

ADAM Grand Vision

To be the first system to provide rapid disaster (and conflict) impact analysis for WFP and the wider humanitarian community and decision makers in the first critical 72-hours of an emergency using the best available geospatial dataset, methodologies and tools from WFP partners and collaborators

ADAM by the numbers

- 2,300+ unique subscribers and users
- 200+ major & minor disasters analyzed since 2014
- 20+ humanitarian and aid organizations/partners

ADAM's Family

ADAM Earthquake

- Shake Intensity
- Epicenter Map
- Population Impact Table (by shake intensity)

ADAM Tropical Storm

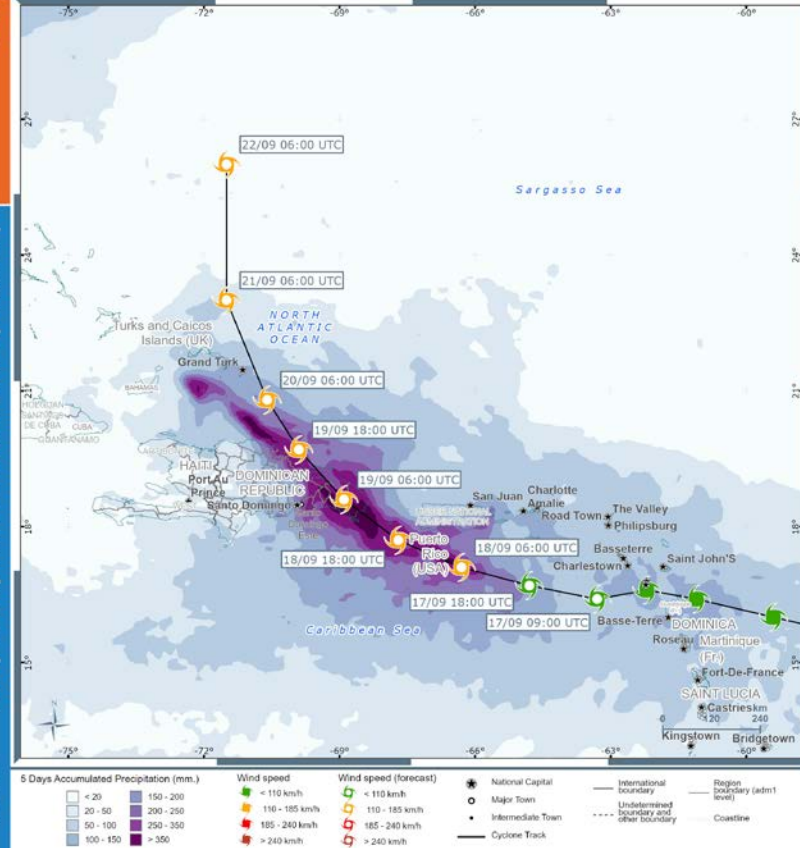
- Storm Trajectory Map
- Rainfall Forecast Map
- Population Impact Table (by windspeed)

ADAM Floods

- Flood Map/Forecast
- Population and Cropland Impact Map
- Population and Cropland Impact Table

ADAM Tropical Storm

TROPICAL STORM
Tropical Cyclone FIONA
5 Days Precipitation Forecast - 16 Sep to 21 Sep



PRECIPITATION BY CITY

Accumulated Precipitation Forecast

City	5 Days Rainfall
La Romana (DOM)	419 mm
San Pedro de Macoris (DOM)	357 mm
Salvaleón de Higüey (DOM)	281 mm
Ponce (PRI)	235 mm
San Francisco de Macoris (DOM)	166 mm
Puerto Plata (DOM)	151 mm
Santo Domingo (DOM)	147 mm
Los Alcarrizos (DOM)	147 mm
Concepción de La Vega (DOM)	124 mm
Caguas (PRI)	120 mm
Lamentin (GLP)	114 mm
Baie-Mahault (GLP)	114 mm
Saint-François (GLP)	114 mm

Automatically generated alert powered by:
ADAM - Automated Disaster Analysis and Mapping
17 September 2022 09:30:27 GMT

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Please report errors to hq.gis@wfp.org. Event ID: 1000916_12. Coordinate system: GCS WGS 1984. Sources: GDACS, LandScan 2018, GADM, WFP, ESRI. The designations employed and the presentation of material in this map do not imply the expression of any opinion whatsoever of WFP concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

FIONA-22 - Population Exposure Estimation based on bulletin n. 12

The population exposure, summarized by Admin 0, 1 and 2, has been calculated using a 1 km resolution LandScan raster (LandScan Database 2018). Admin boundaries are defined by Gaul 2015 dataset. Windspeed buffers are produced by GDACS (JRC). This is a preliminary analysis and has not yet been validated in the field.

Analysis performed by ADAM (Automated Disaster Analysis and Mapping) on 17-09-2022 at 09:28 UTC.
Contact: hq.gis@wfp.org

ADM0_NAME	ADM1_NAME	ADM2_NAME	WIND_SPEED	60 km/h	90 km/h	120 km/h
786	Anguilla	Blowing Point	---	786		
		Dog Island	---			
		George Hill	---	1.650		
		Island Harbour	---	3.003		
		Long Bay Village	---	1.207		
1.686	South Hill	---	1.686			
4.700	Stoney Ground	---	4.700			
2.418	The Valley	---	2.418			
15.450	Anguilla - TOT		15.450			
1.885	Antigua and Barbuda	Barbuda	---	1.885		
		Redonda	---			
		Saint George	---			
		Saint John	---	10.713	10.713	
		Saint Mary	---	8.067	8.067	
		Saint Paul	---	10.031	10.031	
		Saint Peter	---	8.526	8.526	
		Saint Philip	---	3.531	3.531	
186.109	Antigua and Barbuda - TOT		93.997	92.112		



**ADAM Flood
Forecast**

**ADAM Flood
Impact Analysis**

**ADAM Flood
Monitoring**



Day 0 – next 14 days

First 72 hours

Long Floods
1-3 months or more

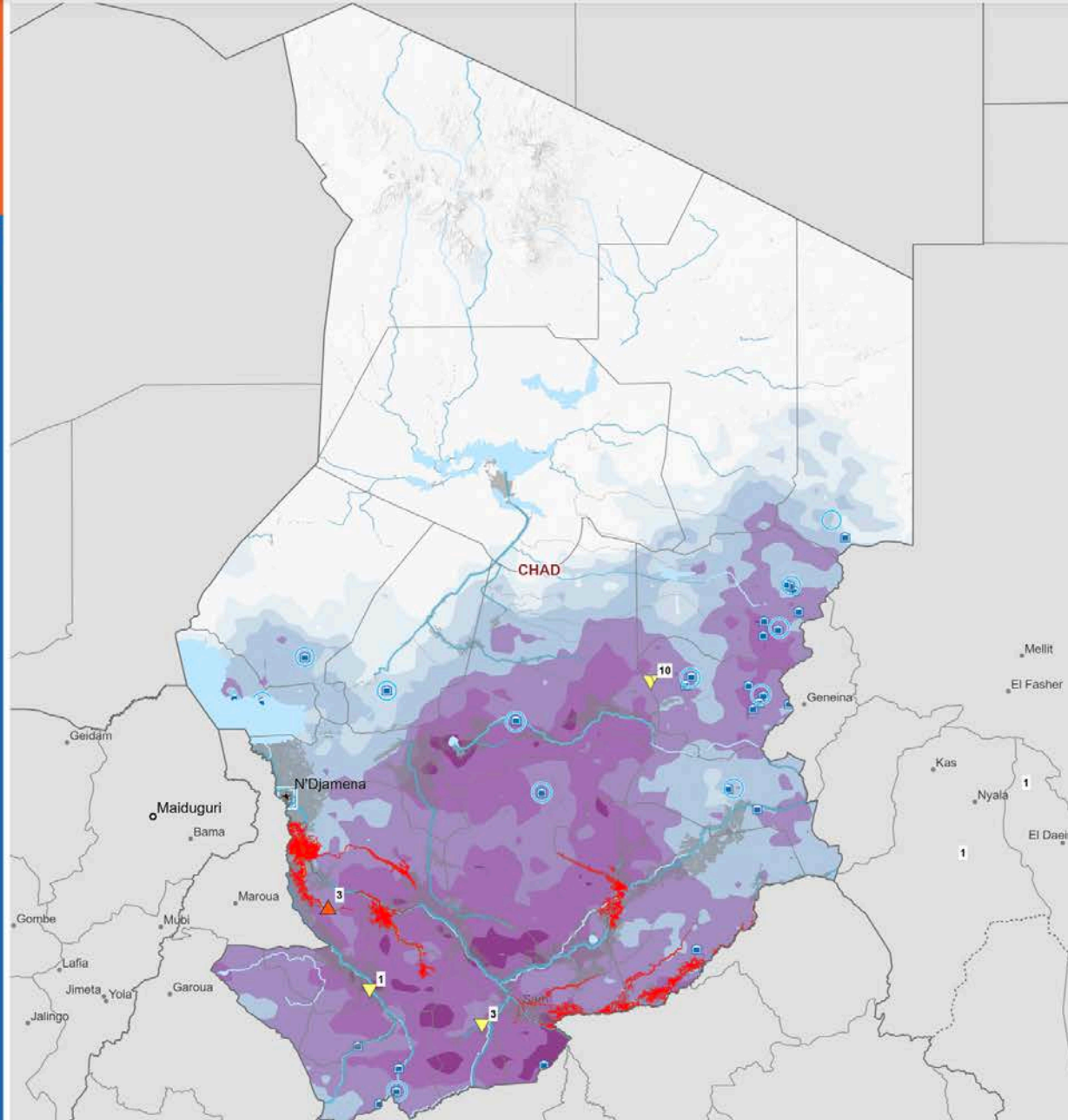
ADAM Floods - Forecast



FLOOD Alert

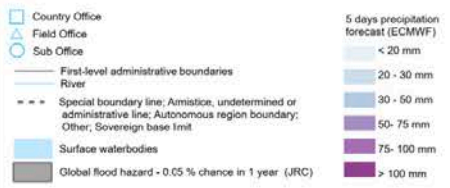
Chad

Rainfall & river flood forecast from 18 Aug - 25 Aug



Potential populated places of concern

locality	Alert	Peak flow	River
Benoy	1	19	Aug Logone
Koulaka	1	19	Aug Logone
Sarh	1	21	Aug Unnamed River
Gayam	1	21	Aug Unnamed River
Goundi	1	21	Aug Unnamed River
Malta	1	21	Aug Unnamed River
Hellibongo	1	21	Aug Unnamed River
Kim	2	21	Aug Unnamed River
Umm Hajar	1	28	Aug Unnamed River



River Forecast Information (Source: JRC-GLOFAS | GeoGLOS)

Trend Forecast (next 6 days)

- Normal Flow
- Decrease River Flow
- Increase River Flow
- Large Increase River Flow

Peak Flow Probability Forecast (next 6 days)

- 50% chance of flooding every 2 years (high chance)
- 20% chance of flooding every 5 years (low chance)
- 5% chance of flooding every 20 years (very low chance)

The number in the shape indicates the forecasted peak river discharge date.
 Example: If the forecast is for 01 Jan 2020, the forecasted peak discharge for this point of the river is on 08 Jan 2020

River Flow Forecast (next 6 days)

- Normal
- Exceeds 2yr Return
- Exceeds 10yr Return
- Exceeds 50yr Return

Flood Inundation forecast (GLOFAS)
 This layer is only available for only for large river basin (>10,000 sqkm)

ADAM

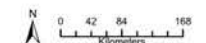
Automated Disaster Analysis and Mapping
 ADAM Floods - Alert



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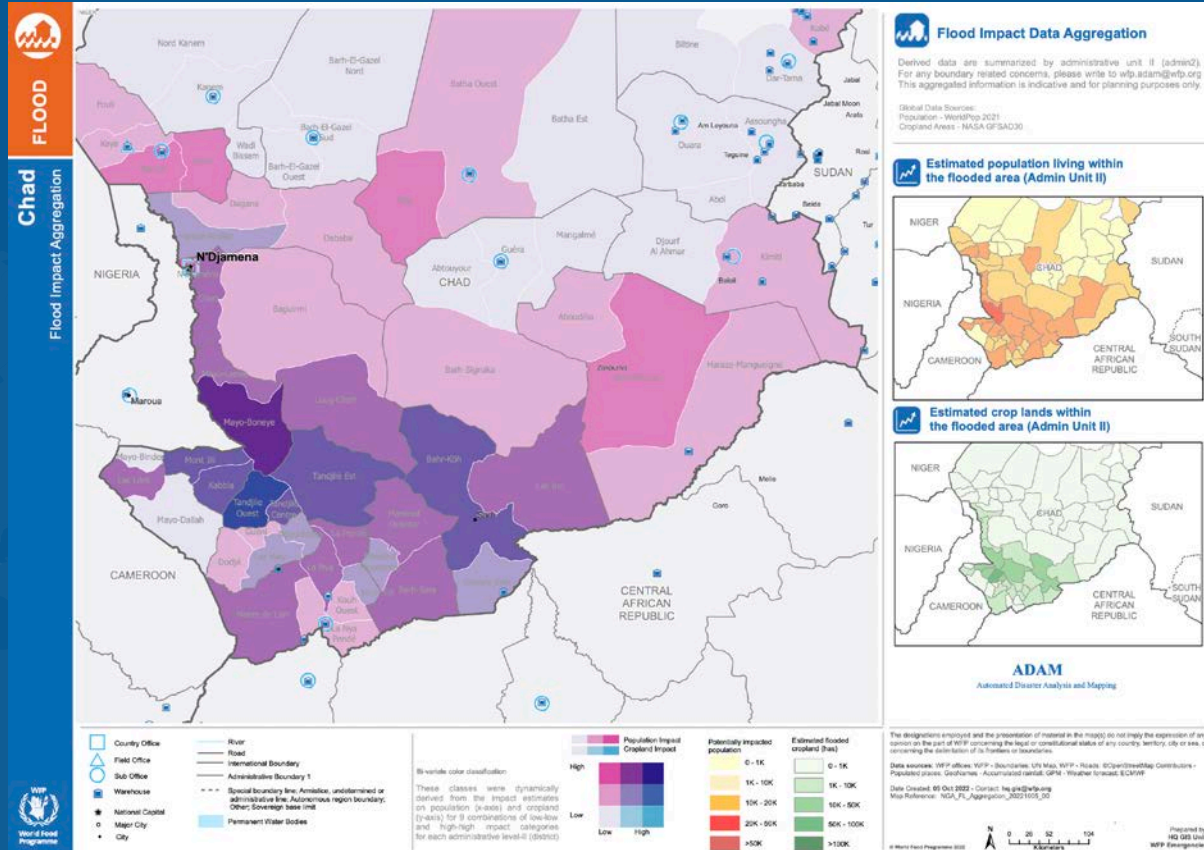
Data sources: WFP offices; WFP - Boundaries; UN Map; WFP - Roads; ©OpenStreetMap Contributors - Populated places; GeoNames - Accumulated rainfall; GPM - Weather forecast; ECMWF

Date Created: 18 Aug 2022 - Contact: hq.gis@wfp.org
 Map Reference: Alert_dashboard_beta



Prepared by:
 HQ GIS Unit,
 WFP Emergencies

ADAM Floods - Event

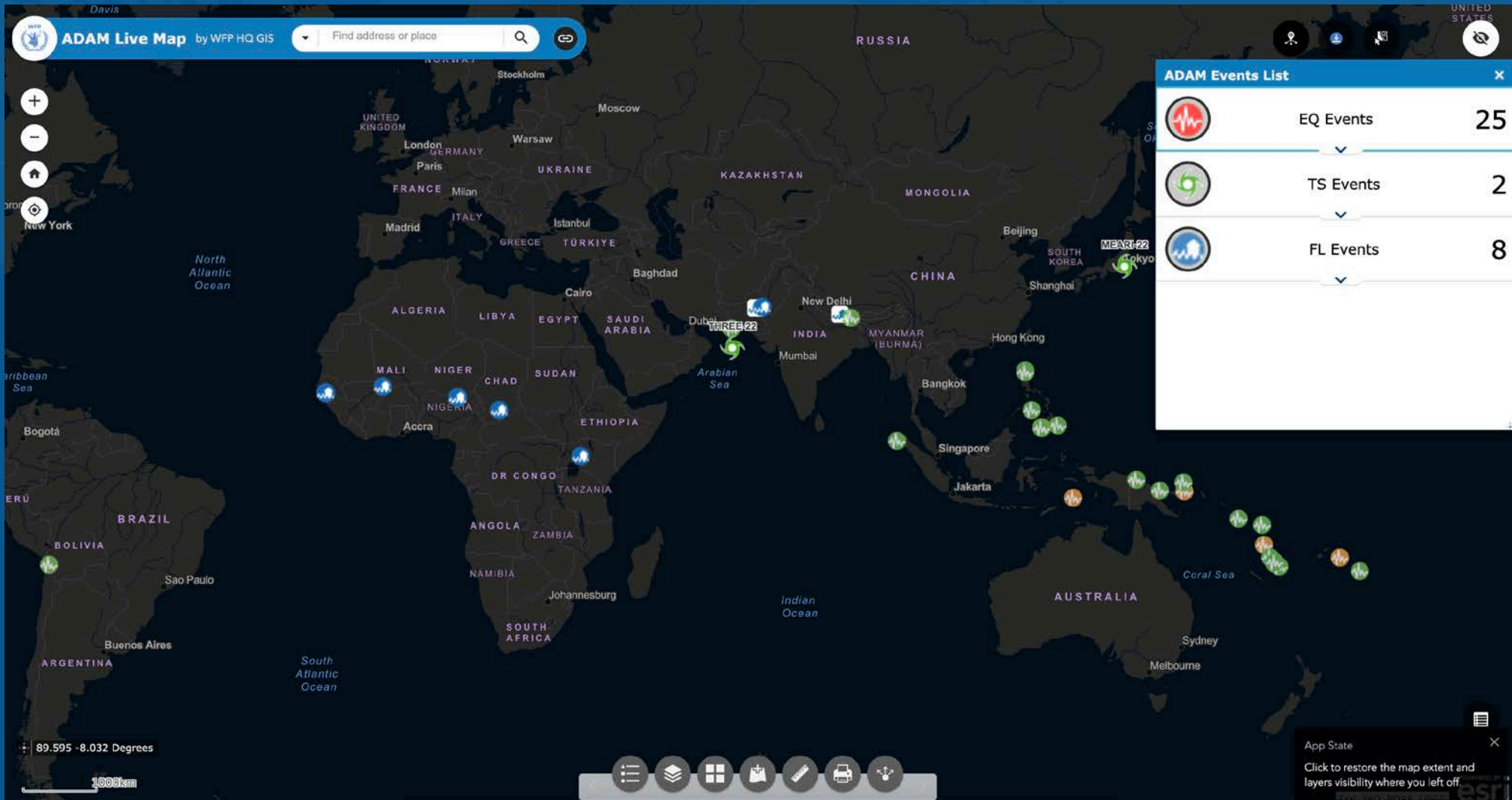


A.D.A.M Floods - Rapid Impact Analysis


District	Potentially Impacted				Country Code	Region (Admin level 1)	Districts (Admin level 2)	Flooded Area (ha)
	Cropland (hectares)	Total in District	Children (0-9 y.o.)	Elderly (>60 y.o.)				
Barh-El-Gazel Nord	0	140	6	46	TCD	Barh-El-Gazel	Barh-El-Gazel Nord	6,123
Barh-El-Gazel Sud	0	380	15	124			Barh-El-Gazel Sud	2,145
Batha Est	39	896	44	320		Batha	Batha Est	6,789
Batha Ouest	35	1,040	51	371			Batha Ouest	12,345
Fitri	46	29,357	1,452	10,472			Fitri	177,890
Leve-Char	155	1,155	1,025	2,525			Leve-Char	1,234
Total	130,438	3,019	53,112	1,886				12,953
Total	114,666	4,041	24,457	998				8,475
Total	31,473	2,02	1,295	302				2,534
Dogaña	7,193	370	3,193	132				1,109
Haraze-Al-Biar	27,583	1,477	19,099	784				6,647
Moundou	9,917	0	205	6				67
Raya	21,211	4	4,524	183				1,243
Raya	23,536	5	9,332	180				1,890
Misaki	153,874	180	1,834	1,834				1,834



ADAM LIVE MAP | gis.wfp.org/adamlive



ADAM dashboard



Home

Earthquakes

Floods

Tropical Storms

App Settings

Filter displayed records.

Start Date

2016/01/01

End Date

2023/07/14

Aggregate Events By

Event Date

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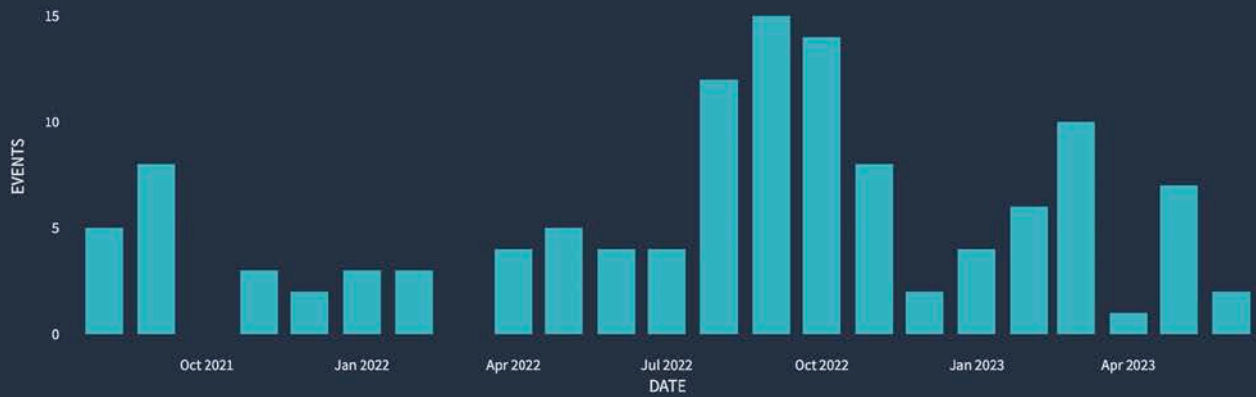
Contact: wfp.adam@wfp.org; Live Map: [ADAM Live Map](#). Data API: [WFP ADAM API](#).

ADAM Floods.

This page shows ADAM Floods records from 2016-01-01 to 2023-07-14.

Flood Events | Flood Subscribers

Floods Events grouped by Date



DATE	EVENTS
Oct 2021	5
Nov 2021	8
Dec 2021	3
Jan 2022	2
Feb 2022	3
Mar 2022	3
Apr 2022	4
May 2022	5
Jun 2022	4
Jul 2022	4
Aug 2022	12
Sep 2022	15
Oct 2022	14
Nov 2022	8
Dec 2022	2
Jan 2023	4
Feb 2023	6
Mar 2023	10
Apr 2023	1
May 2023	7
Jun 2023	2

Flood Events Table

id	iso3	country	rb	flood_area	fl_croplnd	population	date	download
<input type="checkbox"/> FL-2023...	CUB	Cuba	RBP	75959	45981	56198	2023-06-12	Click to dow...
<input type="checkbox"/> FL-2023...	HTI	Haiti	RBP	51845	42118	434174	2023-06-08	Click to dow...
<input type="checkbox"/> FL-2023...	SOM	Somalia	RBN	246525	47441	333905	2023-05-18	Click to dow...
<input type="checkbox"/> FL-2023...	MMR	Myanmar	RBB	402004	297436	615368	2023-05-18	Click to dow...
<input type="checkbox"/> FL-2023...	MMR	Myanmar	RBB	276486	368701	479895	2023-05-16	Click to dow...
<input type="checkbox"/> FL-2023...	COD	Congo, The ...	RBJ	174001	36173	344012	2023-05-08	Click to dow...
<input type="checkbox"/> FL-2023...	UGA	Uganda	RBN	278647	61395	672793	2023-05-08	Click to dow...



**Disaster Events where Sentinel-Asia data
have been very vital for WFP Operations**

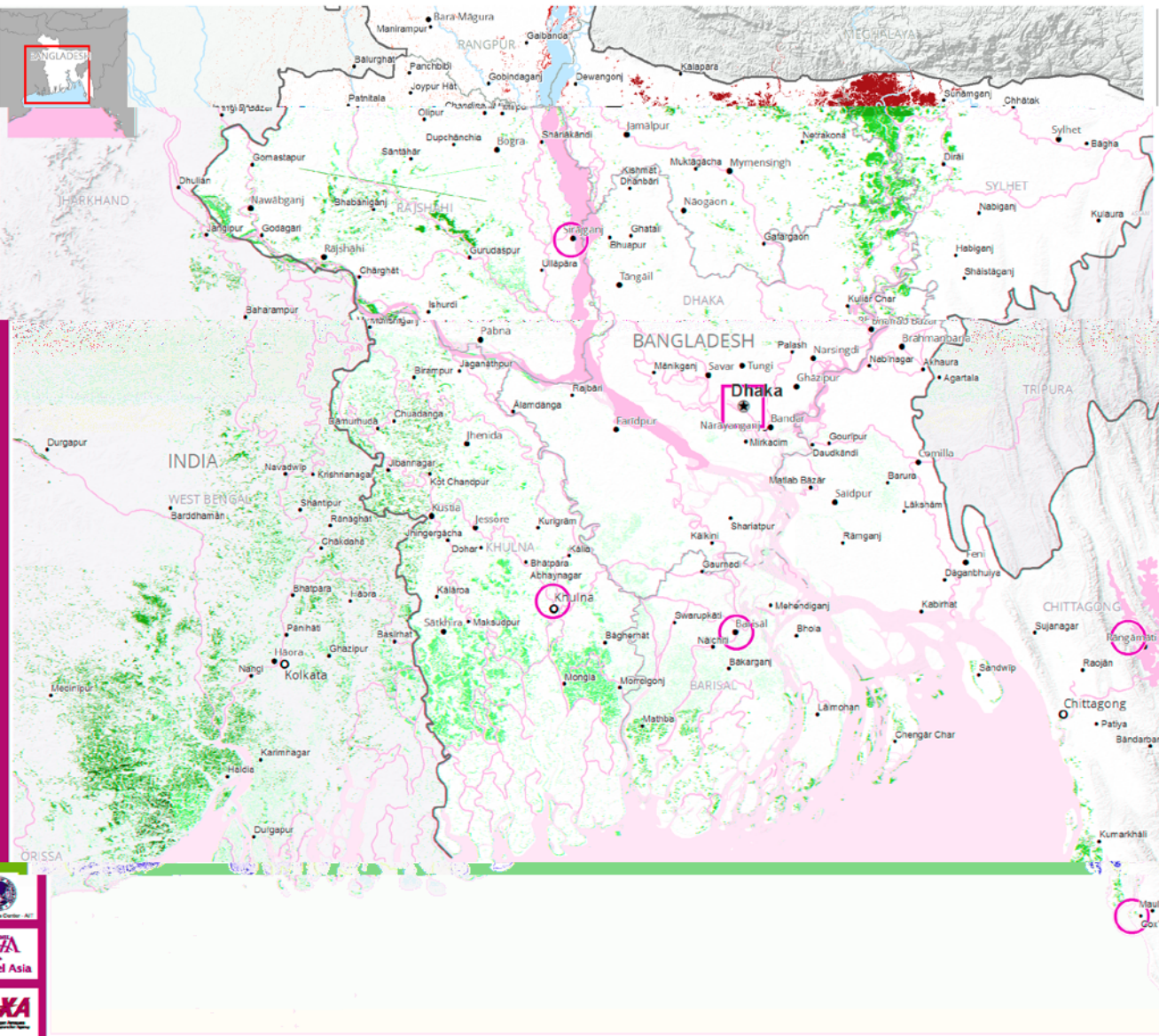


Satellite observed surface water

Bangladesh - TC Amphan 01 June 2020

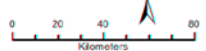
SAVING LIVES CHANGING LIVES

WFP World Food Programme



- Country Office
- △ Field Office
- Sub Office
- National Capital
- Major Town
- Intermediate Town
- Small Town
- International boundaries
- Division boundaries
- River
- Surface waterbodies

- Satellite-detected waters (Sentinel 1-A and ALOS PALSAR-2)
- No floods detected
 - 22 May 2020
 - 23 May 2020
 - 24 May 2020
 - 25 May 2020
 - 26 May 2020
 - 28 May 2020
 - 30 May 2020



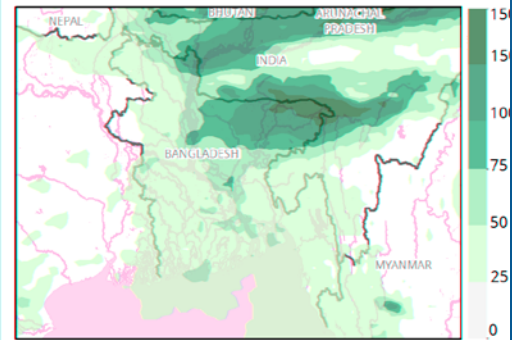
Situation Overview

Satellite observed surface water

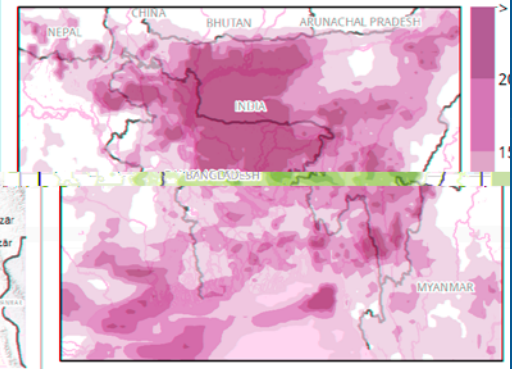
The dashboard shows the overall flood detection observed in eastern India and north western Bangladesh between 22-30 May 2020 as the result of the processing of Sentinel 1-A and PALSAR-2 radar imagery. It should be noted that water in cultivated areas may be included in the analysis and that flood extents may be underestimated for urban areas or be subject to recession, since the beginning of the storm.

Elaboration done with HASARD processor on WASDI Platform, by the ARIA-SG team at the Earth Observatory of Singapore (EOS), in collaboration with NASA-JPL and Caltech, and by AIT-GIC (v1.0). The dashboard also shows the 5-days weather forecast (01-05 June) and the past accumulated rainfall in the last 7 days (25-31 May).

Weather forecast (ECMWF, 01-05 June, mm)



Past acc. rainfall (GPM, 25-31 May, mm)



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Data sources: WFP offices; WFP - Boundaries: UN Map; WFP - Roads: ©OpenStreetMap Contributors; Populated places: GeoNames - Flood: JAXA, EOS, Sentinel 1-A - Accumulated rainfall: GPM; Weather forecast: ECMWF

Date Created: 01 Jun 2020 - Contact: hq.gis@wfp.org
Map Reference: BGD_FL_AffectedArea_A3L_20200501

Sentinel Asia DAN/DPN Role



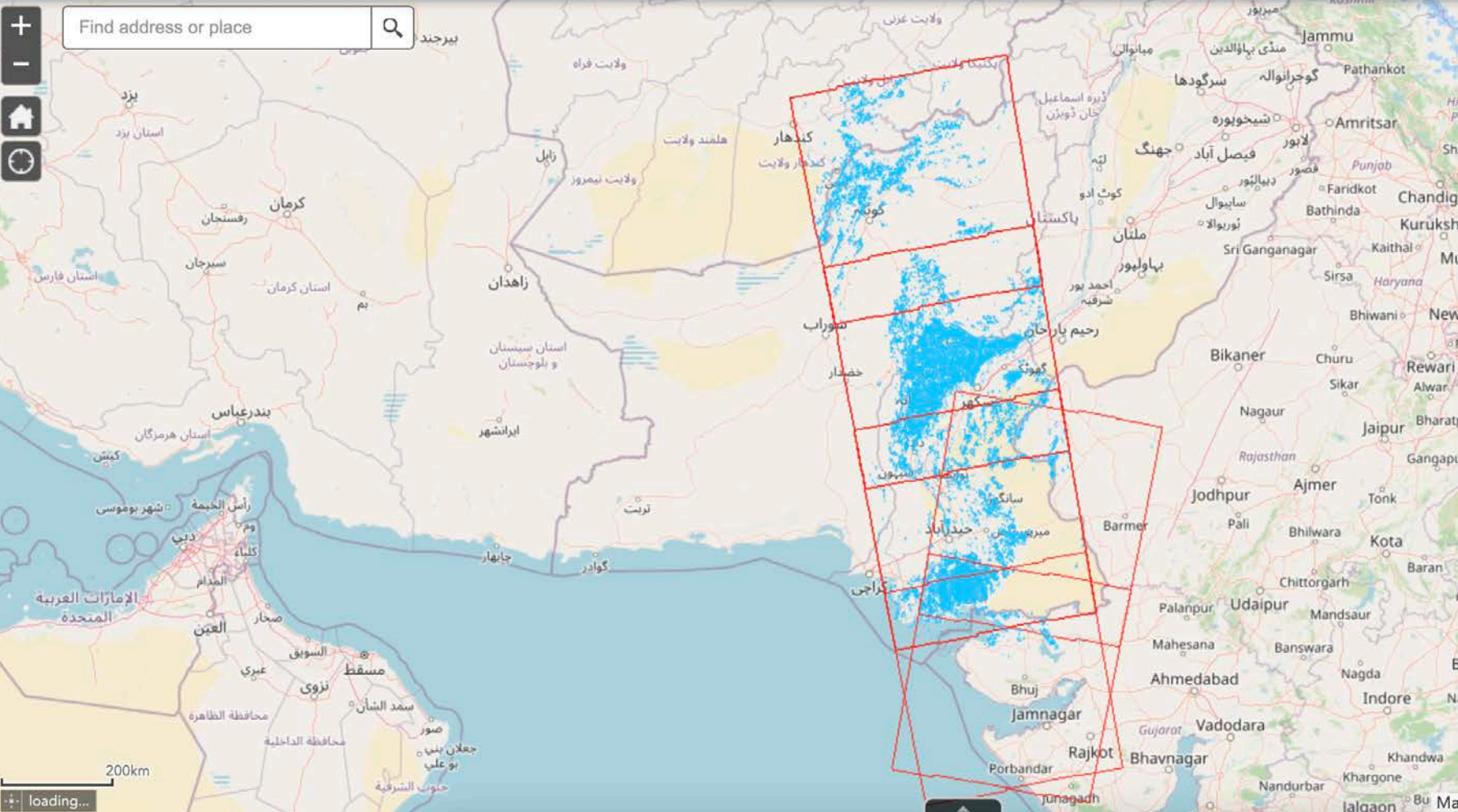
Flood in Pakistan on 17 August, 2022



Value Added Products

Sentinel Asia Portal

Value Added Products



About

Red frame indicates the analyzed area.

Blue indicates detected flood water.

*Note that the detected water may also include water in the cultivated areas.

*Note that it shows estimated flood area at the time of satellite observation.

Data Sources:

EOS Flood Proxy Map by ALOS-2 2022-08-21

Analyzed by EOS based on the following satellite images:

Pre-disaster: ALOS-2, 19 September, 2021

Post-disaster: ALOS-2, 21 August, 2022



AIT by ALOS-2 2022-08-31

Analyzed by GIC/AIT based on the following satellite images:

Pre-disaster: ALOS-2, 20 July, 2021

Post-disaster: ALOS-2, 31 August, 2022



AIT by ALOS-2 2022-08-21

Analyzed by GIC/AIT based on the following satellite images:

Pre-disaster: ALOS-2, 19 September, 2021

Post-disaster: ALOS-2, 21 August, 2022



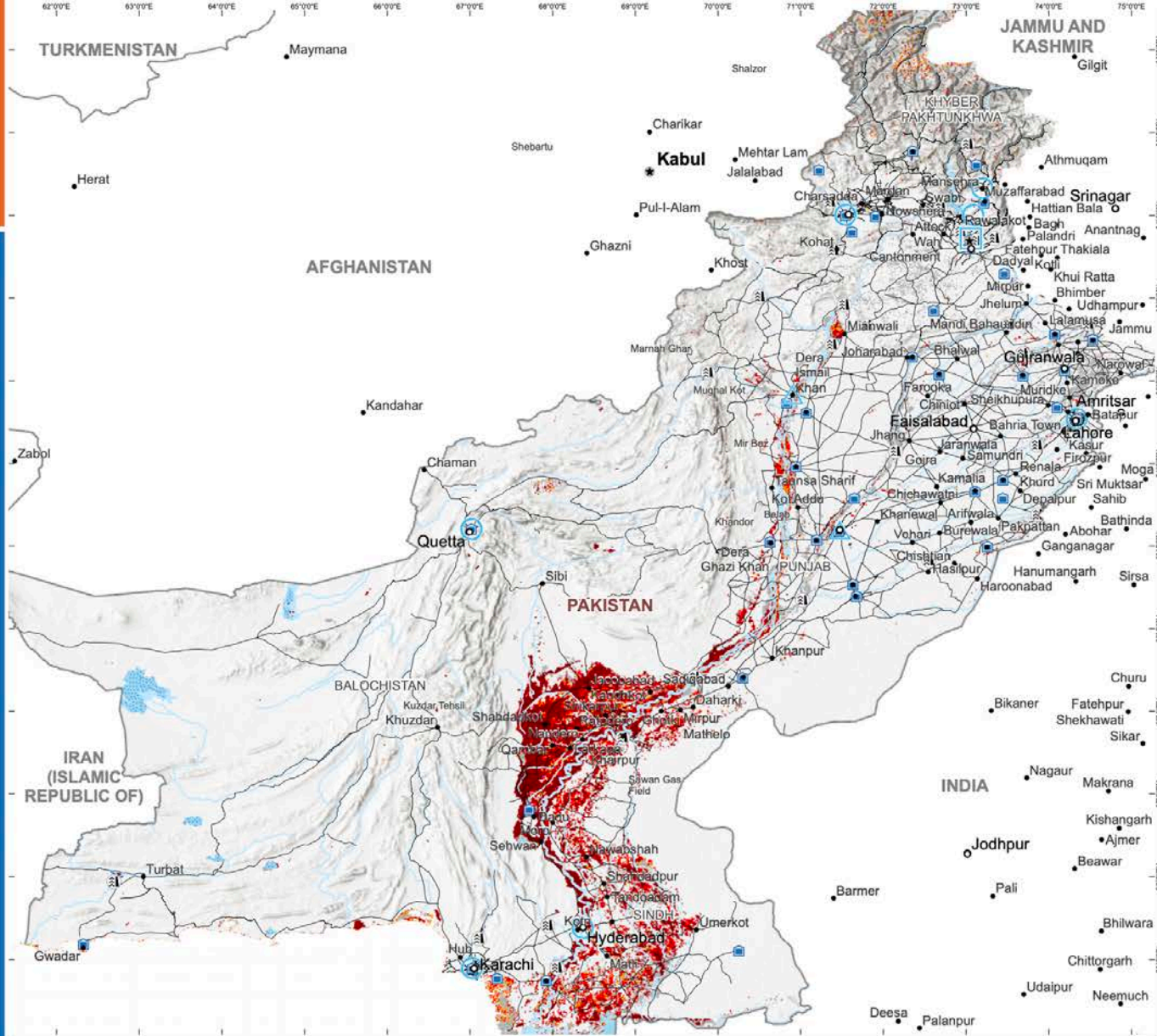
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FLOOD

Pakistan

Satellite observed water extent as of 08 Sep 2022



- Country Office
- Field Office
- Sub Office
- Warehouse
- National Capital
- Major City
- City
- River
- Road
- International Boundary
- Administrative Boundary 1
- Special boundary line; Armistice, undetermined or administrative line; Autonomous region boundary; Other; Sovereign base limit
- Permanent Water Bodies
- Dam / Reservoir

- Partly flooded
 - Moderately flooded
 - Highly flooded
 - Historical Maximum Flood Extent MODIS 2000 - 20018
- *Satellite Observed Flooding (NOAA VIIRS)
- *Flooded pixel definition:
 Partly flooded: 0 - 20% of pixel is with water
 Moderately flooded: 20-60% of pixel with water
 Highly flooded: 60-100% of pixel with water
- Population of Concern (UNHCR)
 Source: DFO and Cloud2Street

Rapid Flood Impact Summary

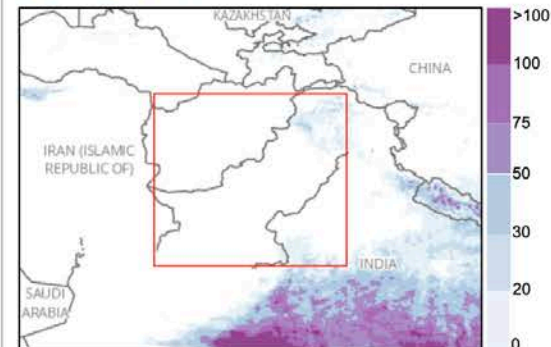
3,466,220
 Total observed flooded or inundated area (hectares)

11,601,098
 Total number of people living in the flooded pixel

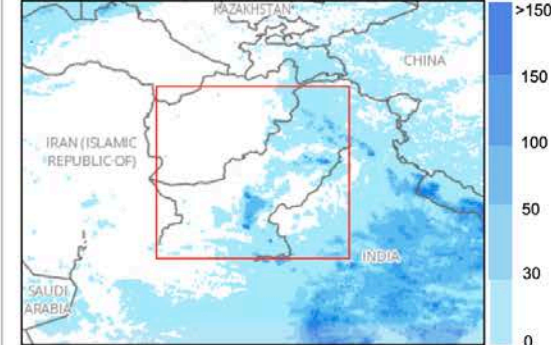
3,217,039
 Total flooded cropland areas

3,825,379
 Total number of vulnerable population in the flooded area

5-days precipitation forecast



7-days past accumulated precipitation



ADAM
 Automated Disaster Analysis and Mapping
 ADAM Flood Event

In partnership with

 Joint Research Centre

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Data sources: WFP offices; WFP - Boundaries; UN Map; WFP - Roads; ©OpenStreetMap Contributors - Populated places; GeoNames - Accumulated rainfall: GPM - Weather forecast: ECMWF - Flood Detection: NOAA-VIIRS, MODIS NRT, ESA Sentinel 1 - IDP/Refugee Locations: UNHCR - Terrain: ESRI - Surface Water/Seasonality: JRC - Cropland Mask: NASA GFSAD30 - Population: WorldPop / GHSL - Maximum Flood Extent: NASA MODIS/DF0 and C2S

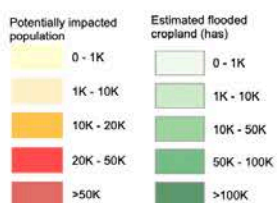
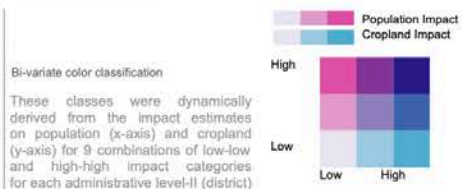
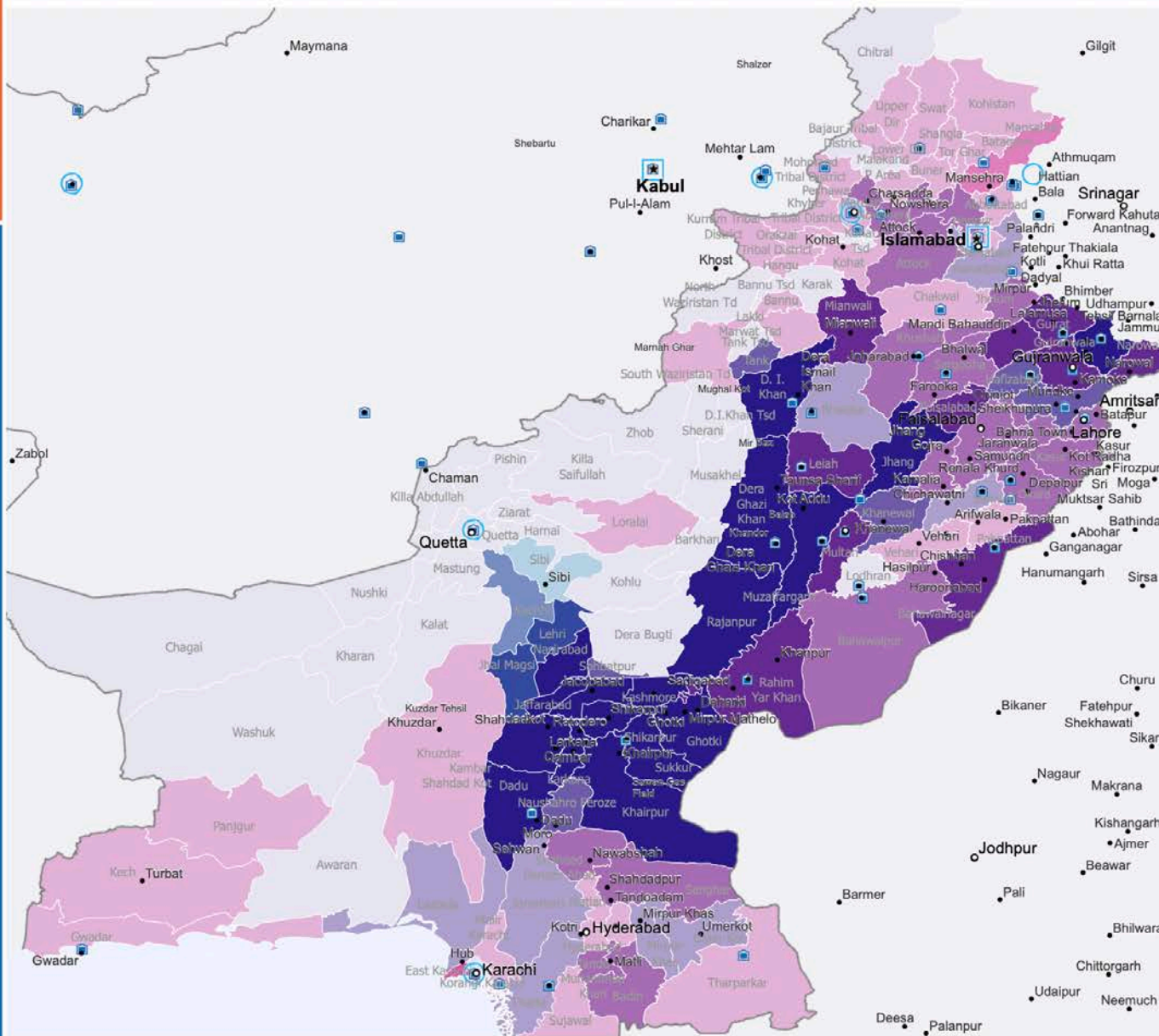




FLOOD

Pakistan

Flood Impact Aggregation



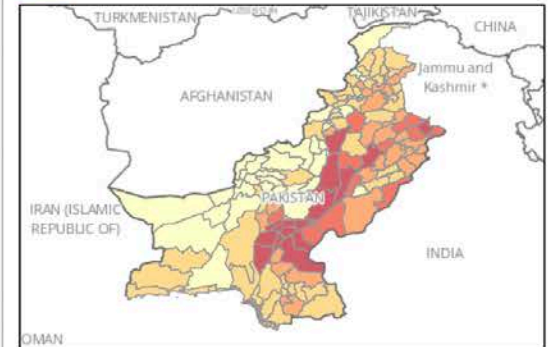
Flood Impact Data Aggregation

Derived data are summarized by administrative unit II (admin2). For any boundary related concerns, please write to wfp.adam@wfp.org. This aggregated information is indicative and for planning purposes only.

Global Data Sources:
Population - WorldPop 2021
Cropland Areas - NASA GFSAD30



Estimated population living within the flooded area (Admin Unit II)



Estimated crop lands within the flooded area (Admin Unit II)



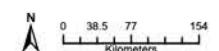
ADAM

Automated Disaster Analysis and Mapping

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Data sources: WFP offices; WFP - Boundaries; UN Map; WFP - Roads; ©OpenStreetMap Contributors - Populated places; GeoNames - Accumulated rainfall; GPM - Weather forecast; ECMWF

Date Created: 08 Sep 2022 - Contact: hq.gis@wfp.org
Map Reference: Stair_dashboard_prod_v1



Prepared by:
HQ GIS Unit,
WFP Emergencies



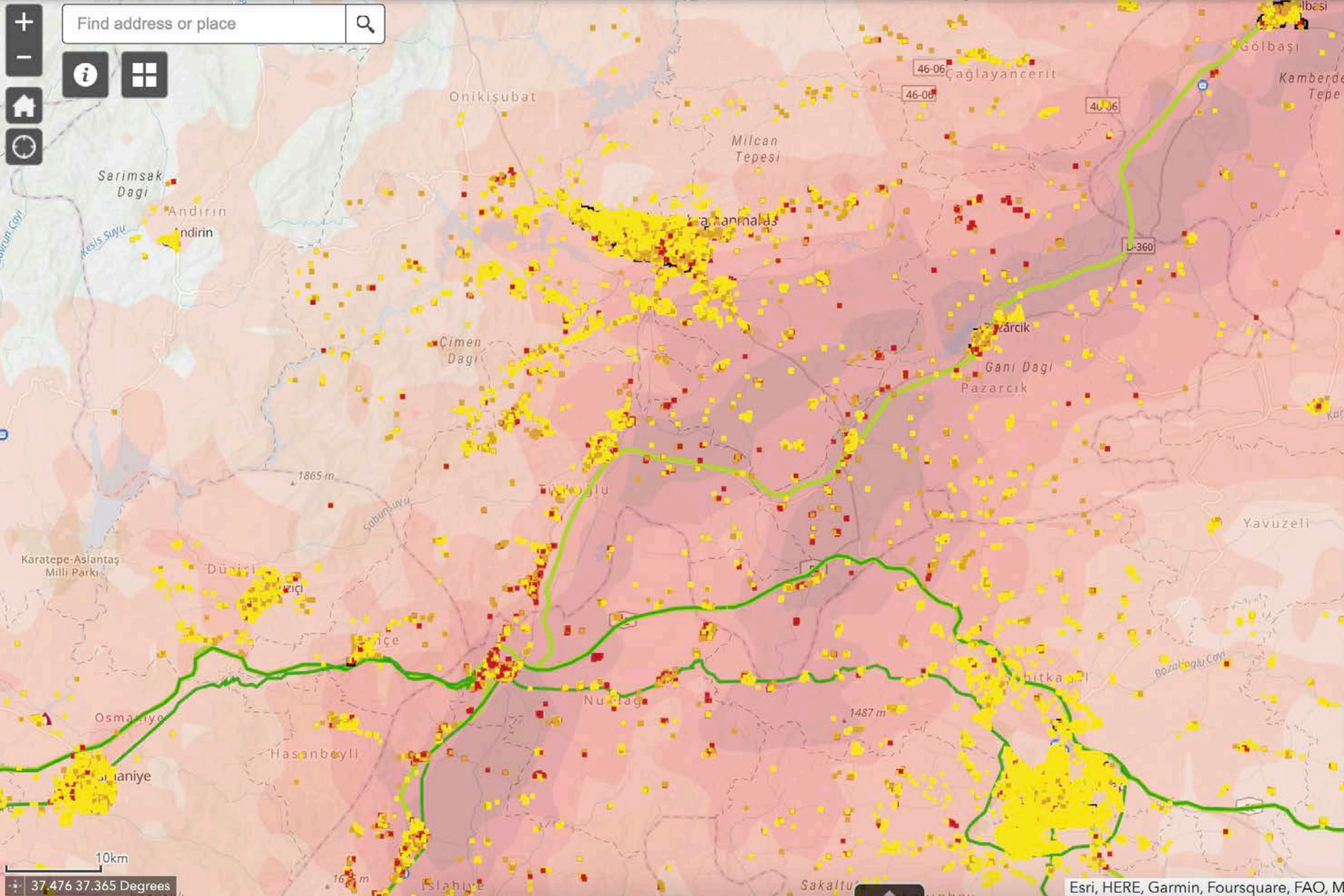
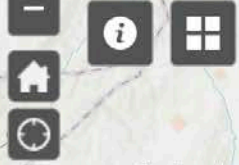
World Food Programme



Legend

- Temporary Camp (Copernicus)
 - Open
- Damaged Buildings (Ministry of Urbanization)
 - Building collapsed
 - Heavily damaged building
 - Slightly damaged building
- Syria - Damage Analysis (Copernicus)
 - Damage structure
 - Potentially damaged structure
- Turkey - Damage Analysis (Copernicus)
 - Damaged
 - Destroyed
 - Possibly damaged
- Refugee/IDP Camp
 - Open
- Municipal Community Kitchens
 - Open
- Earthquake Epicentres
 - Open
- Road Access Constraints
 - Passable

Find address or place



Layer List

- Assisted Beneficiaries as of 01 April 2023
- Syria - Damage Analysis (Copernicus)
- Turkey - Damage Analysis (Copernicus)
- Percentage of Potentially Affected Population
- Refugee/IDP Camp
- Municipal Community Kitchens
- Earthquake Epicenters
- WFP Facilities
- WFP Warehouses
- Border Crossing Points
- Airport Status
- Airports
- Ports
- Road Access Constraints
- Earthquake Intensity (MMI)
- Supply Routes
- Population Change (Facebook as of 01 March 2023)
- Shakemap

37.476 37.365 Degrees

ADAM

Advanced Disaster Analysis & Mapping

Flood Impact Analysis Myanmar

16 May 2023

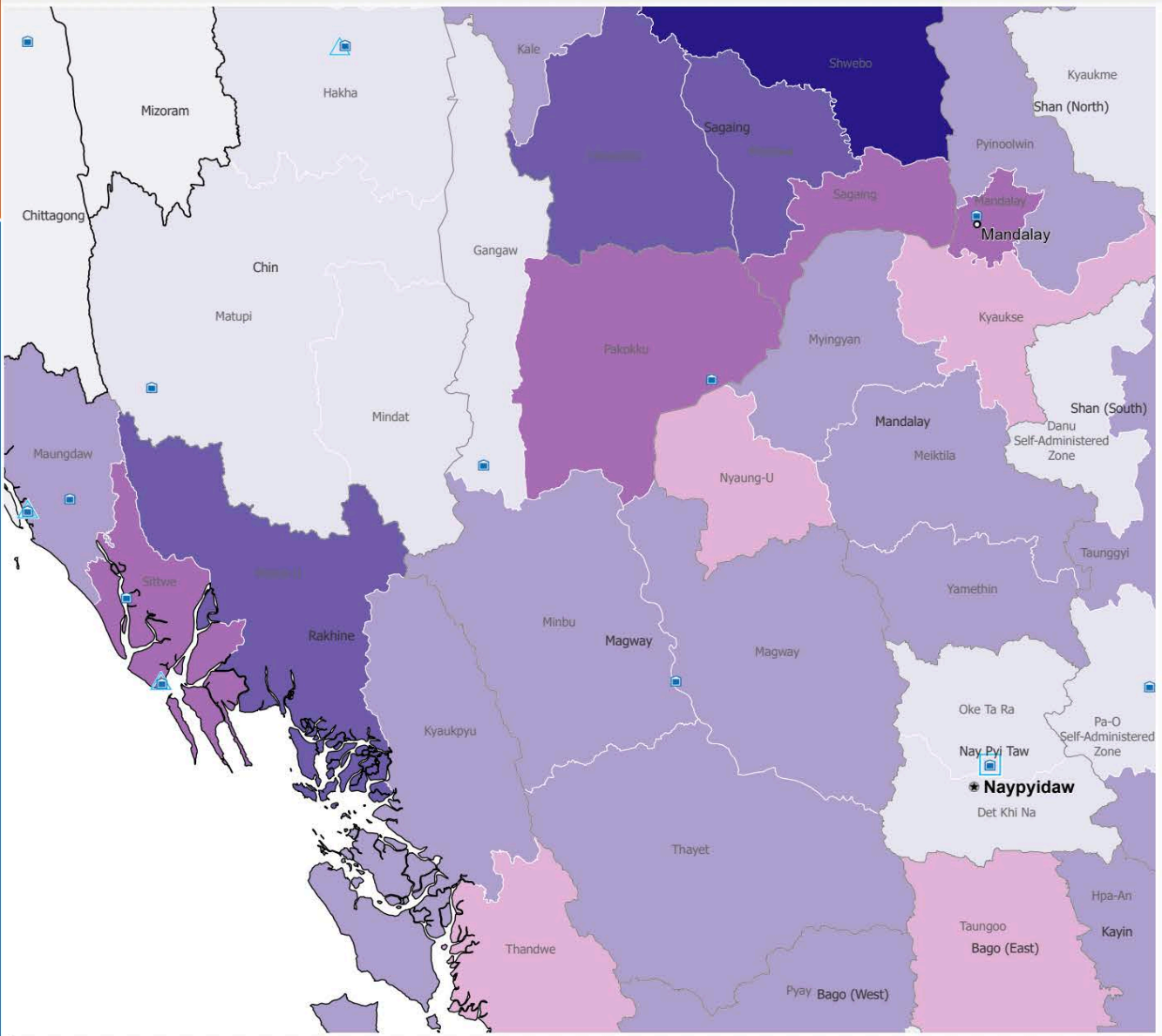




FLOOD

Myanmar

Flood Impact Aggregation



<ul style="list-style-type: none"> Country Office Field Office Sub Office Warehouse National Capital Major City City 	<ul style="list-style-type: none"> International Boundary Administrative Boundary 1 Special boundary line; Armistice, undetermined or administrative line; Autonomous region boundary; Other; Sovereign base limit 	<p>Potentially impacted population</p> <ul style="list-style-type: none"> 0 - 1K 1K - 10K 10K - 20K 20K - 50K 50K - 100K >100K 	<p>Estimated flooded cropland (has)</p> <ul style="list-style-type: none"> 0 - 1K 1K - 10K 10K - 50K 50K - 100K >100K 	<p>Bi-variate color classification (Main Map Frame)</p> <p>Population Impact Cropland Impact</p> <table border="1"> <tr> <td>High</td> <td></td> <td></td> </tr> <tr> <td>Low</td> <td></td> <td></td> </tr> </table> <p>These classes were dynamically derived from the impact estimates on population (Y-axis) and cropland (X-axis) for 9 combinations of low-low and high-high combined impact categories for each administrative level-II (district)</p>	High			Low		
High										
Low										

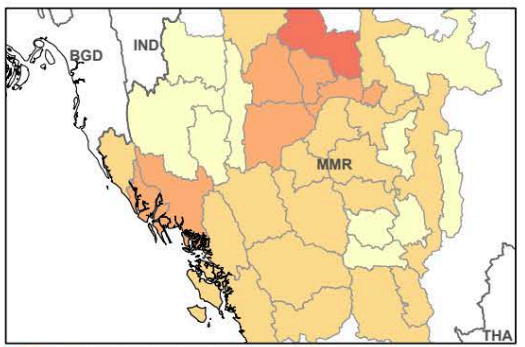


Flood Impact Data Aggregation

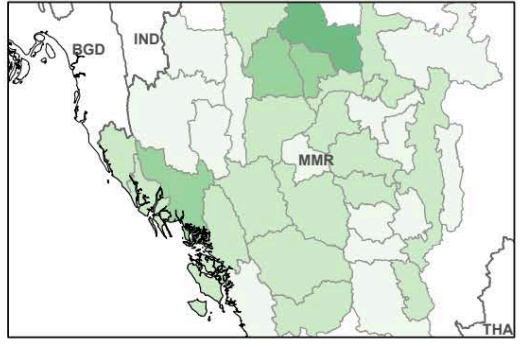
Derived data are summarized by administrative unit II (admin2). For any boundary related concerns, please write to wfp.adam@wfp.org. This aggregated information is indicative and for planning purposes only.

Global Data Sources:
 Population - WorldPop 2022
 Cropland Areas - NASA GFSAD30

Estimated population living within the flooded area (Admin Unit II)



Estimated crop lands within the flooded area (Admin Unit II)



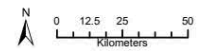
ADAM

Advanced Disaster Analysis and Mapping

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Date Created: 16 May 2023 - Contact: hq.gis@wfp.org
 Map Reference: ADAM_Floods



Prepared by:
 HQ GIS Unit,
 WFP Emergencies



Myanmar Flooding

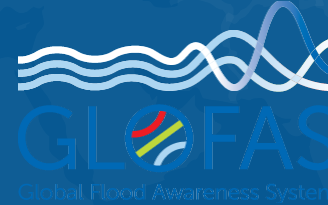
Rapid Impact Analysis Breakdown

people potentially
in WorldPop data.

*estimated number of people living in the flooded areas with at least 100 people
affected per district. Vulnerable population within flooded area are estimates from

Age Group		Region	District	Flooded Area (hectares)	Flooded Cropland (hectares)	Total in District	Children (0-9 y.o.)
0-9 y.o.)	Elderly (>60 y.o.)	Bago (West)	Taungtha	1,588	2,965	4,089	1,400
1,033	1,497	Bago (West)	Pyaw	4,323	2,525	9,252	1,000
151	18	Magway	Gangaw	422	89	422	89
16,208	2,016	Magway	Magway	8,300	3,448	8,300	3,448
1,953	6,241	Mandalay	Pakokku	1,953	6,241	1,953	6,241
2,442	1,490	Mandalay	Thayet	2,442	1,490	2,442	1,490
1,417	490	Mandalay	Kyaukse	1,417	490	1,417	490
1,386	1,098	Mandalay	Meiktila	1,386	1,098	1,386	1,098
4,418	3,381	Mandalay	Myingyan	4,418	3,381	4,418	3,381
2,708	828	Mandalay	Nyaung-U	2,708	828	2,708	828
10,240	7,049	Mandalay	Pyinoolwin	10,240	7,049	10,240	7,049
1,402	1,101	Mandalay	Yamethin	1,402	1,101	1,402	1,101
446	295	Nay Pyi Taw	Det Khi Na	446	295	446	295
777	581	Nay Pyi Taw	Oke Ta Ra	777	581	777	581
8,955	3,247	Rakhine	Kyaukpyu	8,955	3,247	8,955	3,247
5,069	4,652	Rakhine	Maungdaw	5,069	4,652	5,069	4,652
20,437	10,981	Rakhine	Mrauk-U	20,437	10,981	20,437	10,981
14,478	9,721	Rakhine	Sittwe	14,478	9,721	14,478	9,721
4,921	550	Sagaing	Thandwe	4,921	550	4,921	550
2,095	1,253	Sagaing	Kale	2,095	1,253	2,095	1,253
20,246	17,119	Sagaing	Monywa	20,246	17,119	20,246	17,119

WFP ADAM Partners





Thank you!