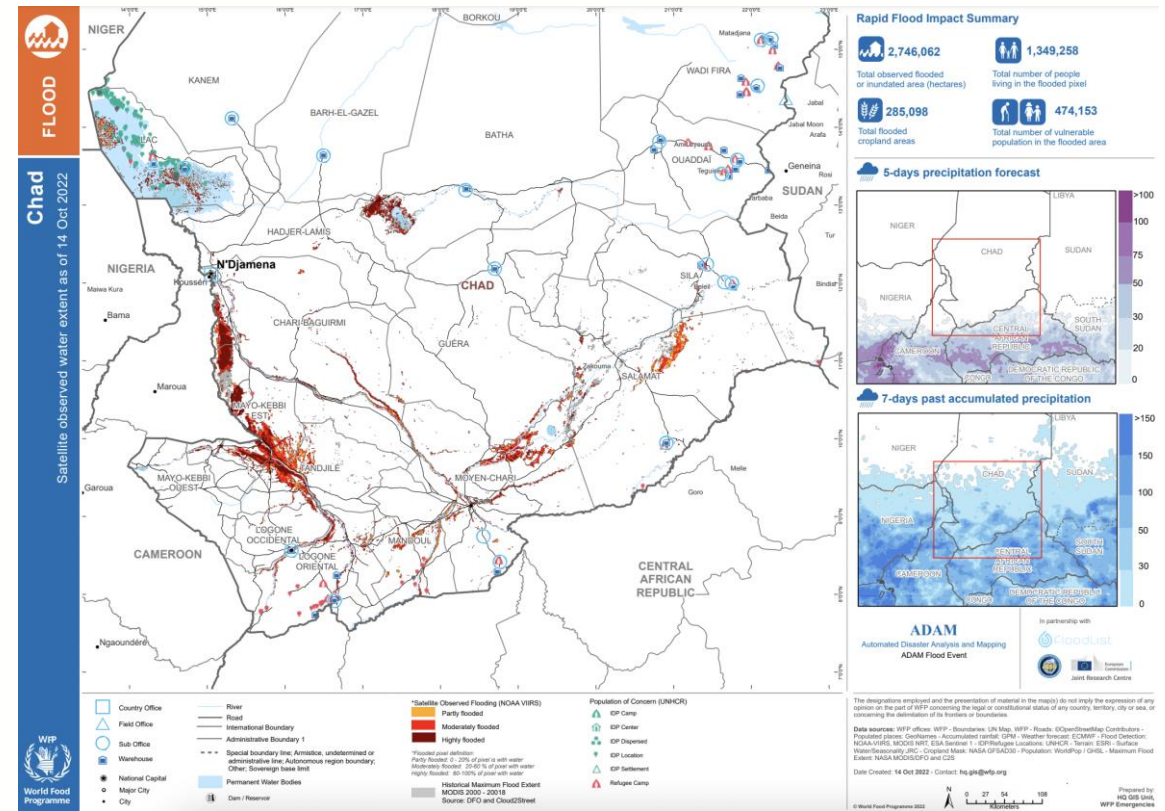
- Interactive, near-real time providing operational overview, tailored to DO needs
- High resolution satellite imagery analysis



# Flood Forecast



# Flood Impact



## Use Case 2: Zambia Flooding (2023)

## Early warning Watchlist

Nov 2022

## Rainfall forecast & flood alert

25 Jan – 01 Feb

*Event*

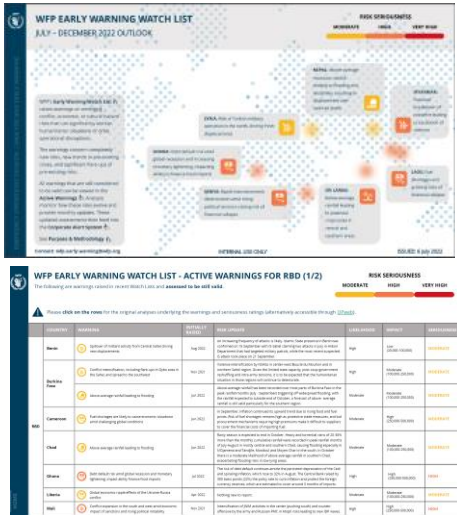
## Automatic Impact Analysis

30 Jan

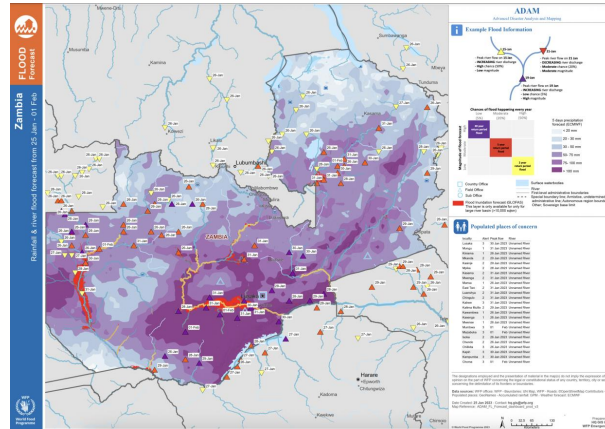
## On-demand Operational Dashboard

02 Feb

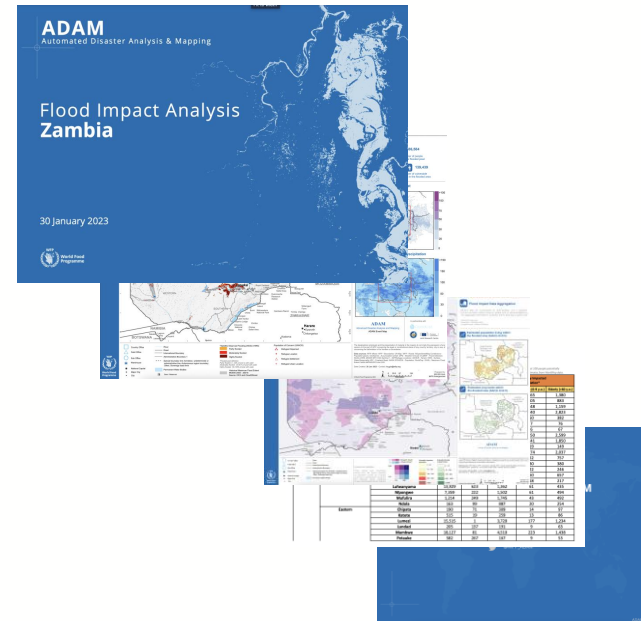
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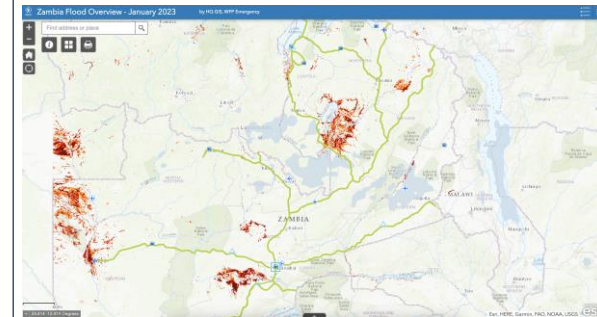
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# Use Case 2: Zambia Flooding (2023)

Early warning Watchlist

Rainfall forecast & flood alert

Automatic Impact Analysis

On-demand Operational Dashboard

1-6 months

3-7 days

Event

72-hour post flood

Through the course of response



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BREAKING NEWS 5 days ago - Indonesia – Floods in South Sulawesi Leave 2 Dead, Hundreds of Homes Damaged

## Zambia – “Catastrophic Situation” After Floods Hit Southern and Central Provinces

30 JANUARY, 2023 BY RICHARD DAVIES IN AFRICA, NEWS

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Wide areas of Southern and Central Provinces in Zambia are underwater after long-term rainfall caused rivers to overflow. Disaster authorities in Zambia have described it as a “catastrophic situation”.



WARMA has been issuing flood warnings since mid-January. Some rivers are expected to be high or experience a second peak well into February, including the Luapala river in Milenge district, the Kafue river in Kitwe district, and the Zambezi river in Lukulu and Senanga districts.

An estimated 15,000 people from 3,500 households were affected by flooding in Southern Province in January last year.



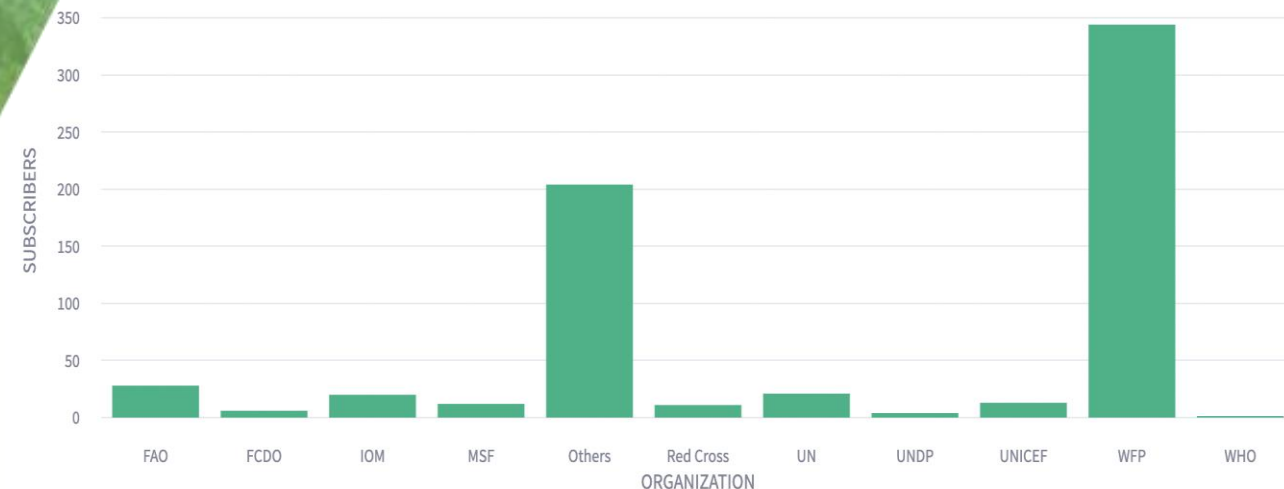
Floods in Zambia, 27 January 2023. Photo: DMMU Zambia

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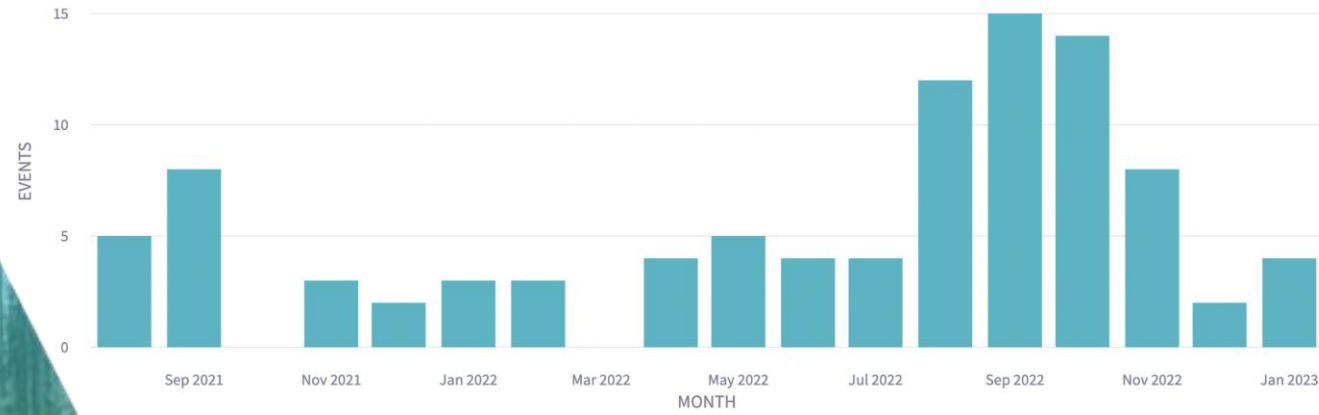
# ADAM SUBSCRIBERS

## 800 + SUBSCRIBERS

- **55%** WFP
- **35%** Other humanitarian organization
- **10%** government and private individuals



# ADAM EVENTS



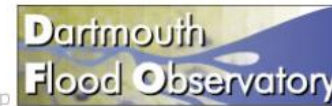
An aerial photograph of a flooded road, likely a highway, with water covering the road surface and surrounding areas. A large, semi-transparent green arrow points from the left side of the image towards the right, partially obscuring the road and the text 'What's Next?'.

# What's Next?

- Integrate GFMS to ADAM Floods
- Integrate Model of Models from PDC
- Integrate Google FloodHub data
- Include GLOFAS Rapid Impact Assessment

# Thank you!

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A MAXAR COMPANY



ADAM Floods Partners & Collaborators

