SAVING
LIVES
CHANGING
LIVES

GEOSPATIAL
INFORMATION
SUPPORT

WFP EMERGENCIES

GIS
CATALOGUE
2019 »

WFP
World Food
Programme

source: Esri

DISCLAIMER

Geospatial Information Support

WFP Emergencies

Product Catalogue 2019

This product catalogue is produced by the Geospatial Information Support Unit under the Emergencies division of the United Nations World Food Programme (WFP).

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Front Cover
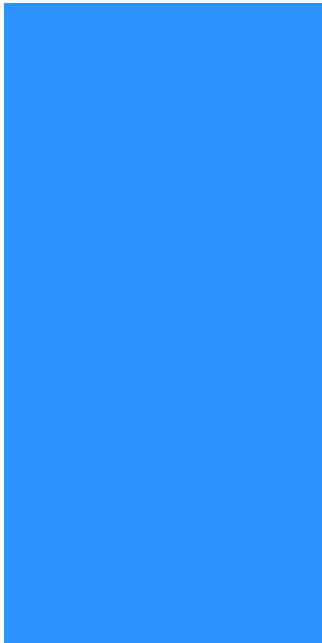Watercolor Painting of Water Colors in Arabian sea

Acquired by NASA MODIS on 23 Nov 2018

Background
Scars of Somme, Northern France

Acquired by NASA Landsat 8 on 21 Oct 2018

WELCOME

In the increasingly challenging contexts, which the World Food Programme (WFP) operates in, the need for accurate and real-time information has never been so crucial. Geographic Information System (GIS) is critical in understanding the complexity of WFP operations and optimising our responses. GIS provides in-depth analysis and visualises situations on the ground to provide WFP staff with up to date and accurate intelligence.

GIS is used in all stages of the disaster cycle – from preparedness to response and at times, recovery. Even in the most remote locations or where infrastructure has been destroyed, we are constantly gathering data, from satellites, drones, apps and mobile phones, to support our emergency response. In order to utilise the full potential of GIS we need to work together with all stakeholders, internal and external, to continue to bridge the gap between needs from the field and services offered by different partners.

WFP is constantly utilising new and cutting-edge technologies to ensure we are better prepared and able to provide humanitarian assistance to every corner of the globe as and when it is needed. From the Integrated Context Analysis (ICA) – combining food insecurity trends with exposure to shocks to understand their impacts - to the Automated Disaster Analysis and Mapping (ADAM) system – alerting staff and partners in near real time – WFP has embraced the use of recent technologies, big data and advanced analytics to improve our situational awareness on the ground.

I see GIS in action on a daily basis in our emergency operations across the globe and at all levels of the emergency management of a response. From our field staff that need detailed operational maps to HQ senior management where information on key indicators is essential in making life-saving decisions. When I was acting as Emergency Coordinator in the early phases of emergency response in Northeast Nigeria, spatial analysis played a crucial role in ensuring we had the most up to date and accurate data available. GIS allowed us to combine food security information, from the rapid field assessments, conflict hotspots and access constraints, to develop a clear understanding of where the needs and threats were and the best means to reach the hardest hit communities.

This catalogue is just a small selection of the thousands of maps and other geospatial products that our GIS teams produce. From flood extent dashboards to access constraints maps to the Humanitarian Topographic Atlas, this catalogue showcases some of the indispensable work that takes place at WFP.

Margot Vandervelden

___CONTENT

___INTRODUCTION

2019

'EVERYTHING THAT HAPPENS, HAPPENS SOMEWHERE'

One in nine people worldwide do not have enough to eat. Many of these people are in remote and inaccessible areas. When emergencies hit, previously accessible areas often become cut-off. Knowing how to rapidly reach these locations with lifesaving support is critical to the work of the United Nations World Food Programme (WFP).
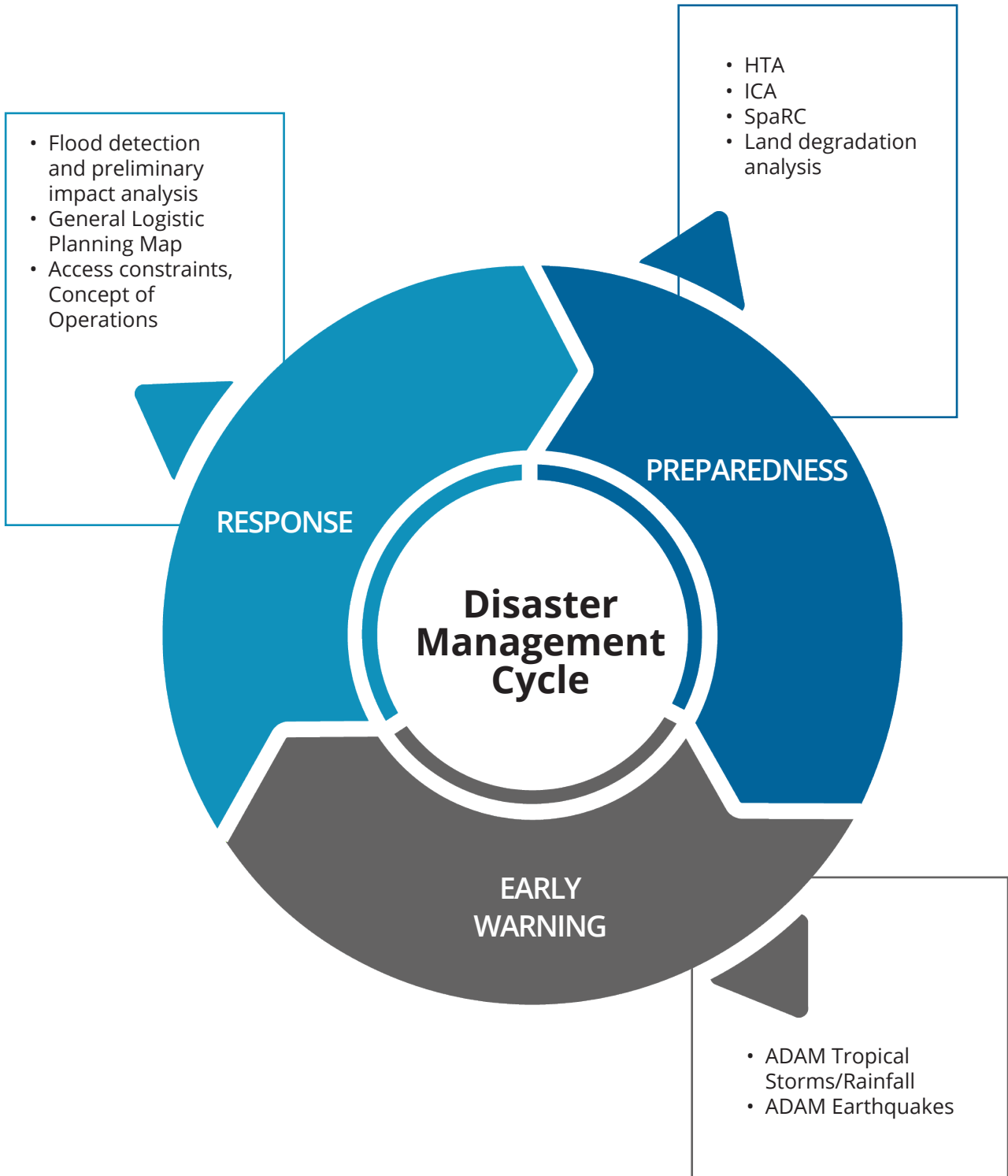
The Geospatial Support Unit at WFP uses cutting-edge geospatial technology to visualize and analyze the areas we work in. The Unit produces over 2,000 maps every year to support Country Offices, Regional Bureaux and Headquarters in providing global assistance to over 86million people.

The Unit is a data hub - collecting diverse datasets such as food security indicators, environmental factors, conflict data, climate data and weather forecasts. In-depth analysis of this data and spatial visualization products enable WFP staff to develop insights into complex dynamics and inform decision-making.

WFP is constantly developing the latest technological advancements to create new products and improve existing technologies. From Unmanned Aerial Vehicles to Satellite Remote Sensing, geospatial technology is integrated into most of WFP's work in fighting global hunger.

This catalogue showcases the diverse projects and products that use geospatial technology to inform WFP and WFP-led cluster operations.

DISASTER CYCLE

PREPAREDNESS
- HTA
- ICA
- SpaRC
- Land degradation analysis

RESPONSE
- Flood detection and preliminary impact analysis
- General Logistic Planning Map
- Access constraints, Concept of Operations

EARLY WARNING
- ADAM Tropical Storms/Rainfall
- ADAM Earthquakes

Disaster Management Cycle

PREPAREDNESS

In the vision of Early Warning to Early Action, the preparedness phase is crucial for providing rapid geospatial support during major emergencies. This phase includes data preparedness, having standard operating procedures in place and capacity building. 'Data preparedness' is the ability of organizations to be ready to responsibly and effectively deploy and manage data collection and analysis tools, techniques and strategies in a specific operational context before a disaster strikes. Data that is limited and less organized prolong or inhibit the ability to make informed decisions. Inaccurate/ insufficient data may lead to poor understanding of the actual risk associated with any disaster. In the wake of an emergency, if data is not in an easily usable and well-defined format, it decreases the efficiency of map production. Being data ready would aid in providing immediate response with curated products.

Effective disaster preparedness provides a platform to design realistic and coordinated planning, by reducing duplication of efforts and increasing the collaboration between different agencies, households and communities. This section highlights a few of the crucial products made available before an emergency strikes.
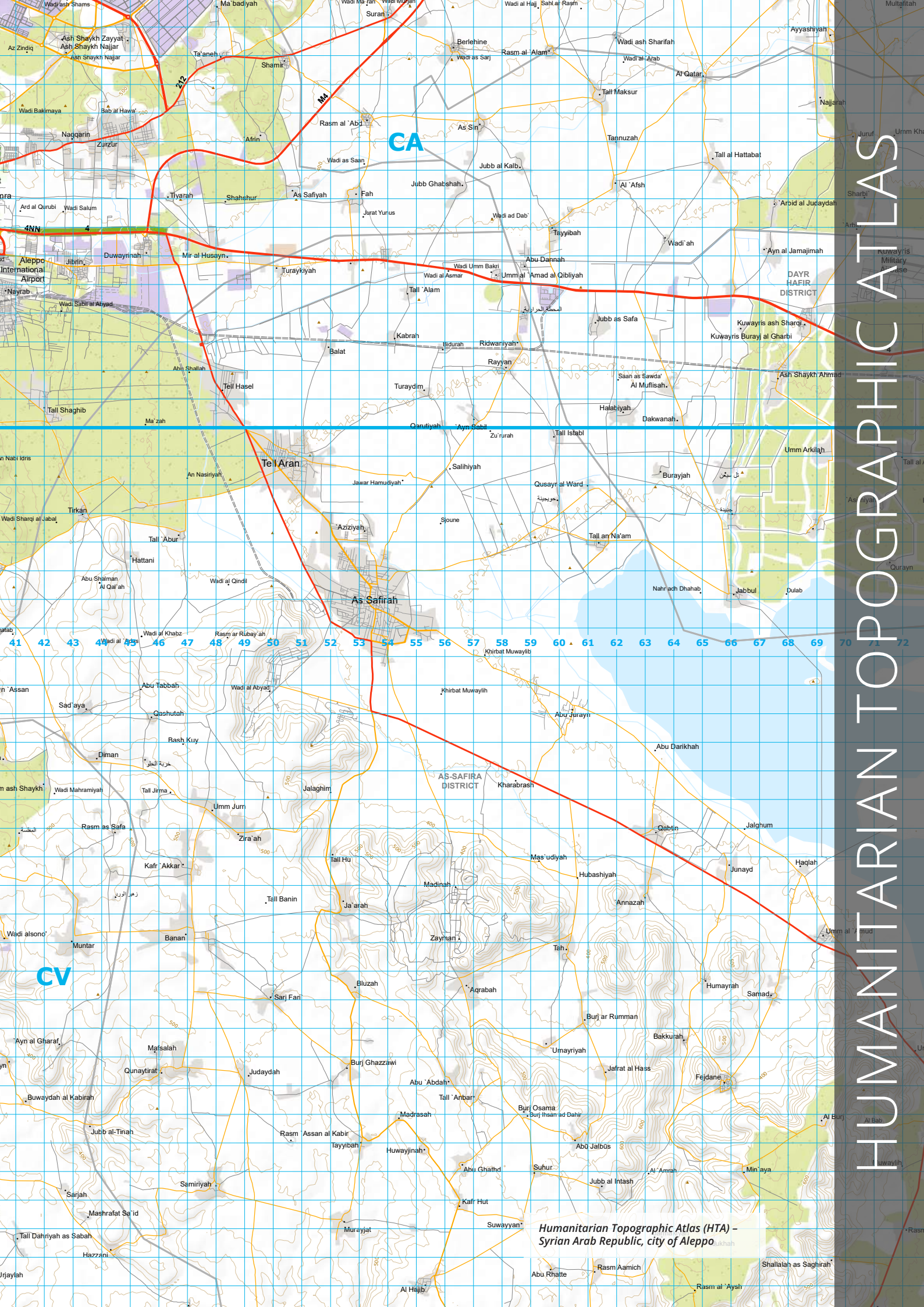
___HTA

Humanitarian Topographic Atlas (HTA) is a project developed for supporting field operations during humanitarian crisis. The primary goal of HTA is to create high-quality, detailed, up-to-date and comprehensible topographic maps covering the areas of WFP field operations. The maps produced by HTA are based on open data such as elevation, water bodies, roads, place names and all other map features from the OpenStreetMap project. HTA maps are updated automatically on a variable basis, depending on the level of the emergency in the country of interest (up to daily updates during the early stages of an emergency).

HTA enhances operational effectiveness, improving WFP's capacity to engage with a range of partners, including national governments, NGOs and civil societies, to ensure that crisis-affected populations can meet their basic food needs during and in the aftermath of a crisis, by better understanding the existing geographical context and therefore improving response planning. The project aims to cover the whole world, in multiple scales and ready to print formats.
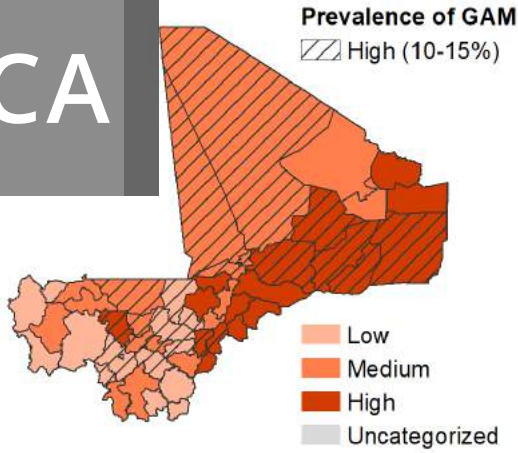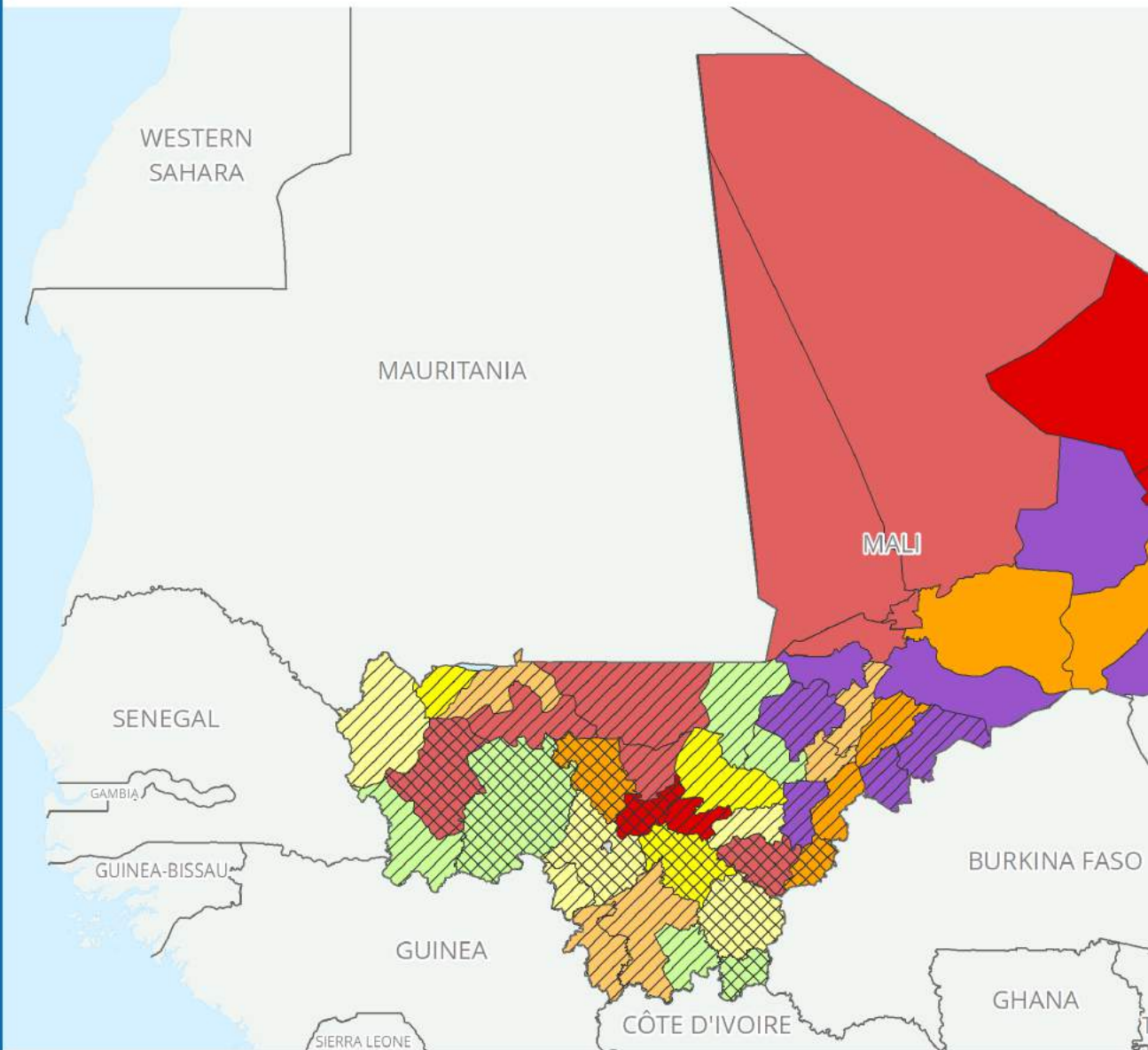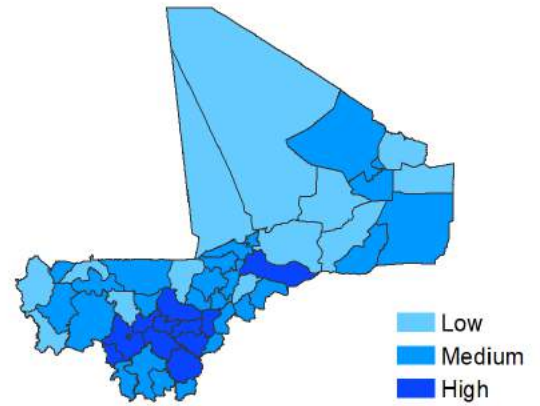
Wadi ash Shams Ma`badiyah  Wadi Ma`fan Wadi Murjan Wadi al Hajj Sahl ar Rasm Multafitah

Ayyashiyah

Ash Shaykh Zayyat Suran Berlehine Rasm al `Alam Wadi ash Sharifah Juruf Umm Kha
Ash Shaykh Najjar Ta`aneh  Wadi as Sarj  Wadi al `Arab Al Qatar Najjarah
Ash Shaykh Najjar Shamir Sharbi

Az Zindiq Naqqarin Zurzur Tall Maksur
Tall al Hattabat
Wadi Bakirnaya Bab al Hawa' Afrin Rasm al `Abd **CA** As Sin Tannuzah
Tall al Hattabat

Ard al Qurubi Wadi Salum Tiyarah Shahshur Wadi as Saan Jubb al Kalb Al `Afsh  `Aroid al Judaydah
As Safiyah Fah Jubb Ghabshah
Jurat Yurus

4NN 4 Duwayrinah Mir al Husayn Wadi ad Dab Wadi `ah Ayn al Jamajimah
Aleppo Jibrin Turaykiyah Tayyibah Arbi
International Wadi al Asmar Abu Dannah DAYR
Airport Nayrab Tall `Alam Wadi Umm Bakri HAFIR
Umm al `Amad al Qibliyah DISTRICT
Wadi Sabil al Abyad المحطة الحرارية Jubb as Safa Kuwayris ash Sharqi
Kabrah Bidurah Ridwaniyah Kuwayris Burayj al Gharbi
Balat Rayyan
Abu Shallah Saan as Sawda' Ash Shaykh Ahmad
Tell Hasel Turaydim Al Muflisah
Tall Shaghib Halabiyah Dakwanah
Ma`zah  Qarutiyah  `Ayn Sabil Tall Istabl Umm Arklah
Zu`rurah Tall al
Nabi Idris Te`l Aran Salihiyah Burayjah تل سعن
An Nasiriyah Jawar Hamudiyah Qusayr al Ward Quray
Tirkan Sjoune Tall an Na'am Jabbul
Wadi Sharqi al Jabal `Aziziyah
Tall `Abur Dulab
Hattani Nahr ach Dhahab Jabbul
Abu Shalman Wadi al Qindil
Al Qal`ah As Safirah

41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72

Wadi al Adas Rasm ar Rubay`ah Khirbat Muwaylib
`Assan Abu Tabbah Wadi al Abyad Khirbat Muwaylih
Sad`aya Qashutah Abu Jurayn
Bash Kuy Abu Darikhah
Diman خربة الحلو
ash Shaykh Wadi Mahramiyah Tall Jirma Jalaghim AS-SAFIRA Kharabrash Qabtin Jalghum
Umm Jurn DISTRICT
Rasm as Safa Zira`ah  Mas`udiyah Junayd
المعنقة Kafr `Akkar Tall Hu Hubashiyah Haqlah
Diman Tall Banin Madinah Annazah
Ja`arah  Zaynan  Tah  Umm al `Amud
Wadi alsono' Muntar Banan **CV** Bluzah Aqrabah Humayrah Samad
Sarj Fari Burj ar Rumman
Ayn al Gharaf Mafsalah `Umayriyah Bakkurah
Qunaytirat Judaydah Burj Ghazzawi Jafrat al Hass Fejdane
Buwaydah al Kabirah Abu `Abdah  Tall `Anbar Al Burj
Jubb al-Tinah Madrasah Burj Osama Abu Jalbus Al `Amrah Al Burj
Rasm Assan al Kabir Burj Ihsan ad Dahir Min`aya
Urjaylah Tayyibah Huwayjinah Abu Ghathd Suhur Al `Amrah uwaylih
Sarjah Samiriyah Jubb al Intash Rasm
Mashrafat Sa`id Kafr Hut Suwayyan Rasm
Tall Dahriyah as Sabah Murayjat Suwayyan
Hazzani Al Hajib Abu Rhatte Rasm Aamich Shallalan as Saghirah Rasm `Al `Aysh

Humanitarian Topographic Atlas (HTA) –
Syrian Arab Republic, city of Aleppo

Mali | Integrated Context Analysis (ICA) - 2017

Food Insecurity

Prevalence of GAM

//// High (10-15%)

Low
Medium
High
Uncategorized

Flood hazard

Low
Medium
High

WESTERN SAHARA

MAURITANIA

MALI

SENEGAL

GAMBIA

GUINEA-BISSAU

GUINEA

SIERRA LEONE

CÔTE D'IVOIRE

BURKINA FASO

GHANA

SAVING
LIVES
CHANGING
LIVES

WFP
World Food
Programme

Land Degradation

In-house analysis of NASA MODIS satellite images and application of RUSLE equation using available

Malnutrition

The prevalence of GAM has been classified by the ranges currently used by the World Health Organization (WHO). This classification is largely arbitrary and simply reflects a convenient statistical grouping of prevalence levels all over the world:

Drought hazard

Low
Medium
High

Erosion propensity
High

Average land cover change
Negative

ALGERIA

NIGER

NIGERIA

BENIN

TOGO

Severity of malnutrition by prevalence ranges, WHO (%)				
Indicator	Low	Medium	High	Very High
Stunting	< 20	20 - 29	30 - 39	> 39
Underweight	< 10	10 - 19	20 - 29	> 29
Wasting (GAM)	< 5	5 - 9	10 - 14	> 14
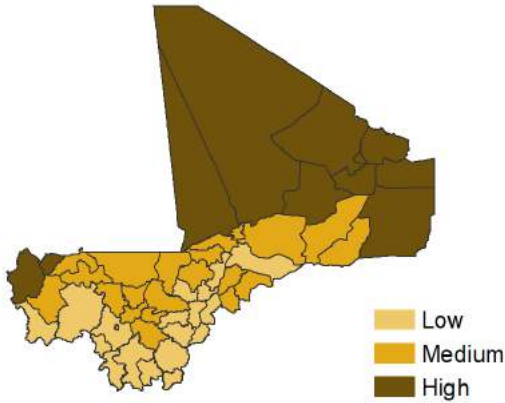
The Integrated Context Analysis (ICA) is a process of consultations supported by mapped-out data that produces a strategic plan describing where different combinations of programme themes are appropriate to achieve goals of reducing food insecurity and climate-related hazard risk.

Historical trend analyses of food security, natural shocks and land degradation are combined to identify areas of convergence. Food security trend maps show areas where safety nets can address regular food insecurity and where natural shocks make recovery more important, while climate-related natural hazard maps show where Disaster Risk Management efforts can complement food security objectives. Atop this core foundation, mapped data on subjects including land degradation, nutrition, livelihoods and resilience can enrich theme-level strategic planning in which all pieces work together.

The ICA is the first step in the Three-Pronged Approach (3PA), an innovative programming approach developed by WFP in consultation with governments and partners, whose aim is to strengthen the design, planning and implementation of safety net and Disaster Risk Management programmes. The 3PA comprises, in addition to the ICA, two additional processes:

Seasonal Livelihood Programming (SLP, at the sub-national level): a consultative process that brings together communities, government, and partners to design multi-year, multi-sectorial operational plans using seasonal and gender lenses.

Community-Based Participatory Planning (CBPP, at the local level): a "from the bottom up" tool that ensures communities have a strong voice and lead in setting priorities. It supports multi-sectorial plans tailored to local priorities, ensuring community ownership.
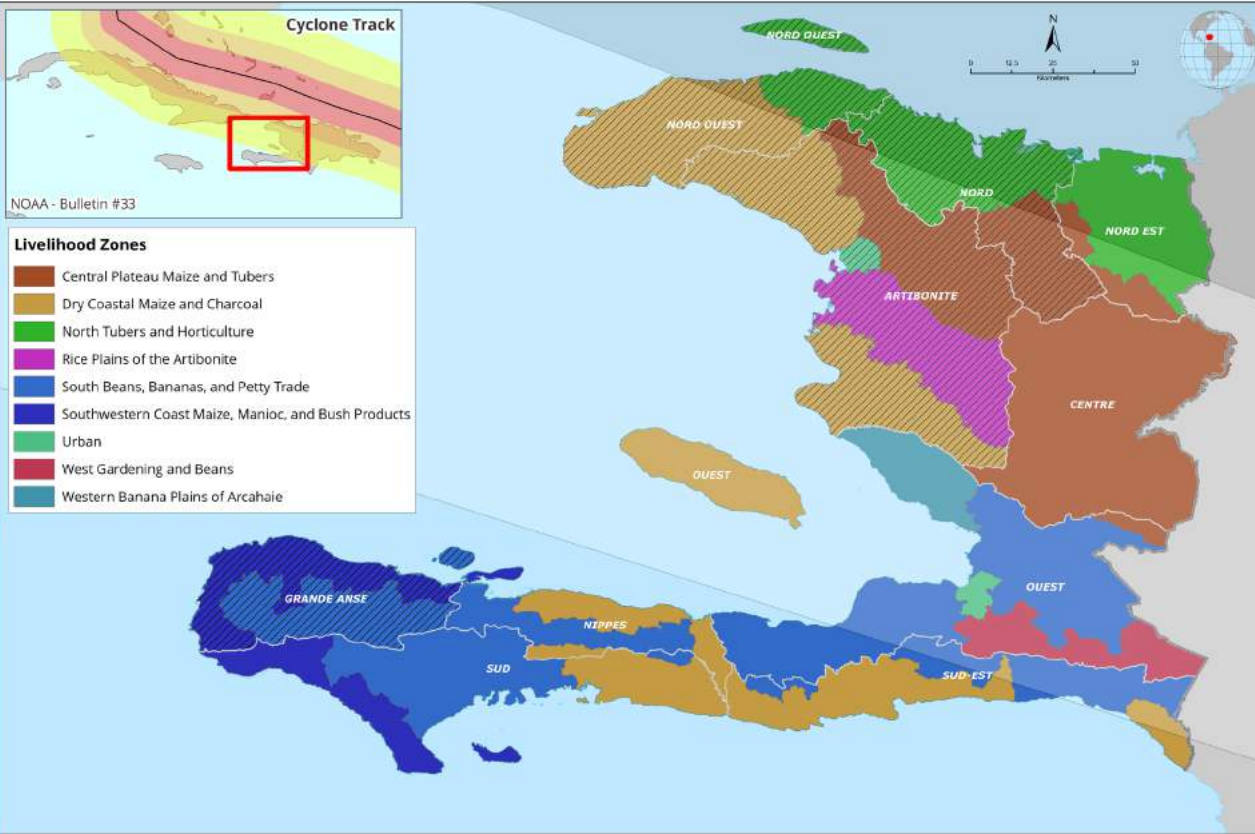
ICA+

The Emergency Division at WFP can leverage data on natural disasters and prevalence of food insecurity from the Integrated Context Analysis (ICA). This is combined with precipitation forecasts and tropical storms trajectories to produce a series of maps tailored to inform early action.

The maps prioritize areas that could potentially be heavily impacted by the tropical storm and reinforce the Regional Bureau's readiness to deliver assistance to food insecure people that would require immediate assistance. Within these areas, this additional analysis can provide vital information about the aggravating effects of land degradation.

These tools can strengthen the Regional Bureau and Country Office's decision-making process and support the alignment of their preparedness strategies with early warning on a national level.

Cyclone Track

NOAA - Bulletin #33

Livelihood Zones

- Central Plateau Maize and Tubers
- Dry Coastal Maize and Charcoal
- North Tubers and Horticulture
- Rice Plains of the Artibonite
- South Beans, Bananas, and Petty Trade
- Southwestern Coast Maize, Manioc, and Bush Products
- Urban
- West Gardening and Beans
- Western Banana Plains of Arcahaie

Date Created: 07 September 2017
Contact: hq.gis@wfp.org
Website: www.wfp.org
Prepared by: HQ OSE GIS

Map Reference:
HTI_TS_LH2&HighFoodIns7Sirma_A4L

Food insecurity classification

/// High

Wind speed

90 km/h
60 km/h

— International boundaries
— Department boundaries

Below 50 mm
50 - 100 mm
100 - 150 mm
150 - 200 mm
200 - 250 mm
Above 250 mm

7 Days Precipitation Forecast
08 - 15 Sep 2017

Source: ECMWF

Hurricane Tracks

IRMA   JOSE

NOAA - Bulletin #37

Date Created: 07 September 2017
Contact: hq.gis@wfp.org
Website: www.wfp.org
Prepared by: HQ OSE GIS

Map Reference:
HTI_WFPO_PriorityClass_A4L

Priority class

1
2
3

Wind Speed

120 km/h
90 km/h
60 km/h

— International boundaries
— Department boundaries

Data sources: WFP-RBP, UNGIWG, ECMWF

SpaRC

SpaRC is a Spatial Risk Calendar that combines data layers covering hazard exposure and population vulnerability. This determines baseline probabilistic levels of humanitarian impact associated with specific hazard types. SpaRC shows this baseline information about natural hazard impacts on a monthly basis, at a sub-national level, for the entire world.

Analysis results could be used to inform risk identification for early warning, emergency preparedness and readiness activities at country level and improved impact assessment for emergency response.
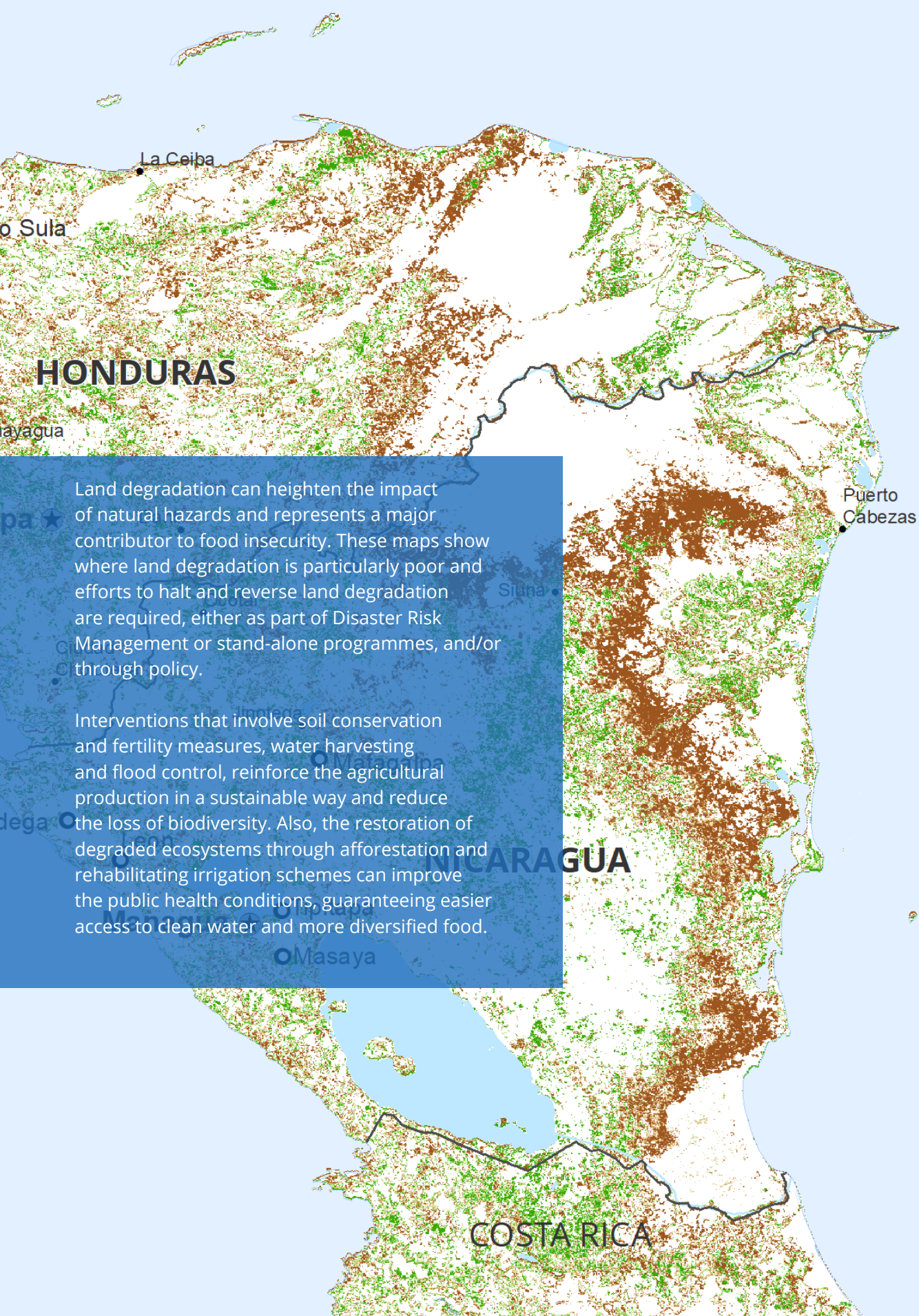
Population at Risk

(For a given hazard, month, and admin 2, the population at risk.)

Zero	0K - 14K	14K - 43K	43K - 112K	112K - 125K	125K - 133K	133K - 308K

| Low Population at Risk   High Population at Risk |

| Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |

SPA
RC

LAND DEGRADATION

MEXICO

BELIZE

○ Belize City

★ **Belmopan**

GUATEMALA

• Coban

○ San Pedr

Quetzaltenango

Mixco ○★ **Guatemala City**

Villa Nueva ○

San Miguel Ingenio ○

Santa Ana
○

San Salvador ★ Soyapango

Tegucigal

Com

Chinan

EL SALVADOR

Land cover changes, 2001-2016

Positive

Negative

N

| 0 | 50 | 100 | 200 |

Kilometers

HONDURAS

La Ceiba

o Sula

ayagua
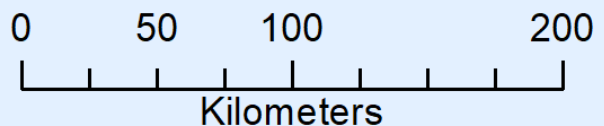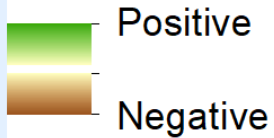
Puerto
Cabezas

Land degradation can heighten the impact
of natural hazards and represents a major
contributor to food insecurity. These maps show
where land degradation is particularly poor and
efforts to halt and reverse land degradation
are required, either as part of Disaster Risk
Management or stand-alone programmes, and/or
through policy.

Interventions that involve soil conservation
and fertility measures, water harvesting
and flood control, reinforce the agricultural
production in a sustainable way and reduce
the loss of biodiversity. Also, the restoration of
degraded ecosystems through afforestation and
rehabilitating irrigation schemes can improve
the public health conditions, guaranteeing easier
access to clean water and more diversified food.

NICARAGUA

COSTA RICA

EARLY WARNING

Early warning is a process intended to trigger emergency preparedness actions ahead of a hazard event to reduce the possibility of harm or loss from a climate or conflict-related hazard. Key parts of an early warning system are risk identification, risk monitoring/analysis, warning communication, and complements to preparedness actions which relevant actors are capable of implementing.

It is critical that warning communication is tailored to the people expected to act and those at risk, including information about the amount of time preparedness actions will take, how they are inclusive of all members of a particular community/region and how long their effects will remain valid. This section highlights some of the Early Warning systems in place within WFP.
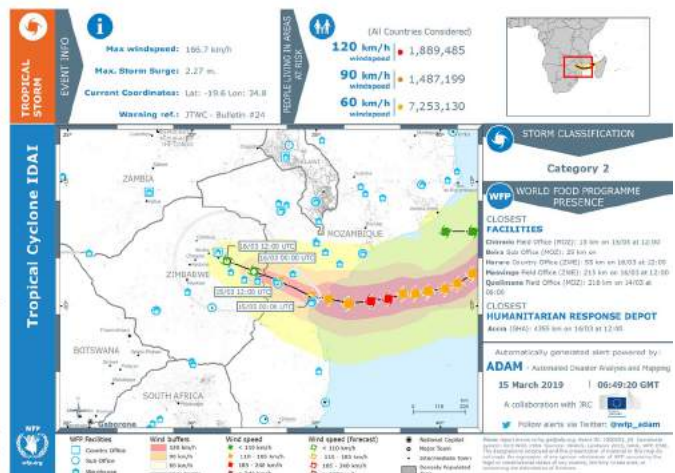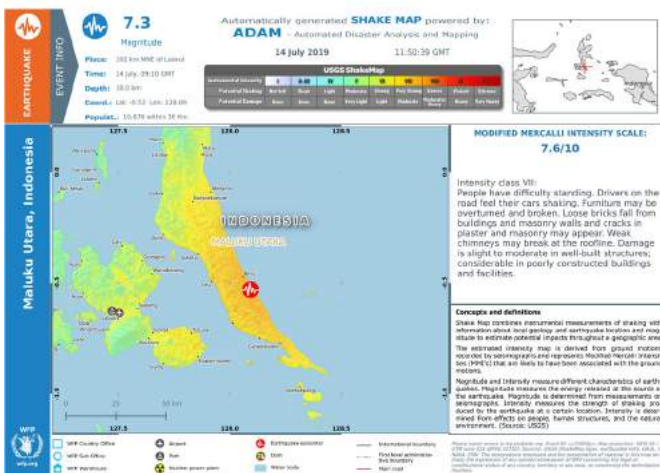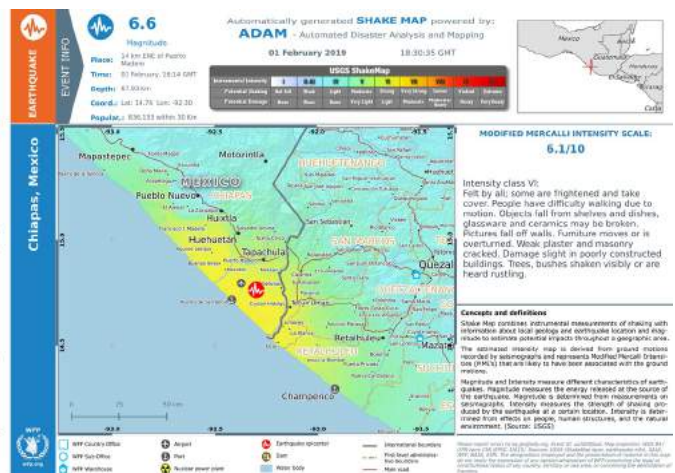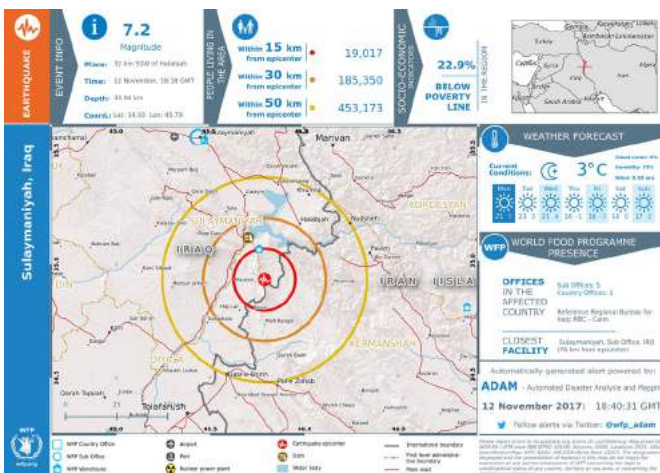
ADAM

The Automatic Disaster Analysis and Mapping (ADAM) is an automated alert system performing a 24/7 research, collection, analysis and mapping of disaster-related data on a global scale, in order to reduce the time between the occurrence of an event and the time when the field level response starts.

A global overview of the currently active tropical storms and recent earthquakes – last 14 days – is available in the ADAM Live Map (https://gis.wfp.org/adam/). Subscriptions are open to members of the humanitarian community (UN agencies, NGOs, institutions, ministries, etc.), while the general public can receive updates via the ADAM Twitter account (@WFP_ADAM).
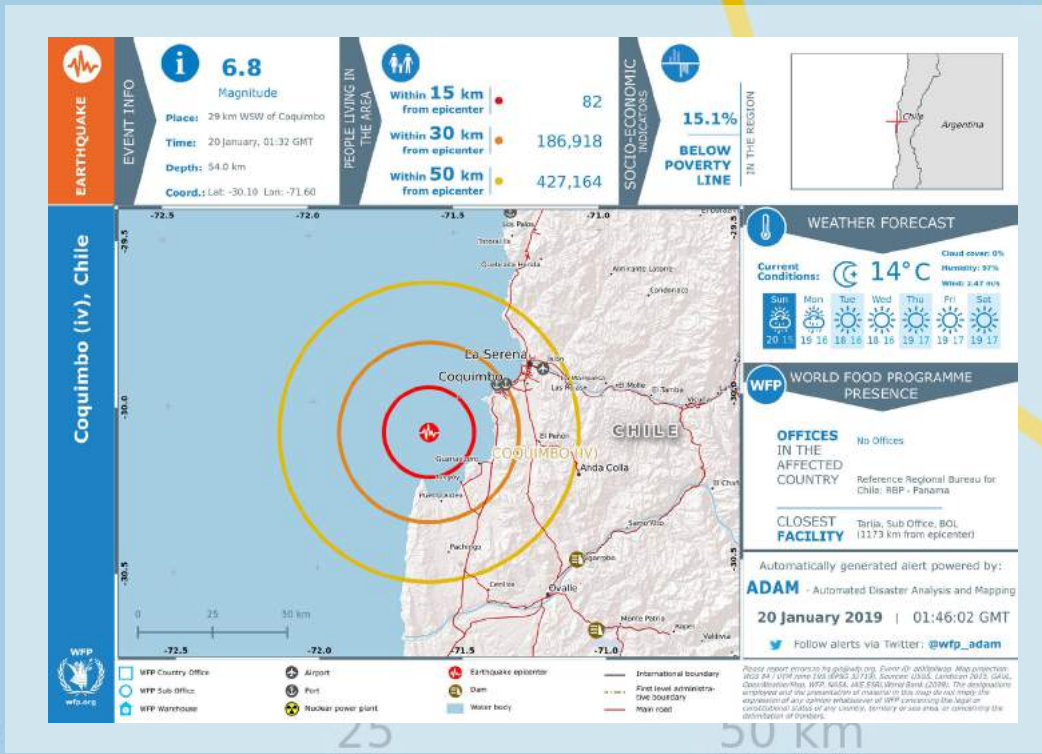
MEET ADAM

24/7

ADAM EARTHQUAKES

Within a few minutes following an earthquake, ADAM automatically creates a dashboard with critical information such as the magnitude, location and depth of the earthquake, the estimated number of people living in the affected area(s), weather forecast, location of crucial infrastructures and WFP's presence, and calculates the distance to the closest WFP facilities.

After a couple of hours, ADAM generates a ShakeMap dashboard which provides a first estimation of possible earthquake damages and impact on the population, taking into consideration the geology structure and soil consistency in the affected areas. The Shake Map estimates the intensity of an earthquake using the Modified Mercalli scale with classes ranging from I (no potential shaking and damage) to X+ (extreme potential shaking and very heavy potential damage).
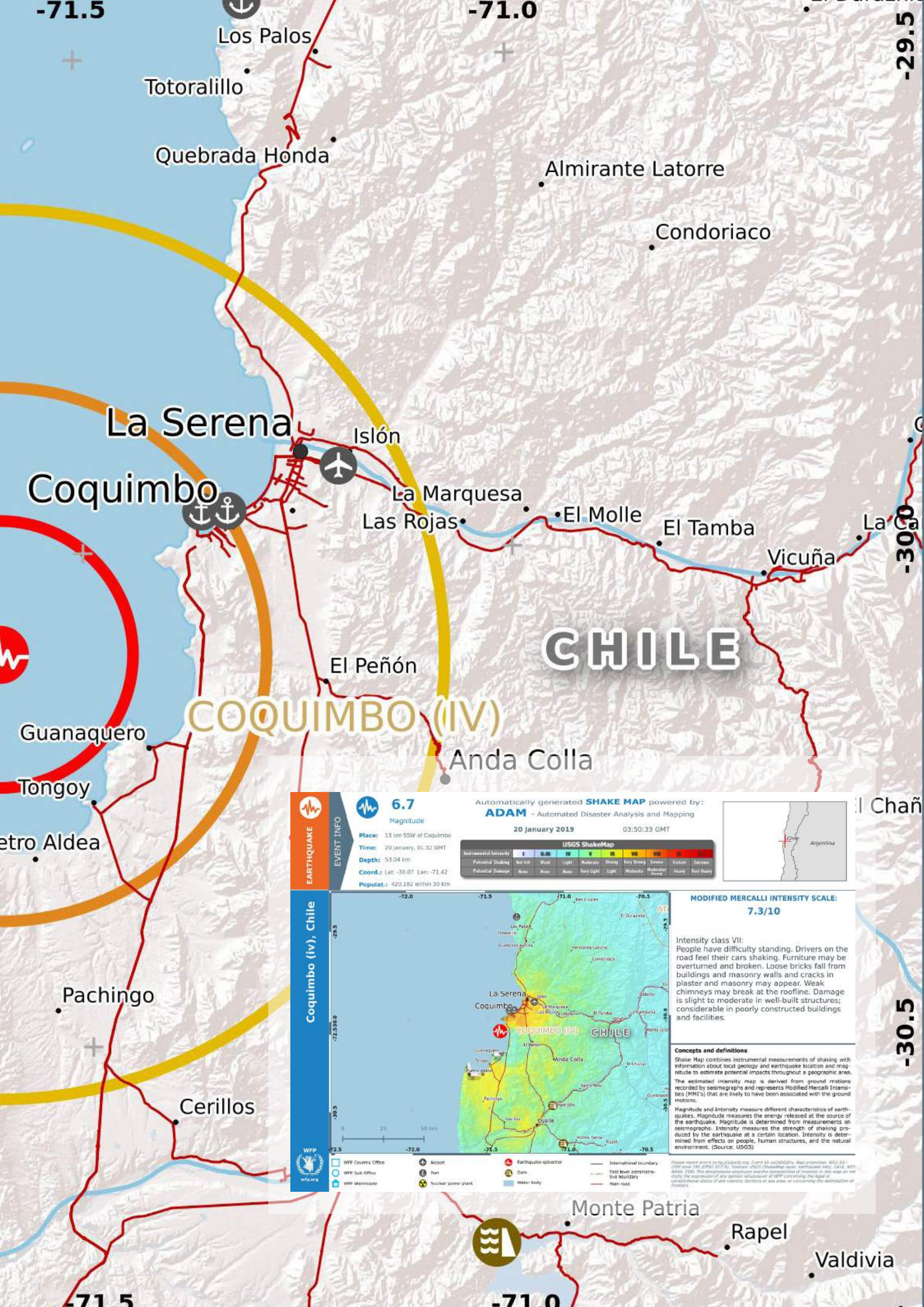
Los Palos

Totoralillo

Quebrada Honda

Almirante Latorre

Condoriaco

La Serena

Islón

La Marquesa

Coquimbo

Las Rojas

El Molle

El Tamba

La Ca

Vicuña

-30.0

CHILE

El Peñón

COQUIMBO (IV)

Guanaquero

Anda Colla

l Chañ

Tongoy

etro Aldea

EARTHQUAKE

6.7
Magnitude

Automatically generated **SHAKE MAP** powered by:
ADAM - Automated Disaster Analysis and Mapping

20 January 2019   03:50:33 GMT

Place: 15 km SSW of Coquimbo

Time: 20 January, 01:32 GMT

Depth: 53.04 km

Coord.: Lat -30.07 Lon -71.42

Populat.: 420,182 within 30 Km

Chile

Argentina

USGS ShakeMap

Instrumental Intensity	I	II-III	IV	V	VI	VII	VIII	IX	X+
Potential Shaking	Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
Potential Damage	None	None	None	Very Light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy

MODIFIED MERCALLI INTENSITY SCALE:
7.3/10

Intensity class VII:
People have difficulty standing. Drivers on the road feel their cars shaking. Furniture may be overturned and broken. Loose bricks fall from buildings and masonry walls and cracks in plaster and masonry may appear. Weak chimneys may break at the roofline. Damage is slight to moderate in well-built structures; considerable in poorly constructed buildings and facilities.

Coquimbo (iv), Chile

La Serena
Coquimbo

COQUIMBO (IV)

CHILE

Anda Colla

Pachingo

Concepts and definitions
Shake Map combines instrumental measurements of shaking with information about local geology and earthquake location and magnitude to estimate potential impacts throughout a geographic area.

The estimated intensity map is derived from ground motions recorded by seismographs and represents Modified Mercalli Intensities (MMI's) that are likely to have been associated with the ground motions.

Magnitude and Intensity measure different characteristics of earthquakes. Magnitude measures the energy released at the source of the earthquake. Magnitude is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location. Intensity is determined from effects on people, human structures, and the natural environment. (Source: USGS)

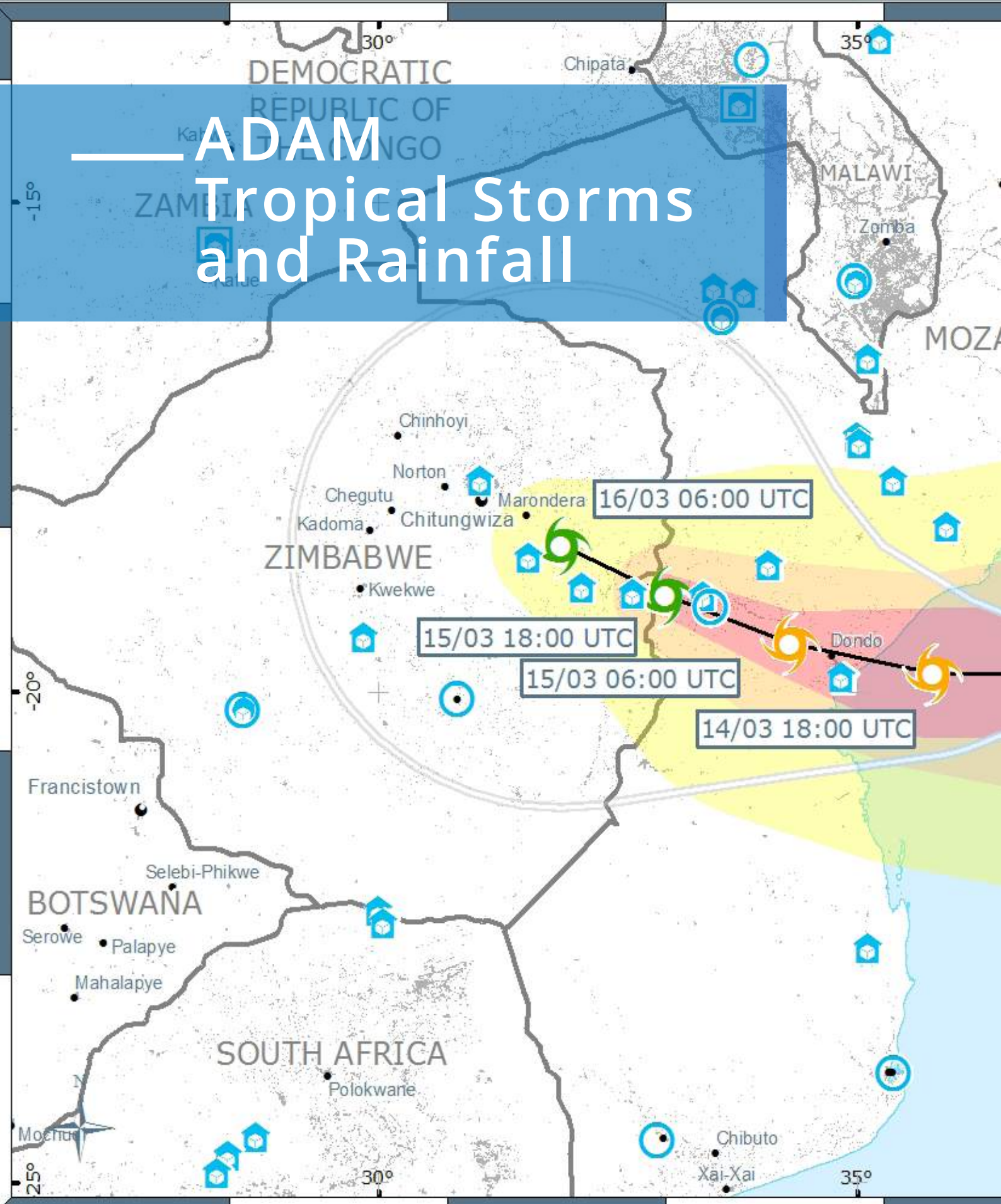|		
WFP Country Office	Airport	Earthquake epicenter
WFP Sub Office	Port	Dam
WFP Warehouse	Nuclear power plant	Water-body

International boundary
First level administrative boundary
Main road

wfp.org

Pachingo

Cerillos

Monte Patria

Rapel

Valdivia

ADAM
Tropical Storms and Rainfall

DEMOCRATIC REPUBLIC OF CONGO

ZAMBIA

MALAWI

Chipata

Zomba

MOZA

Chinhoyi

Norton

Chegutu

Kadoma

Chitungwiza

Marondera

16/03 06:00 UTC

ZIMBABWE

Kwekwe

15/03 18:00 UTC

15/03 06:00 UTC

Dondo

14/03 18:00 UTC

Francistown

BOTSWANA

Selebi-Phikwe

Serowe

Palapye

Mahalapye

SOUTH AFRICA

Polokwane

Chibuto

Xai-Xai

Mochu

WFP Facilities

☐ Country Office

◯ Sub Office

⬡ Warehouse

Wind buffers

120 km/h

90 km/h

60 km/h

Uncertainty

Wind speed

< 110 km/h

110 - 185 km/h

185 - 240 km/h

> 240 km/h

Win

ADAM Tropical Storms monitors every significant tropical storm worldwide, creating dashboards with maps and tropical storm-related information such as wind speed, storm categories, population living within the different wind buffers and calculating the distance between the storm and the closest WFP and UNHRD facilities.

To complement the dashboard showing the storm-related information, ADAM automatically produces a dashboard that shows the expected rainfall in the area hit by the storm and the key cities that may be affected.
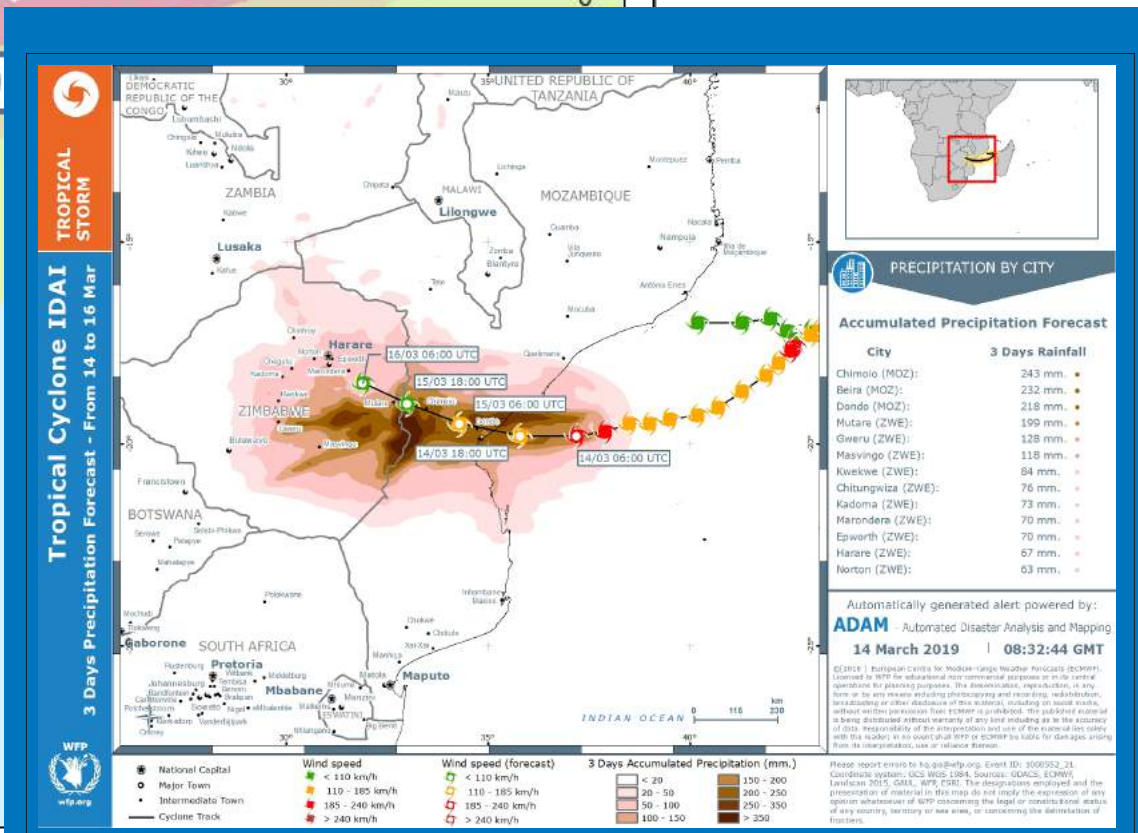
Wind speed (forecast)
< 110 km/h
110 - 185 km/h
185 - 240 km/h
> 240 km/h

★ National Capital
○ Major Town
· Intermediate Town
▢ Densely Populated Area

RESPONSE

Accurate, reliable and timely information is crucial for effective response. Geospatial technology plays an indispensable role in moving from data to information to decisions, ultimately giving WFP and its partners a comprehensive picture of the situation on the ground. Data collected through mobile applications, drones and satellites are brought together to provide operational information for our first responders. This section highlights a few of the common products produced during this phase.

GENERAL LOGISTICS PLANNING MAP (GLPM)
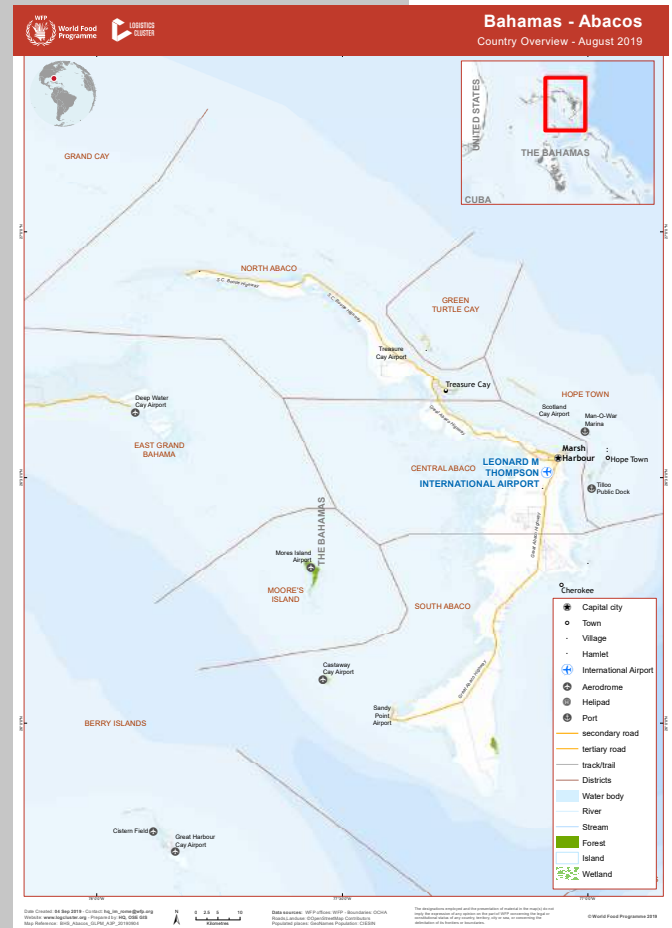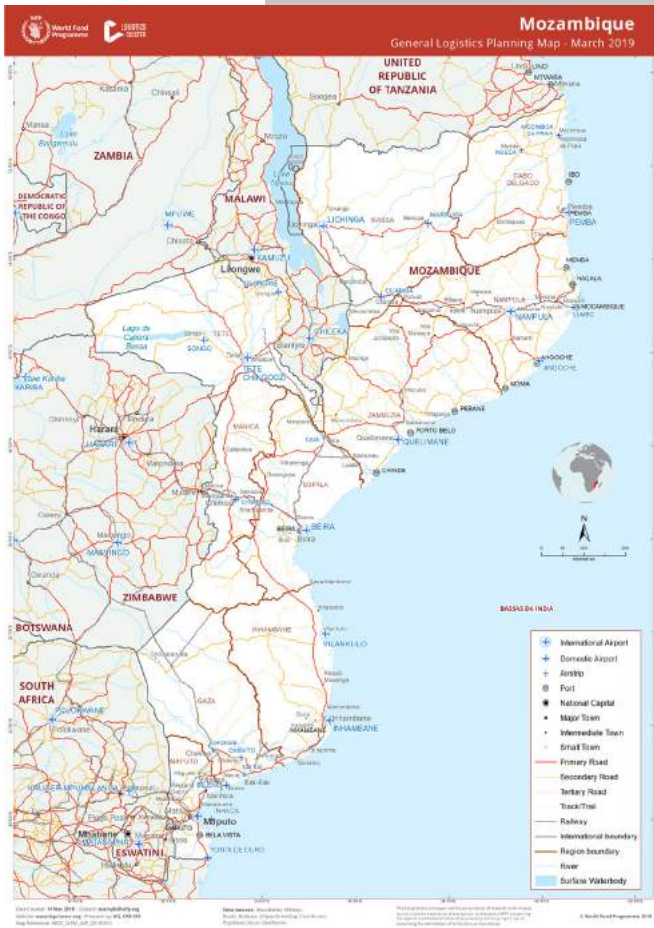
A General Logistics Planning Map (GLPM) is an important standard map applicable across all humanitarian logistics contexts, which visualizes key national logistics infrastructure and networks, administrative boundaries, topographic features (such as waterbodies and elevation) and settlements. It can be used by organisations to understand country logistics context and plan their own operations working from the same reference point.
A General Logistics Planning Map (GLPM) contains different layers showing road and river networks, border crossing points and main cities. It shows where critical transport infrastructure and access points are located and used in response planning for staff to see where key infrastructure is located and how they can access different areas.

ACCESS CONSTRAINTS
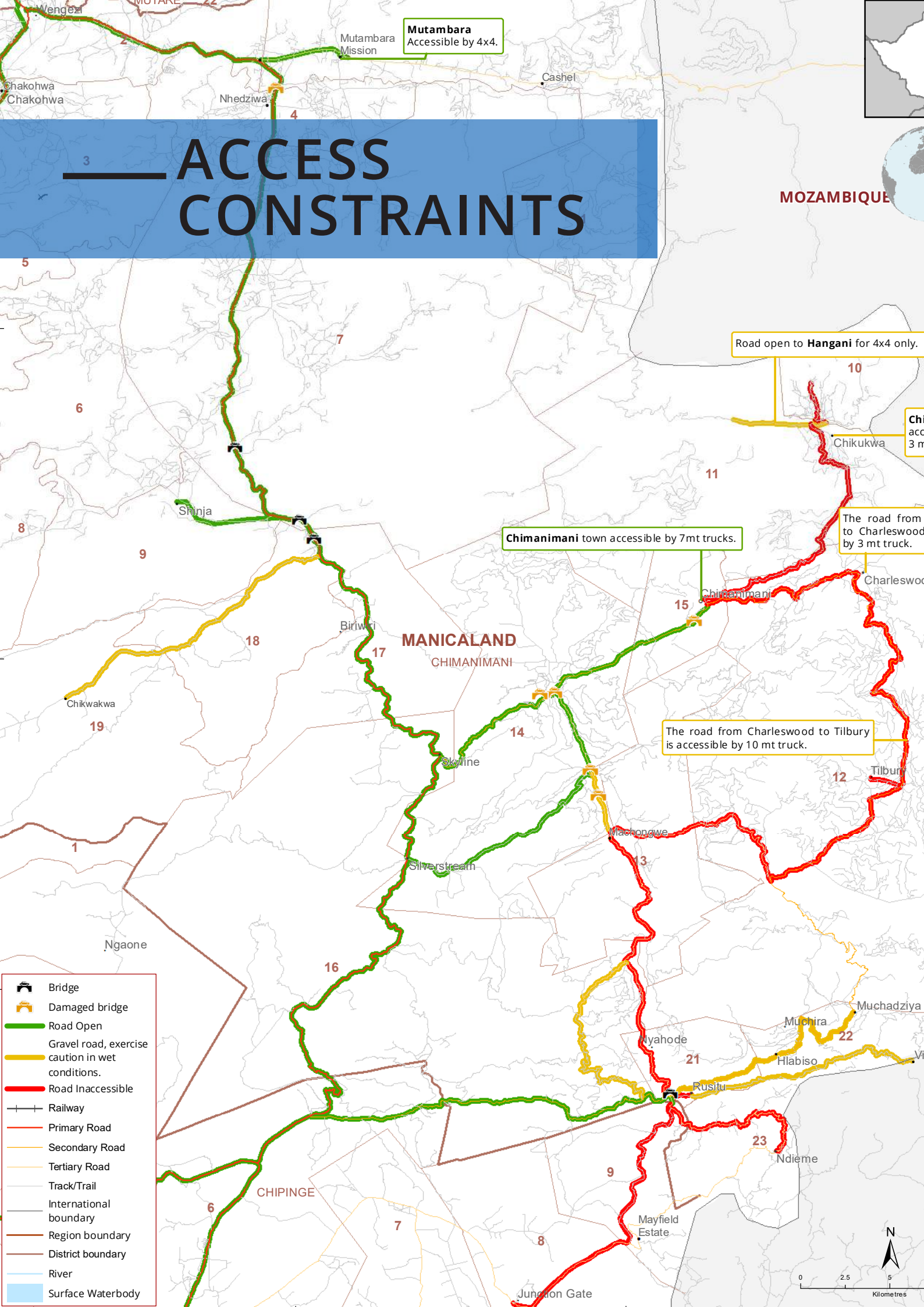
Mutambara
Accessible by 4x4.

Road open to **Hangani** for 4x4 only.

Chimanimani town accessible by 7mt trucks.

The road from
to Charleswood
by 3 mt truck.

The road from Charleswood to Tilbury
is accessible by 10 mt truck.

MOZAMBIQUE

MANICALAND
CHIMANIMANI

Wengezi
Mutare
Mutambara Mission
Cashel
Chakohwa Chakohwa
Nhedziwa
Chikukwa
Charleswood
Shinja
Biriwiri
Chikwakwa
Skyline
Tilbury
Silverstream
Machongwe
Ngaone
Muchadziya
Muchira
Nyahode
Hlabiso
Rusitu
Ndieme
Mayfield Estate
CHIPINGE
Junction Gate

Legend

- 🚗 Bridge
- 🚗 Damaged bridge
- ▬ Road Open
- ▬ Gravel road, exercise caution in wet conditions.
- ▬ Road Inaccessible
- ┼┼ Railway
- ── Primary Road
- ── Secondary Road
- ── Tertiary Road
- ── Track/Trail
- ── International boundary
- ── Region boundary
- ── District boundary
- ── River
- ▬ Surface Waterbody

N

0   2.5   5
Kilometres
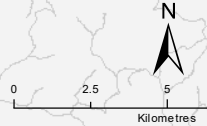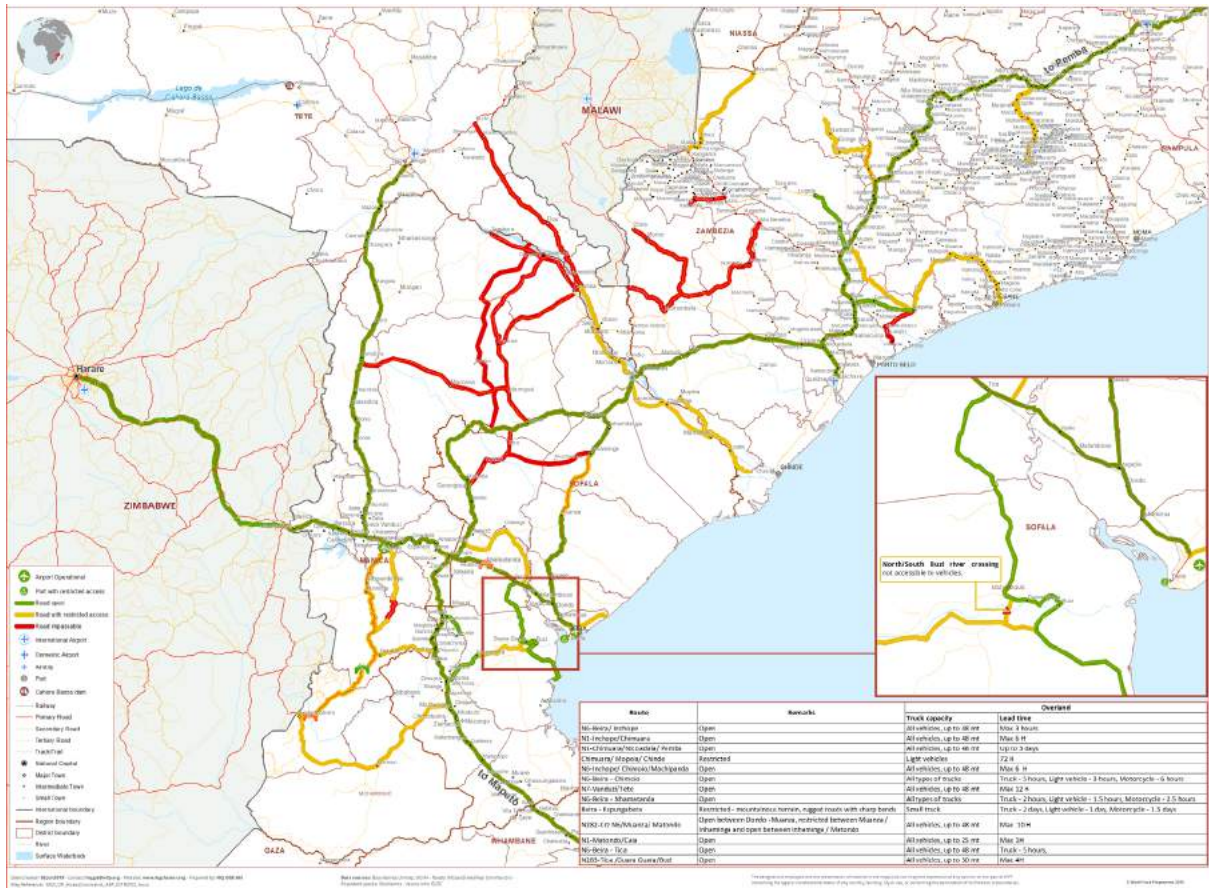
Access constraints maps show physical access constraints that could affect WFP operations. This could be roads damaged by floods, earthquakes or landslide, roads under construction or closed by government for security reasons. Alongside global sources, these maps use field data from partner organizations to present a complete picture of the accessibility situation in the area of study.
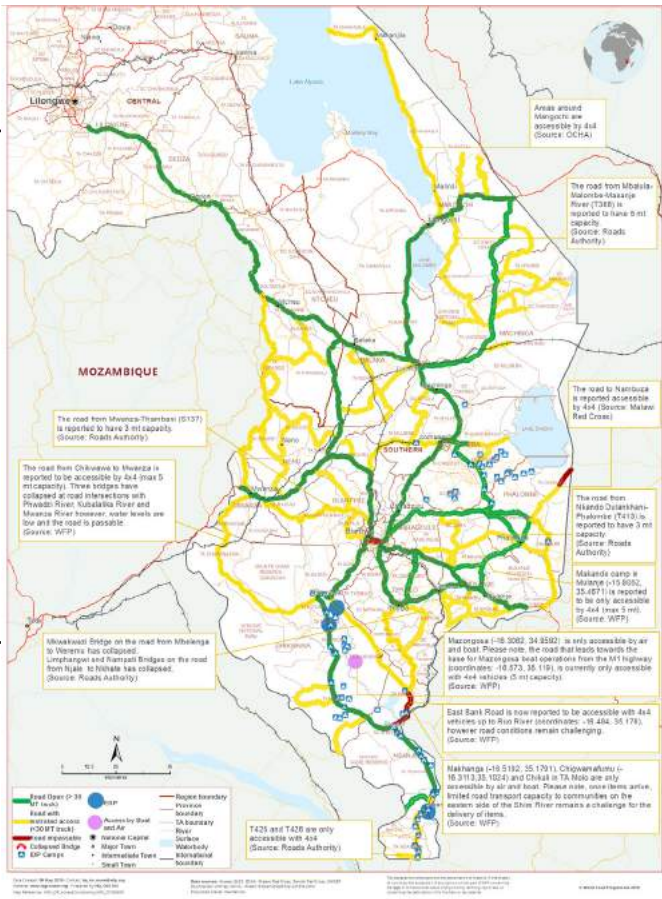
Analysis of the 11 districts that were the most affected by windspeed was conducted using the available field and aerial assessments.

Satellite detected waters were observed as of 28 Apr 2019.

Localities	Satellite Detected Waters (Sq Km)	Inundated Crop Land (Sq Km)
Chai	513.13	7.38
Muuge	195.48	4.54
Bilibiza	178.98	0
Mucojo	162.89	0
Mahate	92.08	0
Quissanga	26.86	0
Macomia	26.69	0
Quiterajo	23.68	0
Muaguide	19.24	0
Ibo	5.89	0
Quirimba	2.17	0
Total	**1247.09**	**11.92**
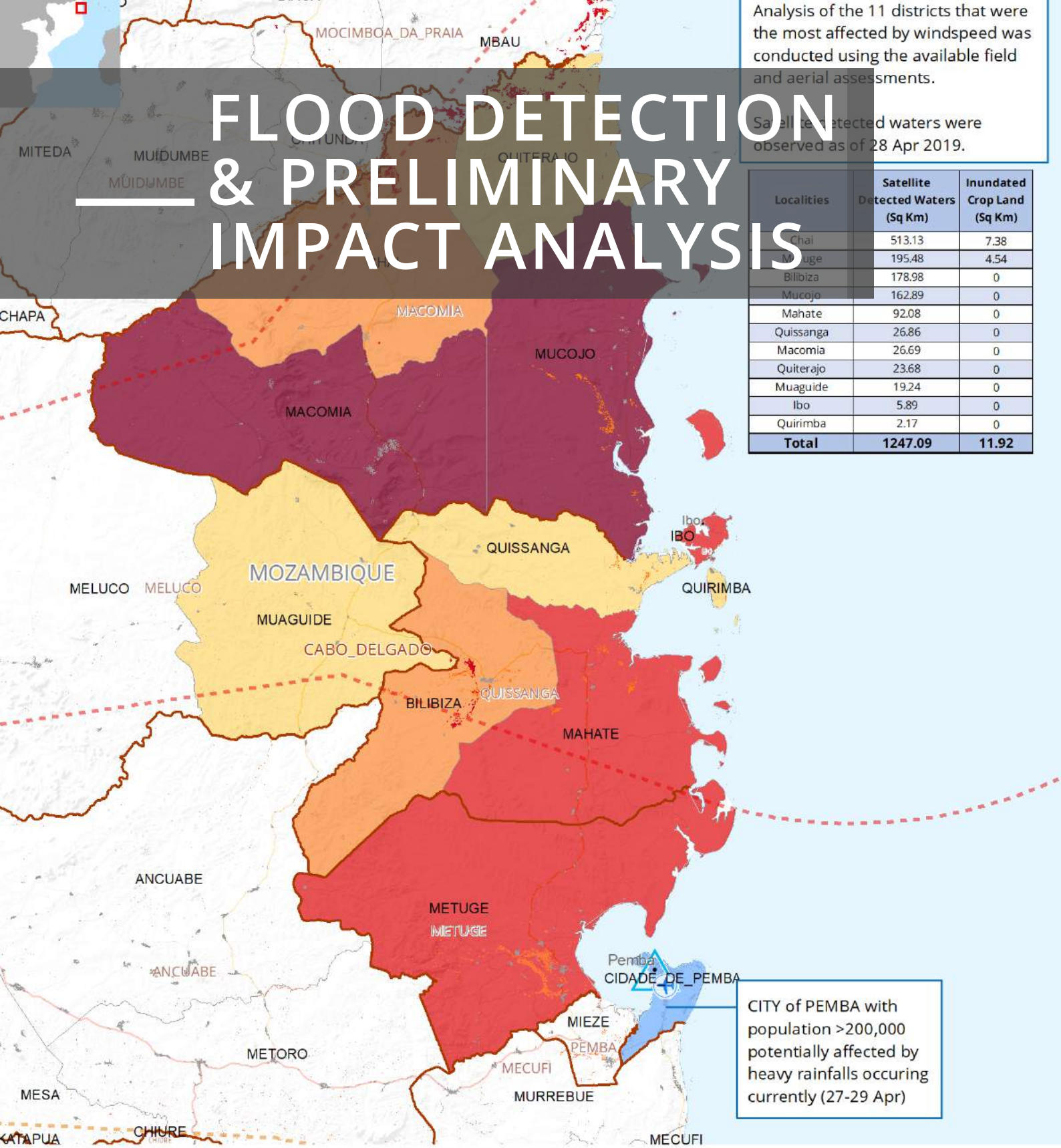
CITY of PEMBA with population >200,000 potentially affected by heavy rainfalls occuring currently (27-29 Apr)

Estimated People Affected

- Data Not Available
- 1 - 3,000
- 3,001 - 10,000
- 10,001 - 20,000
- 20,001 - 35,513

Wind Speed

- 120 km/h
- 90 km/h
- 60 km/h

- Satellite Detected Water
- City of Pemba (Flood Analysis Not Available)
- Built Area

- Country Office
- Field Office
- Sub Office
- Main Road

- International Airport
- Airstrip
- National Capital
- Major Town
- Intermediate Town

- Coastline
- Province bo...
- District boun...
- Locality bo...

Iran — Satellite detected Waters
05-07 Apr, 08-10 Apr 2019

World Food Programme

SAVING LIVES
CHANGING LIVES

Situation Overview
Satellite detected waters

The dashboard shows a 3-days composite product - elaborated by NASA within the Near Real Time (NRT) Global Flood Mapping project - showing the satellite detected waters (05 - 07 and 08 - 10 April) in the western part of the Islamic Republic of Iran (Cloud coverage: ~50%)

Province	Province surface	Flooded area	Percentage of flooded area
Khuzestan	63,352	4806.88	7.59%
Missan	16,730	3675.36	21.97%
Basrah	17,389	3205	18.43%

Population density
High — Low

Accumulated rainfall (10 days, mm)
307 / 150 / 100 / 50 / 20 / 0

Legend
- Country Office
- Field Office
- Sub Office
- National Capital
- Major Town
- Intermediate Town
- Small Town
- International boundaries
- Coastline
- Province boundaries
- River
- Surface waterbodies

Satellite-detected waters (source: NASA)
- 05 - 07 April
- 08 - 10 April

7-days precipitation forecast 11 - 21 April (source: ECMWF)
- below 25 mm
- 25 - 50 mm
- 50 - 100 mm

These dashboards visualize areas affected by flooding to provide a comprehensive situation analysis.
They use remotely sensed imagery to compare pre and post event information along with data on population distribution, past rainfall accumulation and weather forecasts. If data is available, the product can also show potentially affected populations and cropland.

Cambodia — Satellite-detected waters (as of 28 Sep 2019)

World Food Programme

SAVING LIVES
CHANGING LIVES

Situation Overview

The dashboard shows the latest flood detection observed in Cambodia. The result of the combination of Sentinel 1 and NASA MODIS NRT data, not perfectly matching areas of study of the satellite images, the absence of water in a pixel is not necessarily related to a pixel not in flood condition. In addition, the dashboard shows the 5-days rainfall forecast (30 Sep-04 Oct) and the past accumulated precipitation over the last 5 days (25-29 Sep).
Data shown in this map derive from material provided through use of LIST's technology. Patent pending

Past acc. rainfall (GPM, 25-29 Sep, mm)
>100 / 100 / 75 / 50 / 25 / 0

Rainfall forecast (ECMWF, 30 Sep-04 Oct, mm)
>150 / 150 / 100 / 75 / 50 / 25 / 0

Legend
- National Capital
- Major Town
- Intermediate Town
- Small Town
- Village
- International boundaries
- Coastline
- Province boundaries
- District boundaries
- River
- Surface waterbodies
- Maximum observed flooding in the last 25 years

Most recent flood detection (as of 28 September)
- 11 Sep 2019 - Sentinel
- 12 Sep 2019 - MODIS
- 22 Sep 2019 - Sentinel
- 26 Sep 2019 - Sentinel
- 27 Sep 2019 - Sentinel
- 28 Sep 2019 - Sentinel

0 15 30 60 Kilometers

SUPPLY CHAIN CONCEPT OF OPERATIONS (CONOPS)

These maps are amongst the key products for supporting operations in the supply chain processes. They enable a full overview of the supply chain, asset visibility and operational readiness on and off the country of interest, to inform planning and execution of current and future operations.

CLUSTER SUPPORT

The cluster approach ensures predictable leadership and accountability in all main sectors or areas of humanitarian response and strengthens system-wide preparedness and technical capacity to respond to humanitarian emergencies. In recognition of its operational expertise, research and use of innovative tools, WFP has been appointed by the Inter-Agency Standing Committee (IASC) to lead the Emergency Telecommunications and Logistics Clusters and co-lead the Food Security Cluster with the Food and Agricultural Organization of the United Nations (FAO). WFP GIS team provides continuous support to the Clusters by producing static and interactive maps, to make sure that information is provided in a capturing and effective way.

CLUSTER

ETC DASHBOARD

Hajjah
- 📟 UN Hub - WFP
- 📟 INGO Hub - (TBC)
- 🟡🟡🟡🟡🟡

Sa'ada
- 📟 UN Hub - TBC
- 📟 INGO Hub - (TBC)
- 🟡🟢🟡🟡🟡

Hodeidah
- 🟢 INGO Hub - PUAMI
- 🟢 UN Hub - WFP GH
- 🟢 UN Hub - UN GH
- 🟡 INGO Hub - YIR
- 🟢🟢🟢🟢🟢

Ibb
- 🟢 INGO Hub - ACTED
- 🟡 UN Hub - WFP
- 🟢🟡🟢🟡🟡

Taizz
- 🟡 UN Hub - UNHCR
- 🟡 INGO Hub - (TBC)
- 🟡🟡🟡🟡🟡

Mukha
- 📟 UN Hub - WFP
- 🟢 INGO Hub - PU
- 🟡🟡🟡🟡🟡

Aden
- 🟢 UN Hub -
- 🟢 INGO Hub
- 🟢🟢🟢🟢

- 📟 UN Hub - VOS APOLLO

Map labels
SAUDI ARABIA · SA'ADA · AL JAWF · Haradh · AMRAN · Al Hazm · HAJJAH · Hajjah · 'Amran · AMANAT AL ASIMAH · MARIB · Al Mahwit · AL MAHWIT · Sana'a · SANA'A · AL HUDAYDAH · DHAMAR · SHABW · Al Hudaydah · RAYMAH · Dhamar · Ad Dahi · AL BAYDA · IBB · Ibb · Al Bayda' · AL DHALE'E · ABYAN · ERITREA · Mukah · Ta'izz · TAIZZ · LAHJ · Lahj · Zinjibar · Mukha · ADEN · Aden · ETHIOPIA · DJIBOUTI · Djibouti

Legend
- Customer Support
- Information Management
- Security Telecommunications (Radio)
- Radio Programming
- Radio Training
- Coordination
- Internet
- Assessment Mission
- Voice Communications (Phone/Voice)
- ETC Services for Communities
- 🟢 Service Provided
- 🟡 Service Planned
- ★ National C
- ○ Major Tov
- • Intermed
- —— Internatio
- - - - Undeterm
- Governo

These dashboards are essentially a snapshot of a given ETC operation. They include a country map showing which ETC services are available or planned in which locations, funding status, the number of ETC partners involved in the response and the contact details of the relevant ETC Coordinator. The dashboards are a standalone IM product and are often used at meetings as they provide an easy-to-read overview of the ETC response in an emergency and therefore facilitate decision making and coordination efforts.

ETC
FACEBOOK

GRAND CAY

NORTH ABACO

GREEN TURTLE CAY

HOPE TOWN

WEST GRAND BAHAMA

EAST GRAND BAHAMA

CENTRAL ABACO

CITY OF FREEPORT

MOORE'S ISLAND

SOUTH ABACO

BIMINI

BERRY ISLANDS

SPANISH WELLS

HARBOUR ISLAND

NORTH ELEUTHERA

CENTRAL ELEUTHERA

NEW PROVIDENCE

NORTH ANDROS

SOUTH ELEUTHERA

CENTRAL ANDROS

MANGROVE CAY

THE BAHAMAS

CAT ISLAND

BLACK POINT

EXUMA

SOUTH ANDROS

LONG IS

RAGGED ISLAND
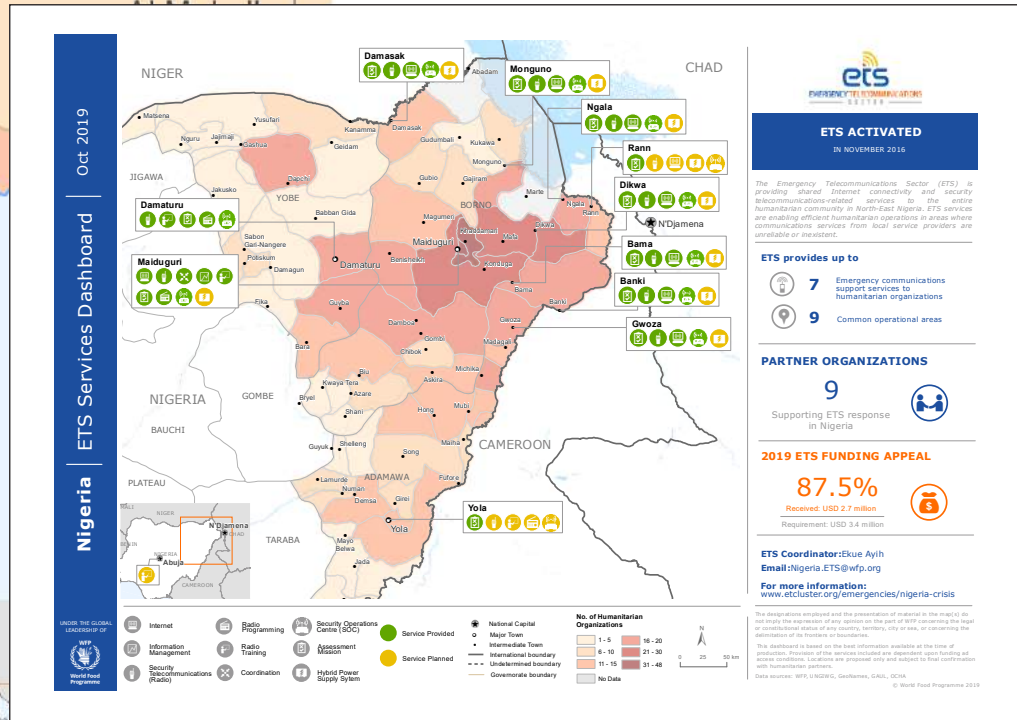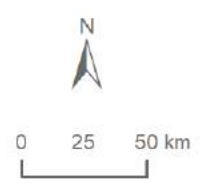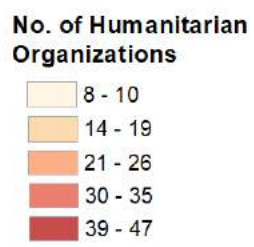
National Capital	**Comparative Coverage Count**		Facebook Network Coverage data:
Major Town	< 1	16 ~ 32	These maps show per grid cell the number of overlapping coverage area estimates of cell sites. For each cell site the coverage area is estimated from the anonymized locations of users with location-services enabled whose phones report to be able to communicate with the cell site.
Intermediate Town	1 ~ 2	32 ~ 64	
Small Town	2 ~ 4	64 ~ 128	
International Boundary	4 ~ 8	129 ~ 256	
Province Boundary	8 ~ 16	>256	

Bahamas
3G Network Coverage as of 02 Sep 2019

As the world's single most popular social network, Facebook owns great amounts of data about mobility patterns. By looking at where people move, when they move, and how often they move, it's possible to make predictions about where disease outbreaks are more likely to occur or where displaced people will go in the aftermath of a natural disaster.

A recent partnership between Facebook and WFP allows the organization to produce maps that show how many people have access to a cellular network – 2G, 3G and 4G. In areas with a low network coverage, emergency responders will have to dedicate more resources to get information about the affected population and their movements during major emergencies.
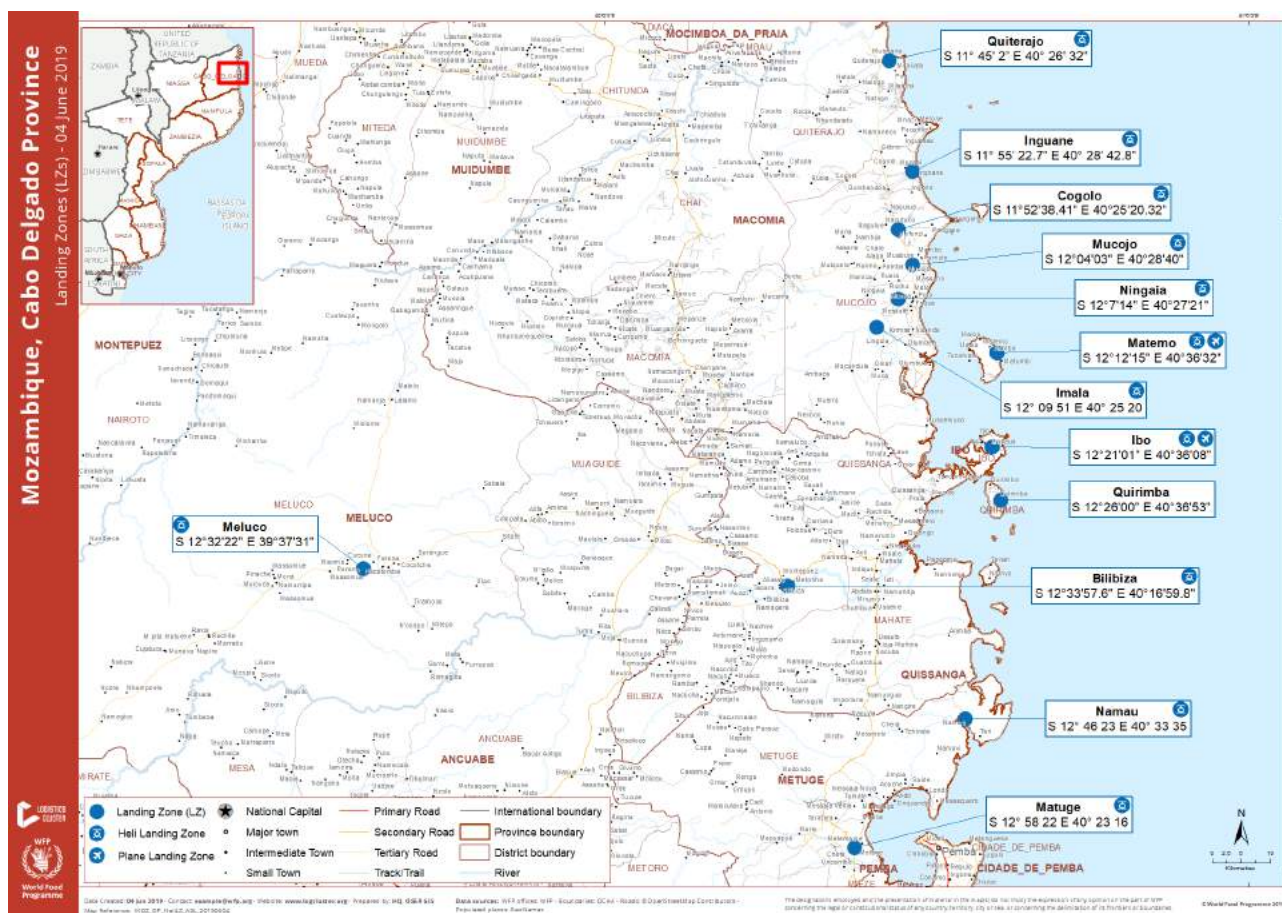
LOGISTICS CLUSTER

The Logistics Cluster provides coordination and information management to support operational decision-making and improve the predictability, timeliness and efficiency of the humanitarian emergency response.

Due to its expertise in the field of humanitarian logistics, WFP was chosen as lead agency for the Logistics Cluster and acts as a "provider of last resort" offering common logistics services, when critical gaps affect the humanitarian response. The WFP GIS team provide support to the Logistics Cluster by producing a range of maps that communicate important operational information in a clear way, identifying the locations of key data in operational contexts where the Logistics Cluster is activated. These maps are produced with standard templates and branding developed jointly by the Cluster and GIS teams and share information with logistics officers and humanitarian responders, in-country and globally. 392 maps were published on the Logistics Cluster website in the last year [1]and all the available maps received 53,000 page-views in that time. Maps are almost always the most or second-most viewed information management (IM) products for the respective operation pages on the Logistics Cluster website.

LOGISTICS CLUSTER CONOPS

Road Transport Hub

Air Cargo Hub

Other lines of separation

Primary road

Secondary road

First-level admin boundaries

River

Surface waterbodies

SUDAN

Birao

VAKAGA

Bria
⌂ = 40 m²

Bria

HAUTE-KOTTO

HAUT-MBOMOU

CAMEROON

Moundou

Bouar

Baboua

Baoro

NANA-MAMBÉRÉ

Bozoum

Bossangoa

Paoua

Bocarang

OUHAM-PENDÉ

Batangafo

Bouca

Kaga-Bandoro

Mandoro

KÉMO

Dekoa

CENTRAL AFRICAN REPUBLIC

Ippy

Grimari

Bambari

Bambari
⚙ ℹ 🚛
⌂ = 320 m²

MBOMOU

Zemio
⌂ = 240 m²

Zemio

Carnot

MAMBÉRÉ-KADÉÏ

Yaloke

Bossembele

OMBELLA M'POKO

Damara

Boali

Sibut

Kouango

Alindao

Bangassou

Kembe

Rafai

Gamboula

Berberati

Boda

Bangui

Bimbo

LOBAYE

Mbaiki

BANGUI

Bangui
⚙ ℹ 🚛 ✈
⌂ = 2,040 m²

BASSE-KOTTO

Mobaye

Alindao
⌂ = 160 m²

DEMOCRATIC REPUBLIC OF THE CONGO

SANGHA-MBAÉRÉ

Nola

CONGO

0   50

SOUTH-EAST BANGLADESH
Concept of Operations, August 2019

These maps are amongst the key IM products in Logistics Cluster operations. They visualize the range of services that the cluster will facilitate in the operation, such as coordination, storage, air transport and IM, and where these services will take place. They play a crucial role in strategic planning for organizations in the wider humanitarian community who wish to access services facilitated by the Logistics Cluster.

LOGISTICS CAPACITY ASSESSMENT (LCA)

TURKEY
Country Overview

TURKEY
Port Network

TURKEY
Railway Network

The Logistics Capacity Assessment (LCA) provides logisticians with fundamental, baseline logistics information. The assessment looks at logistics infrastructure and services in a country and represents an operational tool which focuses on critical elements of the supply chain links, such as port and airport capacities, road and rail networks, storage facilities, handling procedures, labour rates, local transportation resources and other key elements required for operational support. It shows logisticians what services already exist, where they are located and therefore where the gaps are.

The LCA focuses on countries or regions where there is potential for a sudden onset emergency to occur or where humanitarian actors are present but there is a lack of consolidated information on logistics infrastructure and services.

TURKEY
Waterways Network

TURKEY
Road Network

TURKEY
Airport Network

LOGISTICS CLUSTER PREPAREDNESS PLATFORM

The Logistics Cluster Preparedness Platform (LCPP) is designed as a dynamic, innovative digital information tool to ensure all actors work towards a common, coordinated and localized approach to logistics preparedness, strengthening information management and knowledge sharing capacities. With the capacity to combine information on logistics infrastructure, imagery, mapping, early warning figures and even crowd-sourced updates from the affected area, the platform aims to fill the information gap as a common gateway for rapid, validated, real-time data.

The speed of the information availability not only optimizes the decision-making process, it also generates a common operational picture for the logistics community. During the preparedness phase, the same data can be used to strengthen logistics planning and roll-out, ultimately enhancing all stages of the humanitarian response cycle.

Esri, HERE, Garmin, FAO, NOAA

POWERED BY esri

on Living within Area)

65km SSE of Tezu   49km SE of Tarrag
30km   pop < 50km

Source: USGS

Recent Tropical Cyclones (Estimated Population Living within Wind Exposure)

300,000
250,000
200,000
150,000
100,000
50,000
0

Tropical Cyclone WUTIP-19   Tropical Cyclone OMA-19

Source: JRC, GDACS
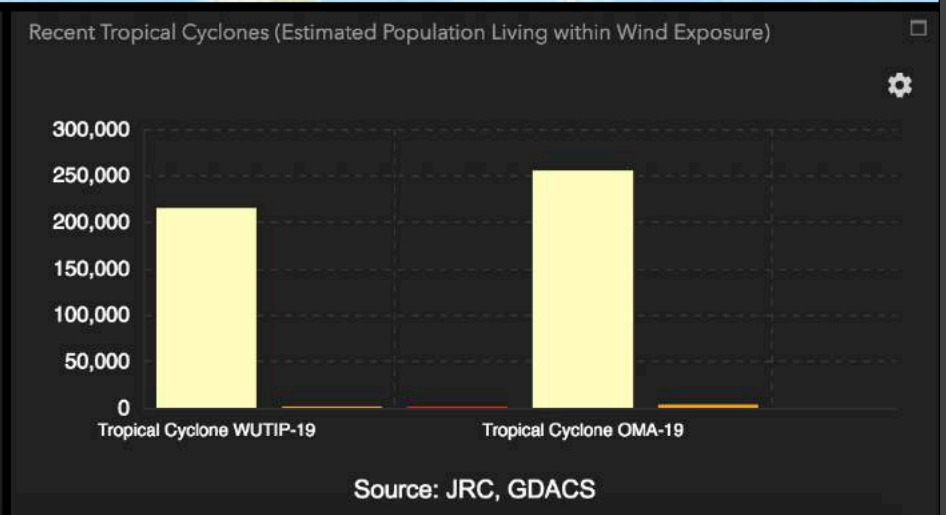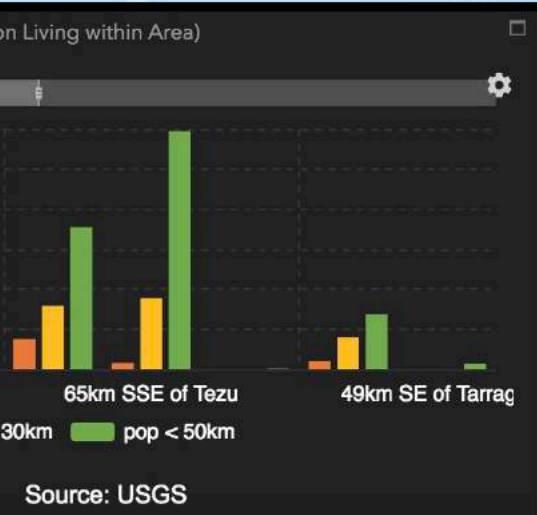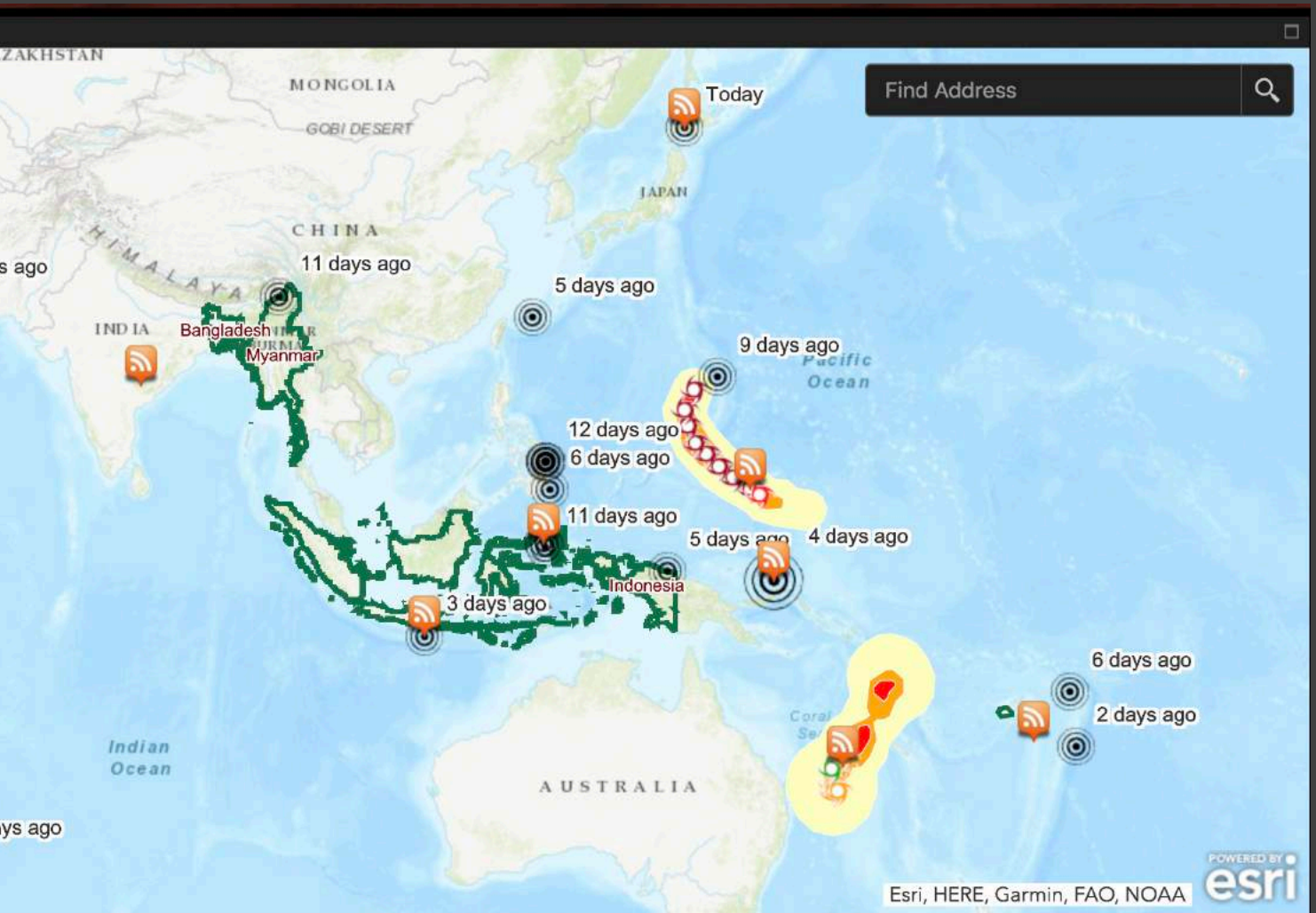
FOOD SECURITY CLUSTER

The Food Security Cluster (FSC) coordinates the food security response during a humanitarian emergency, addressing issues of food availability, access and utilisation. FSC is currently active in over 30 countries and provides guidance at country level, supporting a broad and timely response.
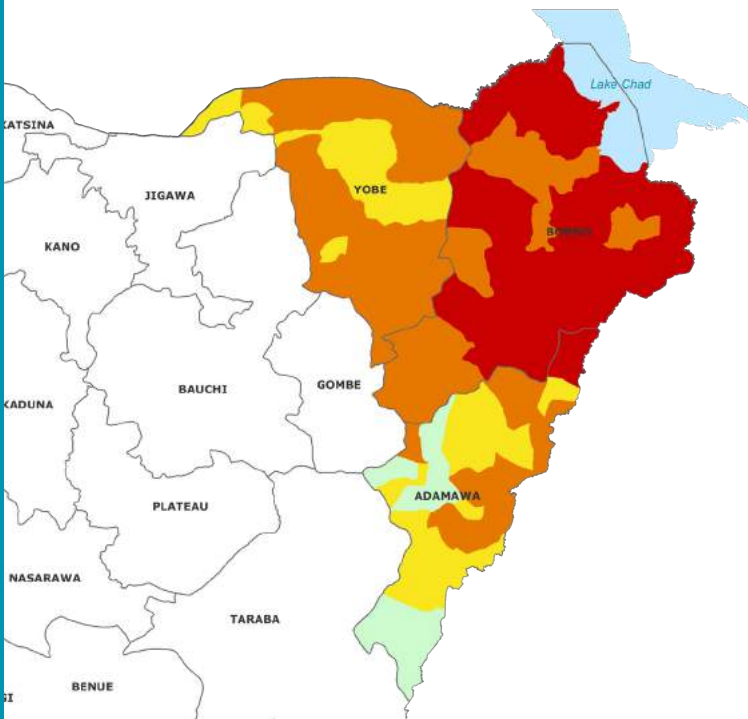
The WFP GIS team supports the Food Security Cluster by producing a wide range of maps that identify which partners are present, the areas they are assisting and any response gaps in the people reached vs targeted. FSC also works closely with the Integrated Food Security Phase Classification (IPC) and all maps produced by GIS adhere to these standards.

Maps are a key element of the Food Security Cluster's information management products. They are shared externally with partners and other UN agencies to determine the severity of the food insecurity situation in a country and contribute to the coordination of an effective response.
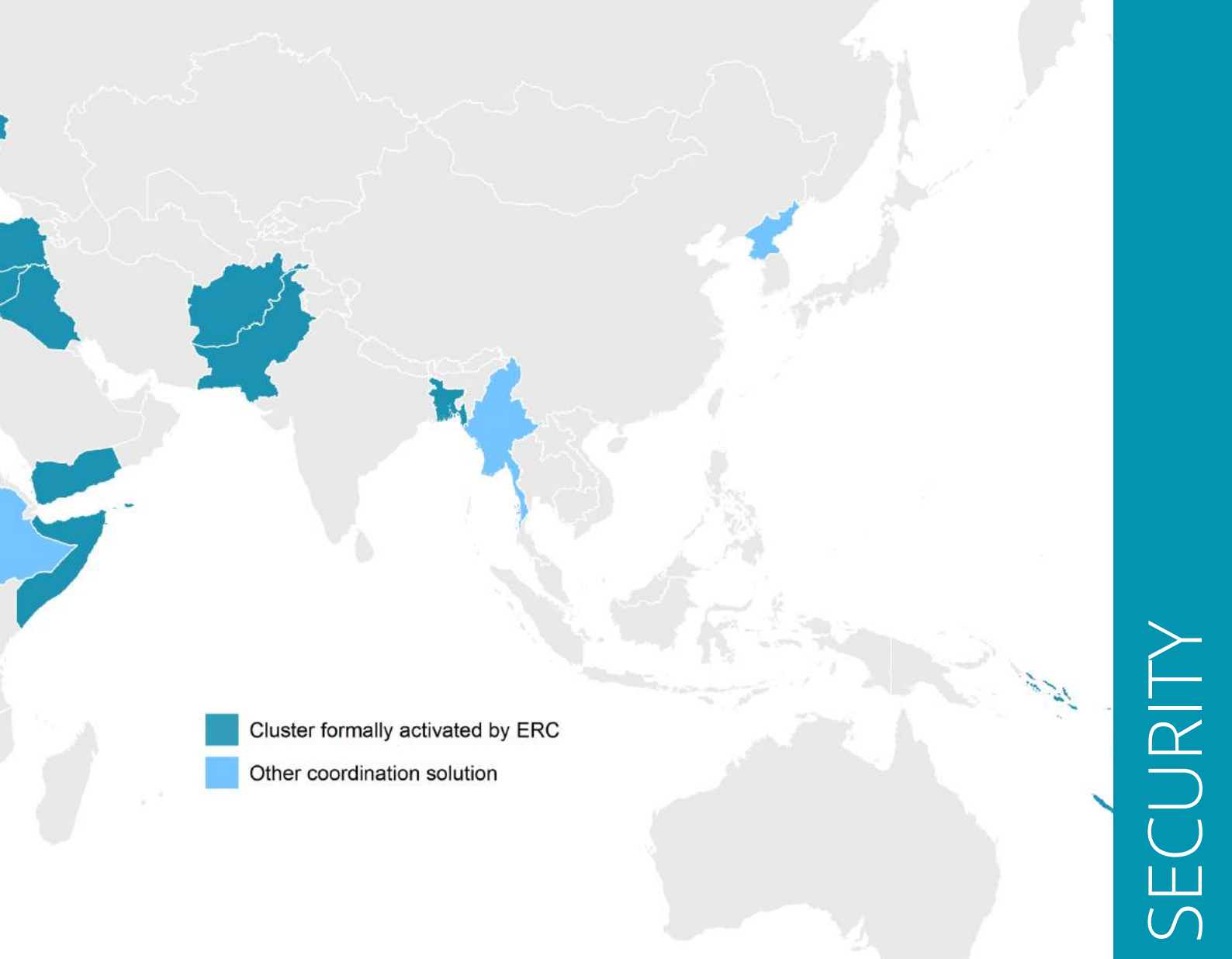
Cluster formally activated by ERC

Other coordination solution

FOOD SECURITY

SOMALIA FOOD SECURITY CLUSTER
Strengthening Humanitarian Response

Total Number of Beneficiaries Targeted/Assisted by Food Security Cluster Partners - March 2017

Improved Access to Food and Safety Nets

Tot Targeted
2,990,561

Tot. Beneficiaries Assisted
1,749,339

Livelihood Assets

Tot Targeted
1,663,198

Tot. Beneficiaries Assisted
101,795

Summary
In drought-affected areas of Somalia, improved access to food and safety net (IASN) responses have been reported by 22 partners. Collectively, 1,748,759 persons received assistance (up by 600,000 from February), accounting for about 60% of the pre-famine monthly target and representing a 62% increase from last month's response. WFP response accounts for 74% of the total beneficiaries assisted in March 2017. Response modality breakdown consists of: In-kind (food) 44%, cash/cheque 22% and voucher response 34%.

The significant increase in the number of beneficiaries assisted in March for IASN occurred in Bakool, Bay, Galgaduud, Hiran, and Lower / Middle Shabelle regions. This demonstrates the attempt, ability and capacity of partners to scale up the response. The number of people assisted in Sool and Sanaag remains the same as last month.

Partners also reported assistance for Middle Juba in March, though at 2% of the target. This is nonetheless a positive step considering the significant access challenges hampering humanitarian assistance in this area.

In Bay, Galgaduud, Hiran and Lower Middle Shabelle, further scale up is required, with response levels at 50% below the FSC monthly target. For the Livelihood Assets (LA) response objective, 101,795 beneficiaries (6% of the monthly target) received assistance.

Needs
Provision of improved access to food to populations in crisis, especially those in drought-affected communities. This includes new caseloads arriving from inaccessible areas alongside the ongoing response to the protracted caseload.

Provision of seasonal livelihood inputs to populations in crisis and stressed, and regular and predictable safety net programmes that protect vulnerable members of communities.

Gaps
Areas with significant gaps in Improved Access to Food & Safety Nets (IASN) are: Middle Juba, where 2% of the 83,046-targeted beneficiaries have received assistance; and Lower and Middle Shabelle, where less than 23% of the targeted population received assistance.

For Livelihood assets, gaps in coverage (less than 11%) were reported in W, Galbeed, Banadir, Bakool, Middle Shebelle, Lower Shebelle and Lower Juba.

Data Created: 11 April 2017
Contact: hq.gis@wfp.org
Website: www.wfp.org
Prepared by: HQ, OSEP GIS

Reg Reference:
COM_FSC_Gap_Analysis_A3.

Total Beneficiaries targeted by Region — XXX,XXX

Total Beneficiaries Not Reached

Total Beneficiaries Reached

IPC Acute Food Security Situation
February - June 2017 (Most Likely Scenario)

- No Data
- Minimal
- Stressed
- Crisis
- Emergency
- Famine

Data sources: GAUL, FSNAU and FSC

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

UNHAS ROUTES

In countries where WFP operations rely on aviation - because natural disasters or conflicts put entire areas beyon the reach of land transport or commercial flights, leaving air transport as the only mean of access – maps showing the routes of the United Nations Humanitarian Air Service (UNHAS) provide nearly real-time information on how to provide access to all humanitarian entities, allowing life-saving projects to be implemented and monitored.

CASH-BASED TRANSFERS AND VOUCHERS

Bank Branches Density in Honduras by Department

Cortes
No. Branches: 246
Bank branches density
per 100,000 people: 14.31

Atlantida
No. Branches: 60
Bank branches density
per 100,000 people: 12.72

Islas de La Bahia
No. Branches: 19
Bank branches density
per 100,000 people: 26.65

Yoro
No. Branches: 54
Bank branches density
per 100,000 people: 8.80

Colon
No. Branches: 31
Bank branches density
per 100,000 people: 9.25

Santa Barbara
No. Branches: 29
Bank branches density
per 100,000 people: 6.36

Administrative unit not available
No. Branches: 0
Bank branches density
per 100,000 people: 0.00

Copan
No. Branches: 41
Bank branches density
per 100,000 people: 10.23

Gracias a Dios
No. Branches: 1
Bank branches density
per 100,000 people: 1.00

Ocotepeque
No. Branches: 18
Bank branches density
per 100,000 people: 11.26

Olancho
No. Branches: 35
Bank branches density
per 100,000 people: 6.22

Lempira
No. Branches: 10
Bank branches density
per 100,000 people: 2.84

El Paraiso
No. Branches: 28
Bank branches density
per 100,000 people: 5.82

Intibuca
No. Branches: 13
Bank branches density
per 100,000 people: 5.08

Francisco Morazan
No. Branches: 238
Bank branches density
per 100,000 people: 14.64

La Paz
No. Branches: 12
Bank branches density
per 100,000 people: 5.52

Valle
No. Branches: 19
Bank branches density
per 100,000 people: 10.26

Choluteca
No. Branches: 31
Bank branches density
per 100,000 people: 6.68

Comayagua
No. Branches: 54
Bank branches density
per 100,000 people: 9.97

Bank Branches
Low Density — High Density

Disclaimer :The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Date :19 August 2019   Sources : WFP, UNGIWG   Contact : hq.gis@wfp.org www.wfp.org Map ref: HND_CoV_BankBranches_A4L

These maps are used to provide the Country Offices with additional information about the recipients of Cash-Based Transfers (CBT) and the location of specific Financial Service Providers (FSPs), in terms of geographical distribution and their density compared to the local population.

This information will be used eventually in the Macro Financial Assessments (MaFA) to determine, based on their recent performance, coverage, reliability and available services, which FSPs could be potentially used as financial partners for CBT operations. When applicable, a map on CBT beneficiaries for the previous year is produced as well, to have a better understanding of the areas already covered by CBT operations.

EBOLA OPERATION DASHBOARDS
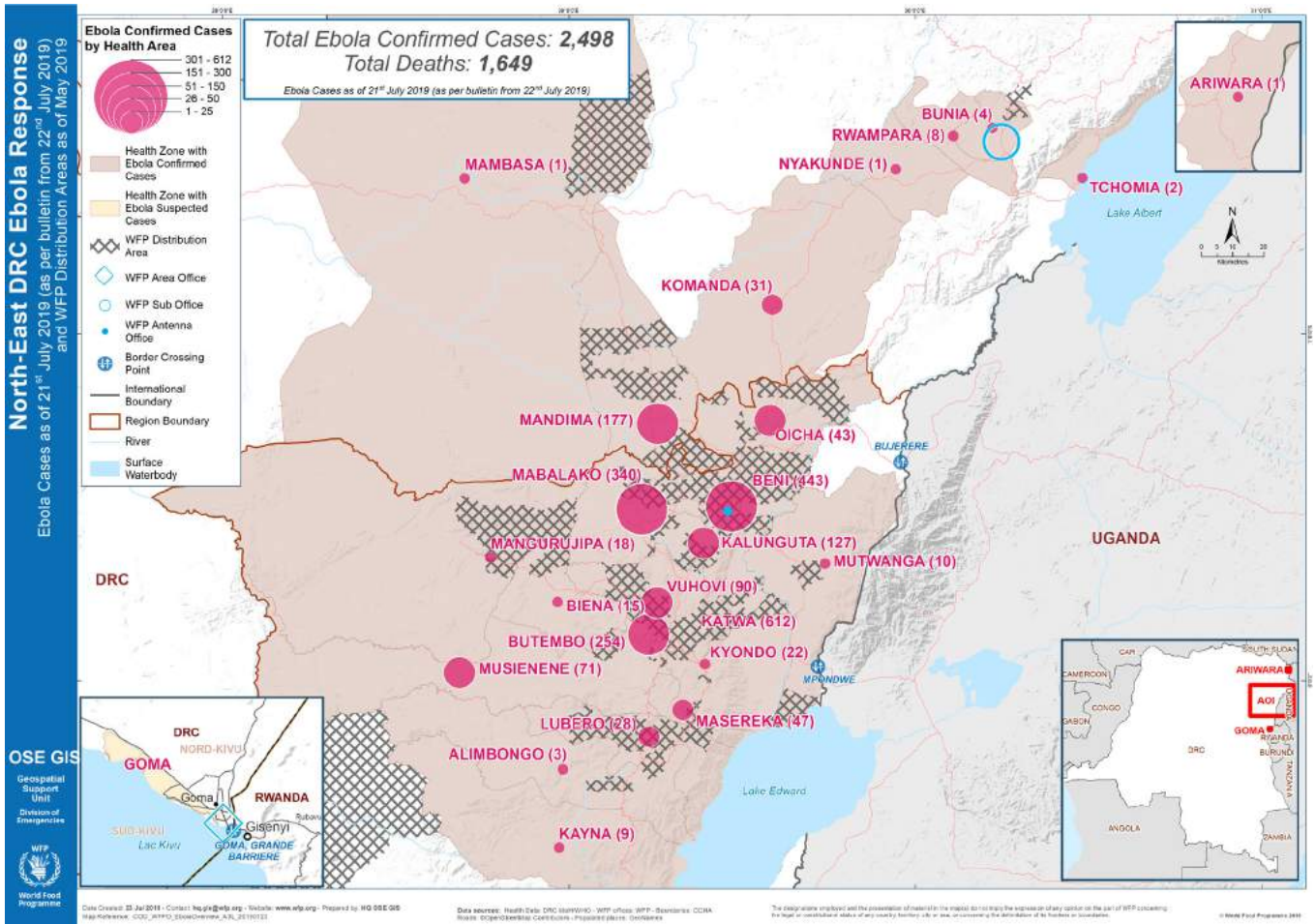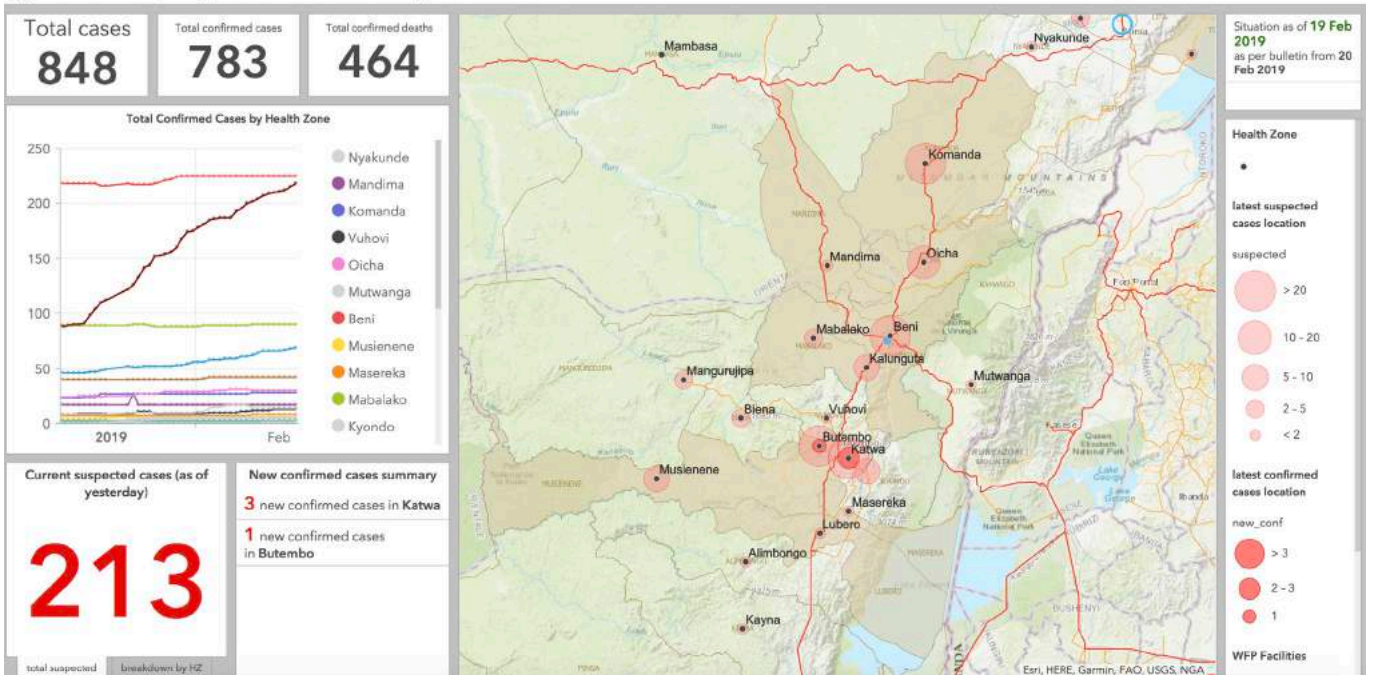
PROJECTS

The WFP HQ GIS team has been constantly involved, over the last few years, in a series of projects whose final aim is to maintain and improve the GIS infrastructure at the WFP Headquarters and support Regional Bureaux and Country Offices in implementing the GIS infrastructure and related data preparedness activities.
The greatest challenge remains bringing together capacities in different divisions and improve coordination for better results and to avoid duplication of efforts. With the introduction of Spatial Data Infrastructure in many Country Offices, continuous updates and improvements to Geonode (WFP's corporate web application for creating and sharing maps) as well as access to an unlimited number of GIS licenses, we can now engage with more GIS practitioners and users across the organization.

GEONODE

Interactive

You can combine already existing la
powerful interactive maps a

Explore

Geonode is WFP's corporate platform for sharing information internally and externally. Along with the Spatial Data Infrastructure, Geonode represents the backbone of WFP's Geospatial Support Unit's infrastructure. The platform, based on open-source technology, was launched in 2014 and is used as a data hub for collecting and disseminating geospatial information through other platforms (internal & external).

There is a major update taking place in 2019, which will increase the performance and the appearance of the platform.
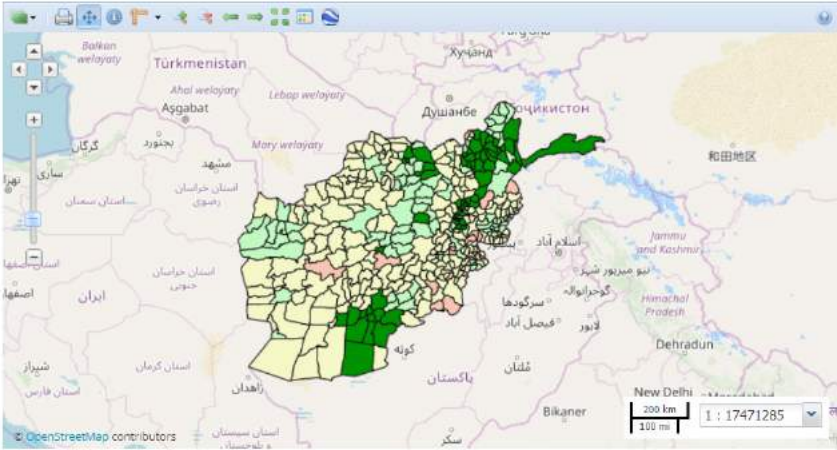
mapping
...yers with your own data to create
...ccessible from all devices.

Maps

WFPGeoNode   Layers   Maps ▾   Resources ▾   Users ▾

Search Layers 🔍   Sign in

Afghanistan: District Accessibility for WFP and Partners Staff as of 18 Augu...

Download Metadata

Legend

■ Accessible to WFP
□ Accessible to WFP with mitigation measures
□ Accessible to WFP partners
□ Access being pursued

Maps using this layer

List of maps using this layer:

Afghanistan- Area of Control for WFP Offices
Coverage - September 2019

Create a map using this layer

Click the button below to generate a new map
based on this layer.

Create a Map

❶ Info   ☰ Attributes   ↪ Share   ★ Ratings   💬 Comments
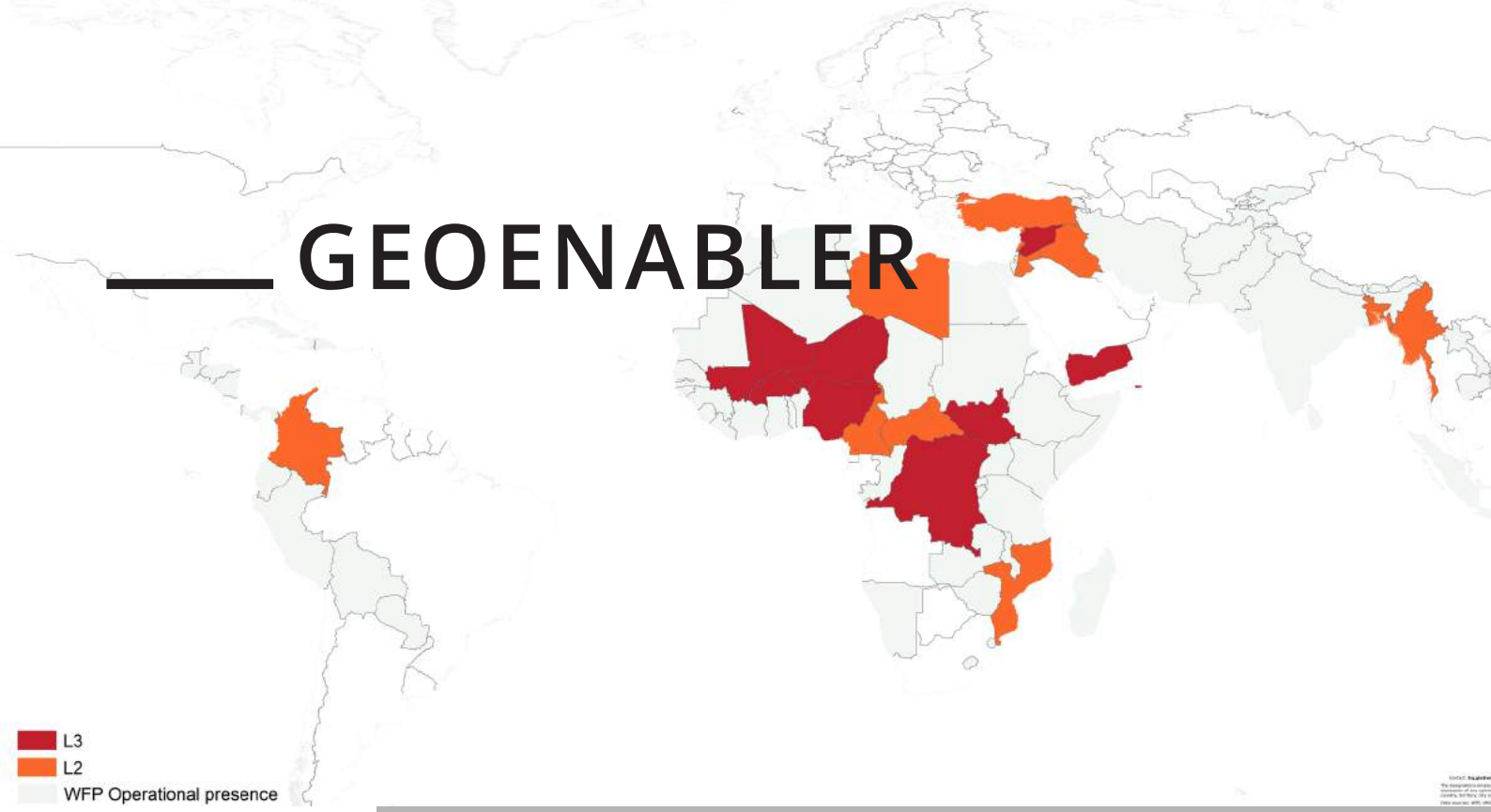
Title   Afghanistan: District Accessibility for WFP and Partners Staff as of 18 Augus...
Abstract   Accessibility information by WFP Operation/Security
           Units,18 August 2019.

About

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English ▾

ΞOSPATIAL
...IPPORT UNIT

SPATIAL DATA INFRASTRUCTURE (SDI)

The Spatial Data Infrastructure (SDI) project is the other major pillar of the GIS Infrastructure. The SDI project was launched in 2010 with the objectives to establish a standardized way to store data and synchronize them between HQ, RBs and COs, build capacity on the use of the new infrastructure and the tools, foster partnerships and strengthen the collaboration with units and agencies (GIS related). The project has already been implemented in more than 20 countries through a collaboration with COs, RBs and HQ IT.
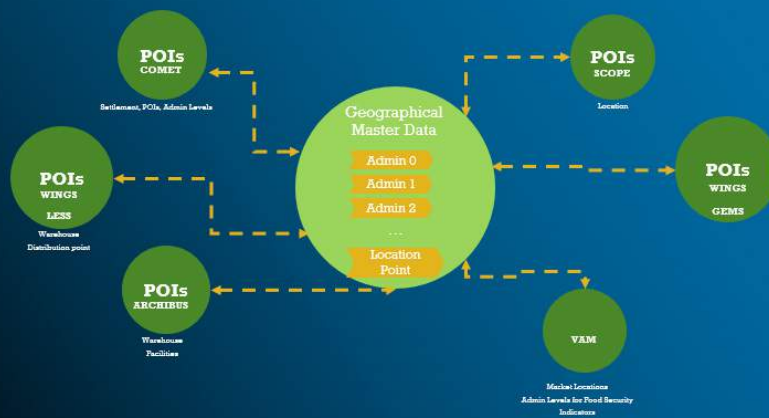
GEOENABLER

L3
L2
WFP Operational presence

Currently, many corporate systems store location-based data. However, each system stores the data in a different format and in many cases without geographical coordinates, thus making the data integration across all platforms extremely difficult and close to impossible. The aim of the GeoEnabler project is to unify locations across all corporate systems (WINGS, COMET, SCOPE, LESS, ...) by ensuring a single unique ID to each location. This will ensure that the location data is only built once and used many times for several applications and therefore, the maintenance and update of this data is done in one single place.

Overview - Geographical Master Data in Corporate System