SAVING LIVES
CHANGING LIVES

GEOSPATIAL INFORMATION SUPPORT

WFP EMERGENCIES

GIS CATALOGUE 2019

source: Esri

WFP
World Food Programme

Geospatial Information Support

WFP Emergencies

Product Catalogue 2019

DISCLAIMER

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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.

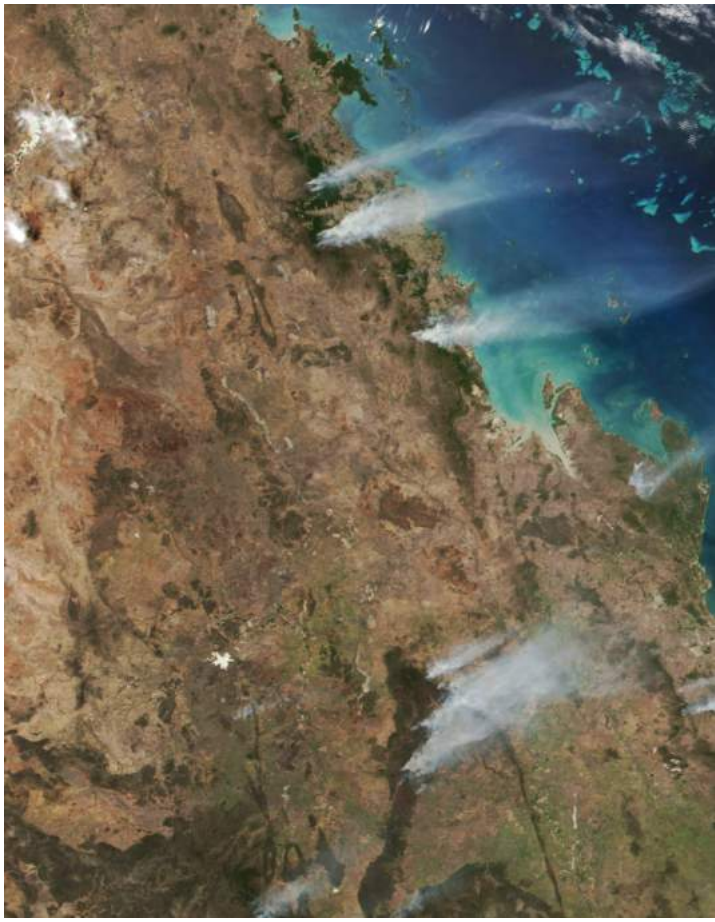
WFP is constantly utilising new and cutting-edge technologies to ensure we are better prepared and able to provide humanitarian assistance to every corner of the globe as and when it is needed. From the Integrated Context Analysis (ICA) – combining food insecurity trends with exposure to shocks to understand 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

'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).

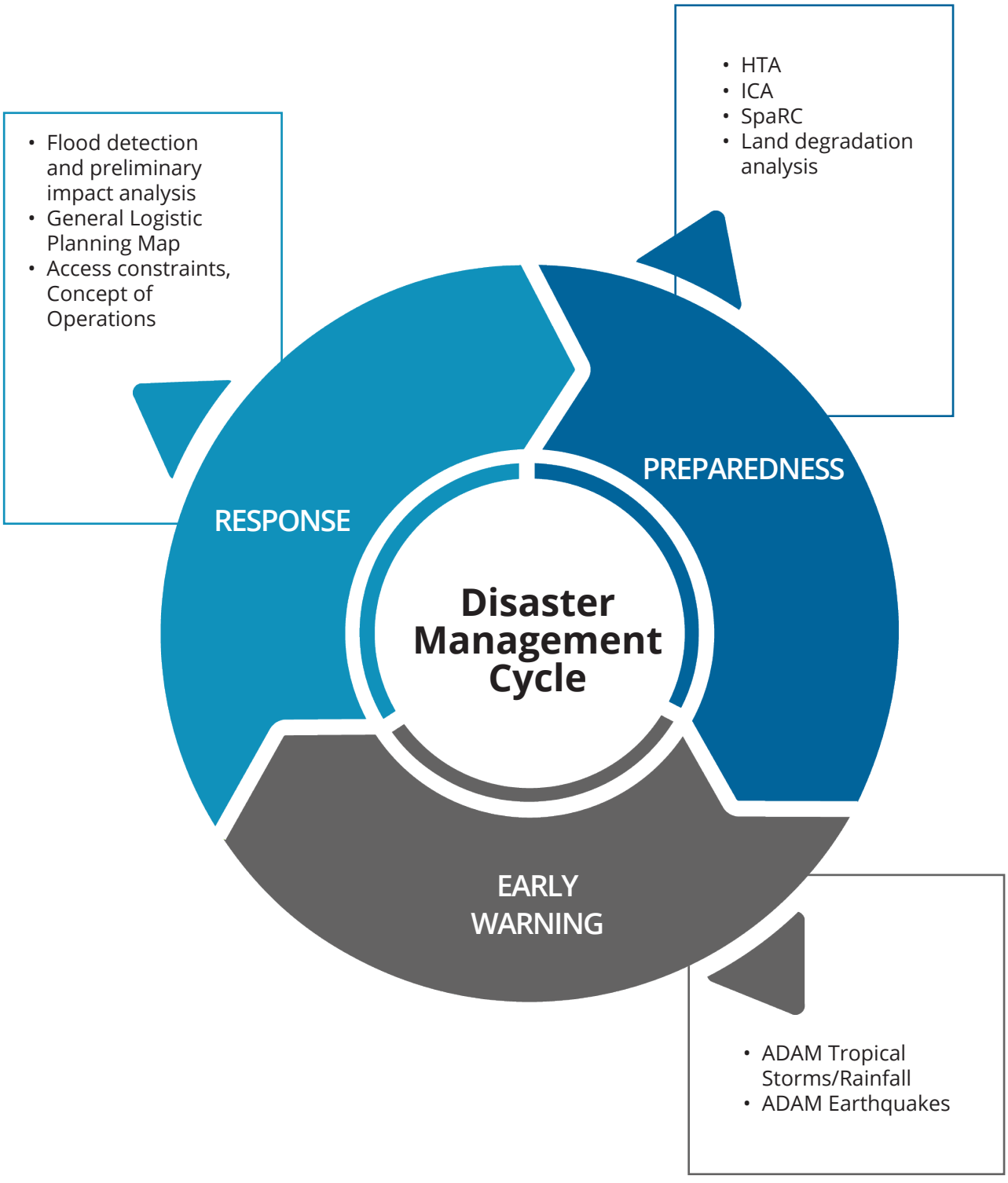
The Geospatial Support Unit at WFP uses cutting-edge geospatial technology to visualize and analyze the areas we work in. The Unit produces over 2,000 maps every year to support Country Offices, Regional Bureaux and Headquarters in providing global assistance to over 86million people.

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.

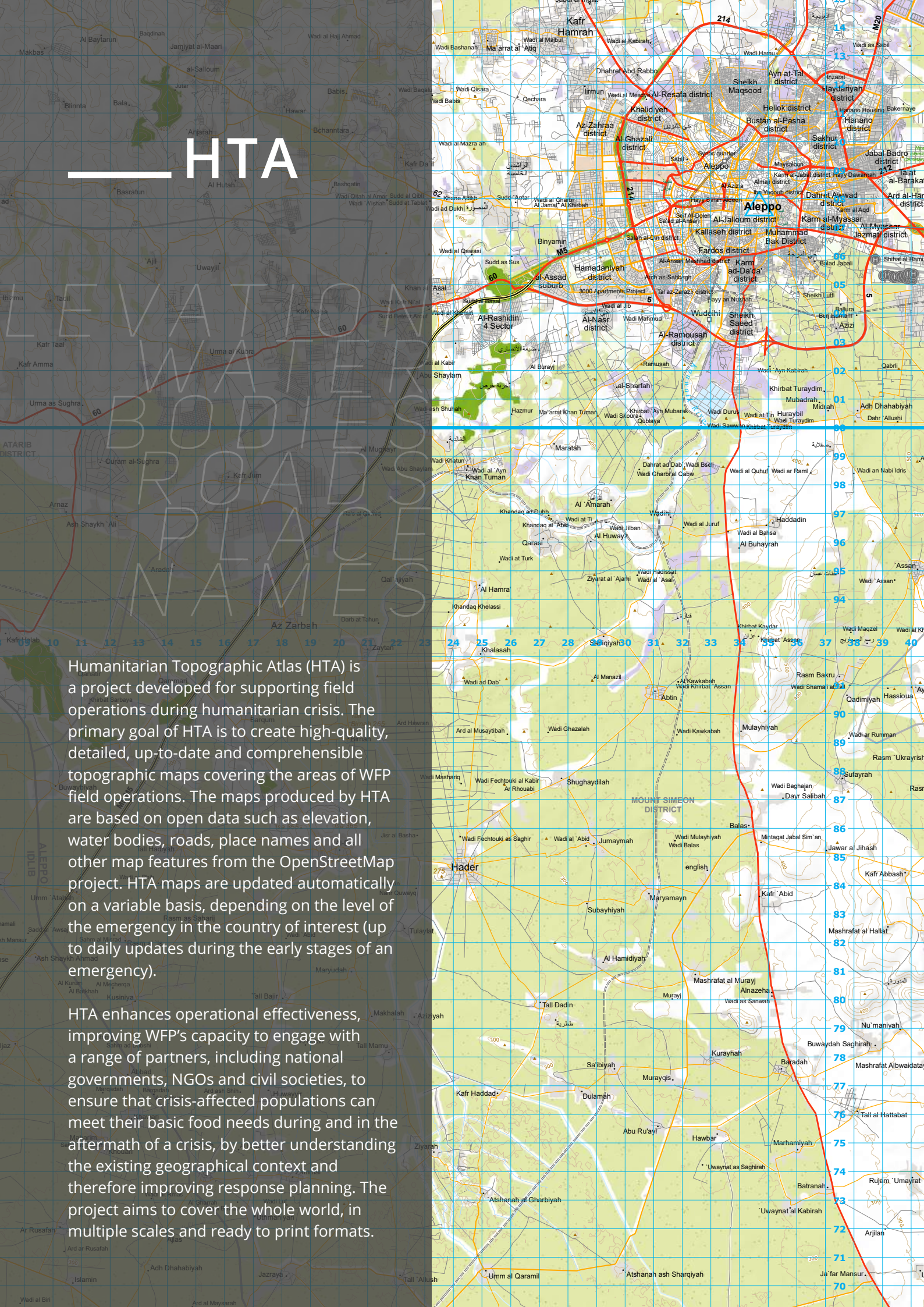
DISASTER CYCLE



PREPAREDNESS

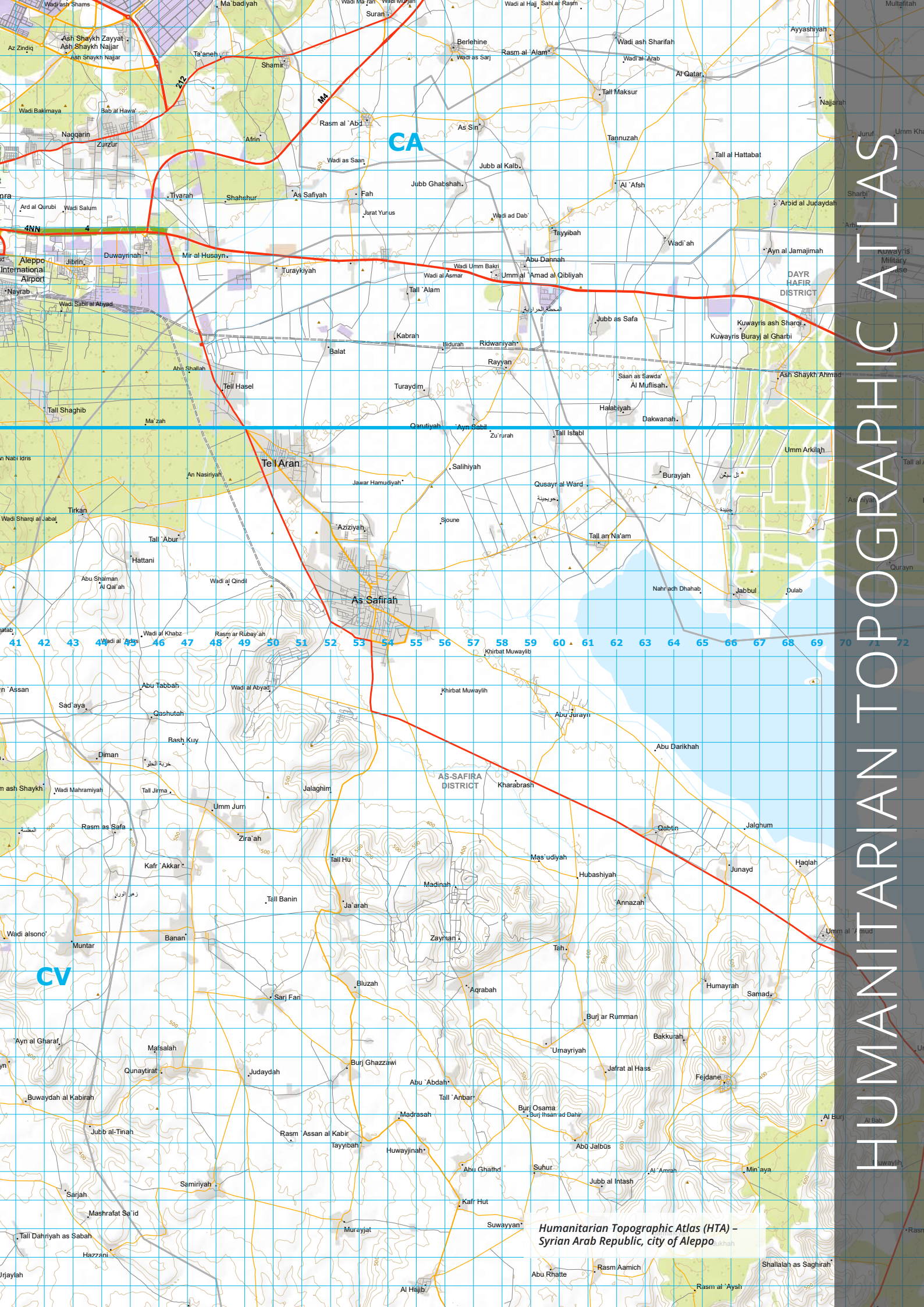
In the vision of Early Warning to Early Action, the preparedness phase is crucial for providing rapid geospatial support during major emergencies. This phase includes data preparedness, having standard operating procedures in place and capacity building. 'Data preparedness' is the ability of organizations 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.



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.


HUMANITARIAN TOPOGRAPHIC ATLAS
CA
CV
AS-SAFIRA DISTRICT
DAYR HAFIR DISTRICT
M4
4NN
Aleppo International Airport
As Safirah
Tel Aran
Ma`badiyah
Suran
Berlehine
Rasm al `Alam
Wadi ash Sharifah
Al Qatar
Tall Maksur
Najjarah
Tannuzah
Tall al Hattabat
Jubb al Kalb
Jubb Ghabshah
Al `Afsh
Arbid al Judaydah
Tayyibah
Wadi`ah
Ayn al Jamajimah
Abu Dannah
Umm al `Amad al Qibliyah
Tall `Alam
Jubb as Safa
Kuwayris ash Sharqi
Kuwayris Burayj al Gharbi
Ash Shaykh Ahmad
Al Muflisah
Dakwanah
Halabiyah
Tall Istabl
Umm Arkilah
Burayjah
Qusayr al Ward
Salihiyah
Rayyan
Ridwaniyah
Bidurah
Kabrah
Balat
Turaydim
Qarutiyah
`Ayn Sabil
Zu`rurah
Saan as Sawda'
Tell Hasel
Abu Shallah
Tall Shaghib
Ma`zah
Nayrab
Jibrin
Duwaynah
Mir al Husayn
Turaykiyah
Wadi Umm Bakri
Wadi al Asmar
Wadi Sabil al Atyad
Ard al Qurubi
Wadi Salum
Tiyarah
Shahshur
As Safiyah
Fah
Jurat Yunus
Wadi ad Dab`
Wadi as Saan
Afrin
Rasm al `Abd
As Sin
Shamir
Ta'aneh
Ash Shaykh Zayyat
Ash Shaykh Najjar
Az Zindiq
Wadi ash Sham
Wadi Ma`ran
Wadi Munjan
Wadi al Hajj
Sahl ar Rasm
Ayyashiyah
Wadi al `Arab
Wadi as Sarj
Naqqarin
Zurzur
Wadi Bakirnaya
Bab al Hawa'
Jurf
Sharbi
Arbi
Kuwayris Military Base
Umm Kha
Tall al Umm
Tall Abur
Hattani
Tirkan
Wadi Sharqi al Jabal
An Nasiriyah
Jawar Hamudiyah
Siloune
Aziziyah
Tall an Na'am
Qurayn
Nahr`adh Dhahab
Jabbul
Dulab
Abu Shalman
Al Qal`ah
Wadi al Qindil
Wadi al `Adasi
Wadi al Khabz
Rasm ar Rubay`ah
Khirbat Muwaylib
Khirbat Muwaylih
Abu Tabbah
Wadi al Abyad
Sad`aya
Qashutah
Abu Jurayn
Bash Kuy
Diman
Abu Darikhah
Kharabrash
Wadi Mahramiyah
Tall Jirma
Jalaghim
Umm Jurn
Rasm as Safa
Zira`ah
Qabtin
Jalghum
Tall Hu
Mas`udiyah
Hubashiyah
Junayd
Haqlah
Madinah
Tall Banin
Ja`arah
Annazah
Wadi alsono'
Muntar
Banan
Zaynan
Umm al `Amud
Tah
Bluzah
Aqrabah
Humayrah
Samad
Sarj Fari
Burj ar Rumman
Bakkurah
Umayriyah
Ayn al Gharaf
Matsalah
Qunaytirat
Judaydah
Burj Ghazzawi
Jafrat al Hass
Fejdane
Abu `Abdah
Tall `Anbar
Buwaydah al Kabirah
Burj Osama
Burj Ihsan ad Dahir
Madrasah
Jubb al-Tinah
Rasm `Assan al Kabir
Tayyibah
Huwayjinah
Abū Jalbūs
Al Burj
Al Bab
Suhur
Al `Amrah
Min`aya
Jubb al Intash
Abu Ghathd
Samiriyah
Sarjah
Kafr Hut
Mashrafat Sa`id
Suwayyan
Murayjat
Tall Dahriyah as Sabah
Hazzani
Urjaylah
Abu Rhatte
Rasm Aamich
Shallalah as Saghirah
Rasm al `Aysh
Al Hajib
Humanitarian Topographic Atlas (HTA) –
Syrian Arab Republic, city of Aleppo

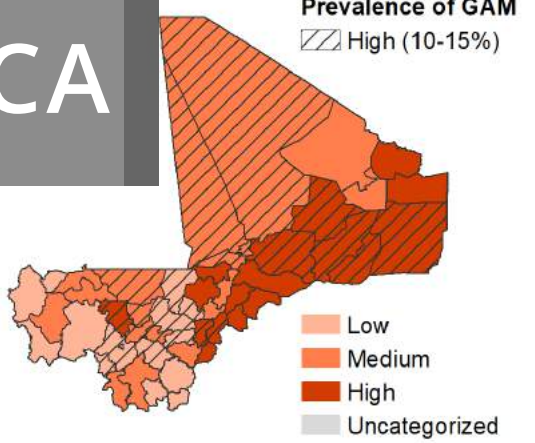
ICA

Mali | Integrated Context Analysis (ICA) - 201

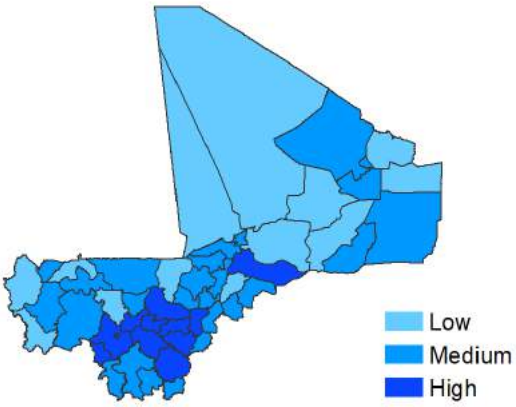
SAVING LIVES CHANGING LIVES

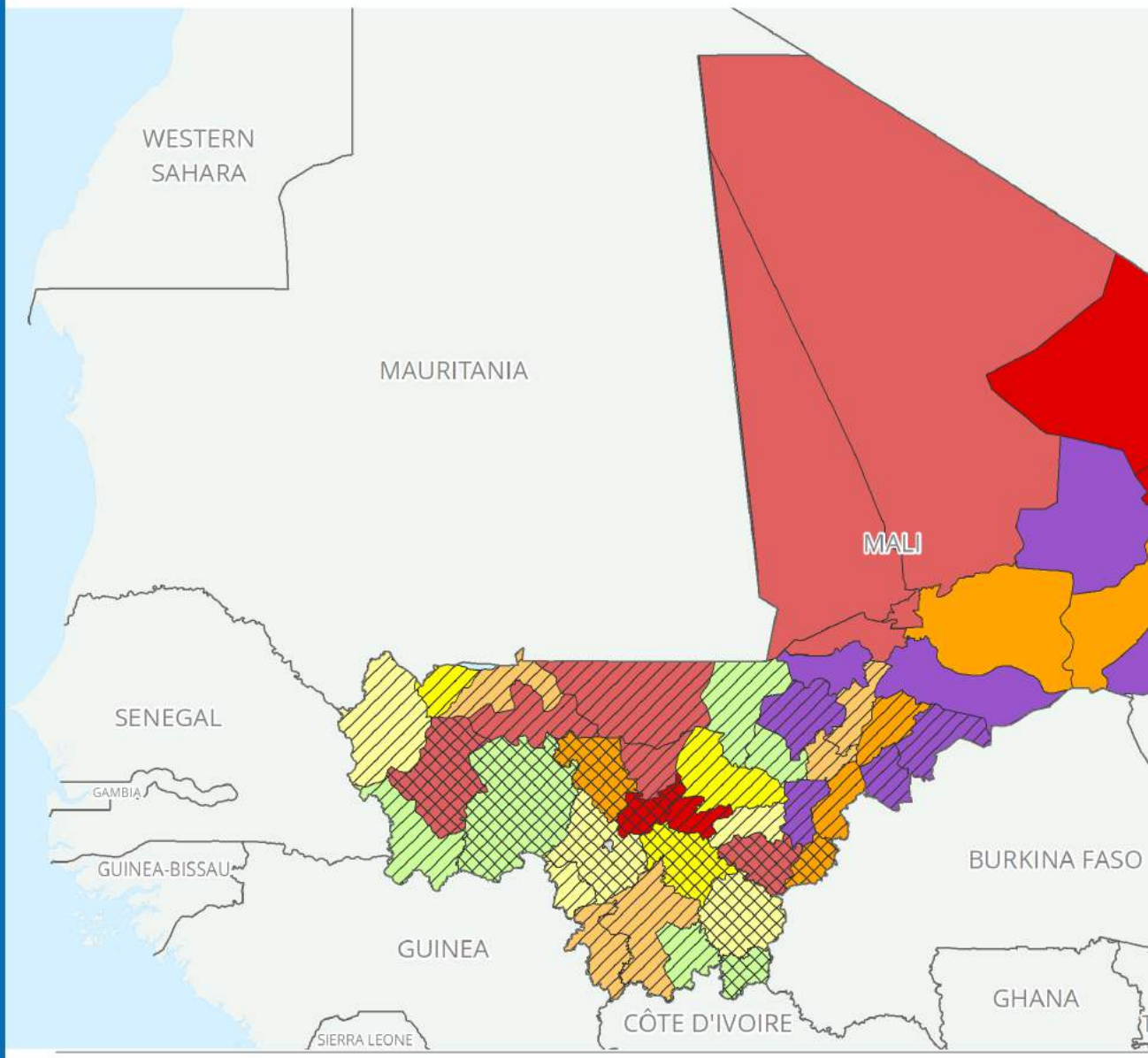
World Food Programme

Food Insecurity



Flood hazard



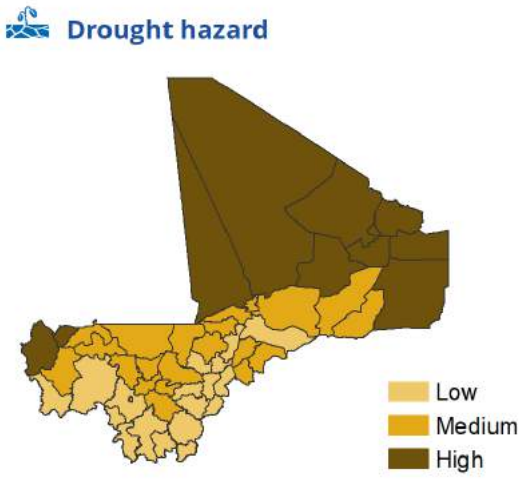


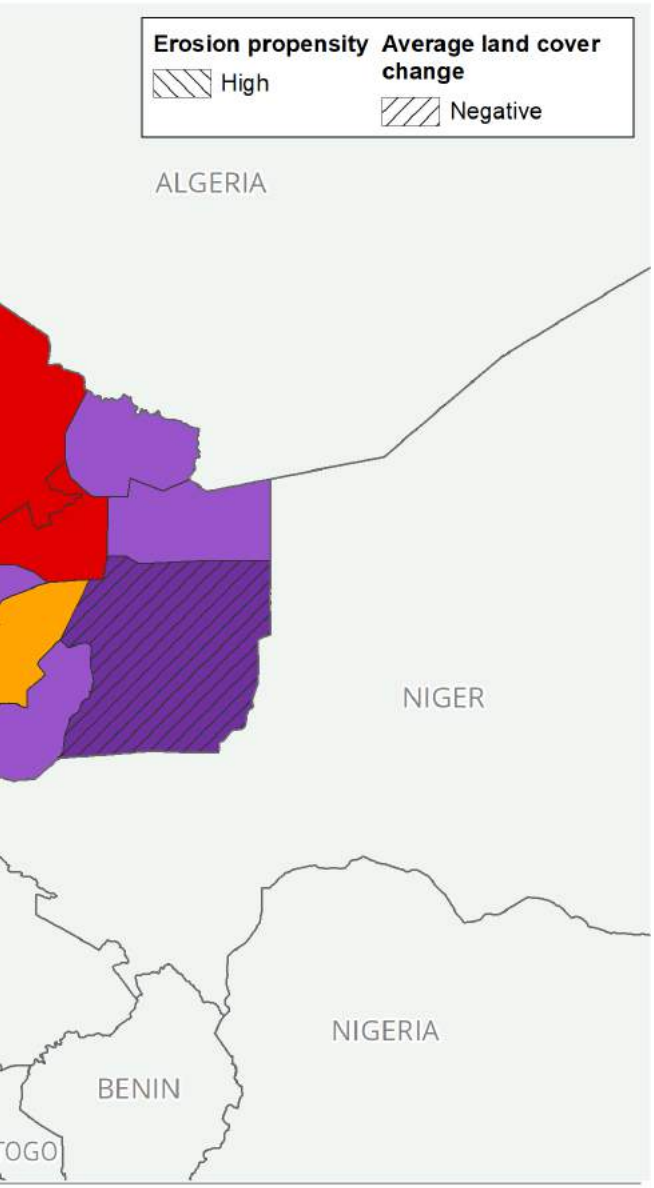
Land Degradation

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:





	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

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.

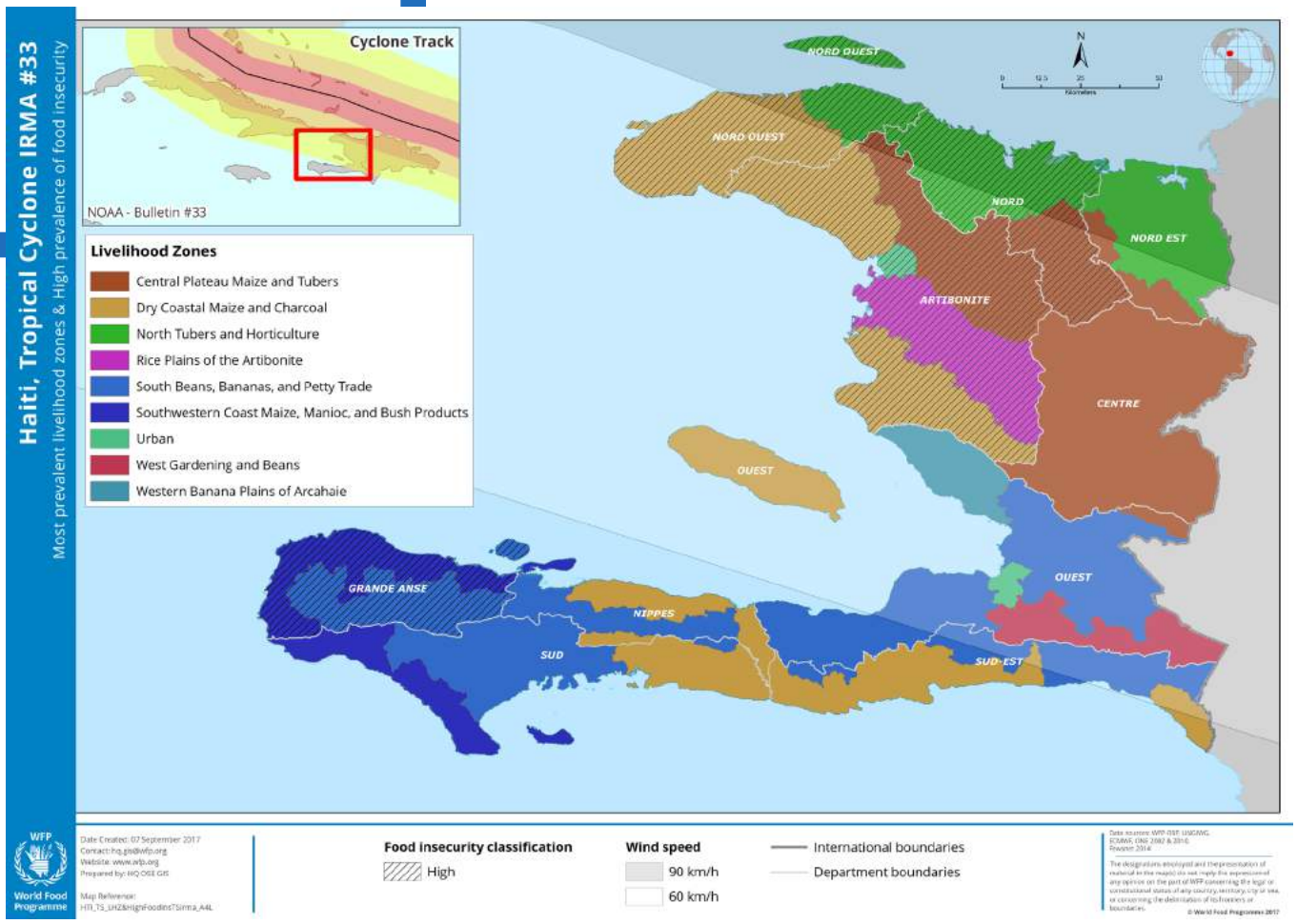
Community-Based Participatory Planning (CBPP, at the local level): a “from the bottom up” tool that ensures communities have a strong voice and lead in setting priorities. It supports multi-sectorial plans tailored to local priorities, ensuring community ownership.

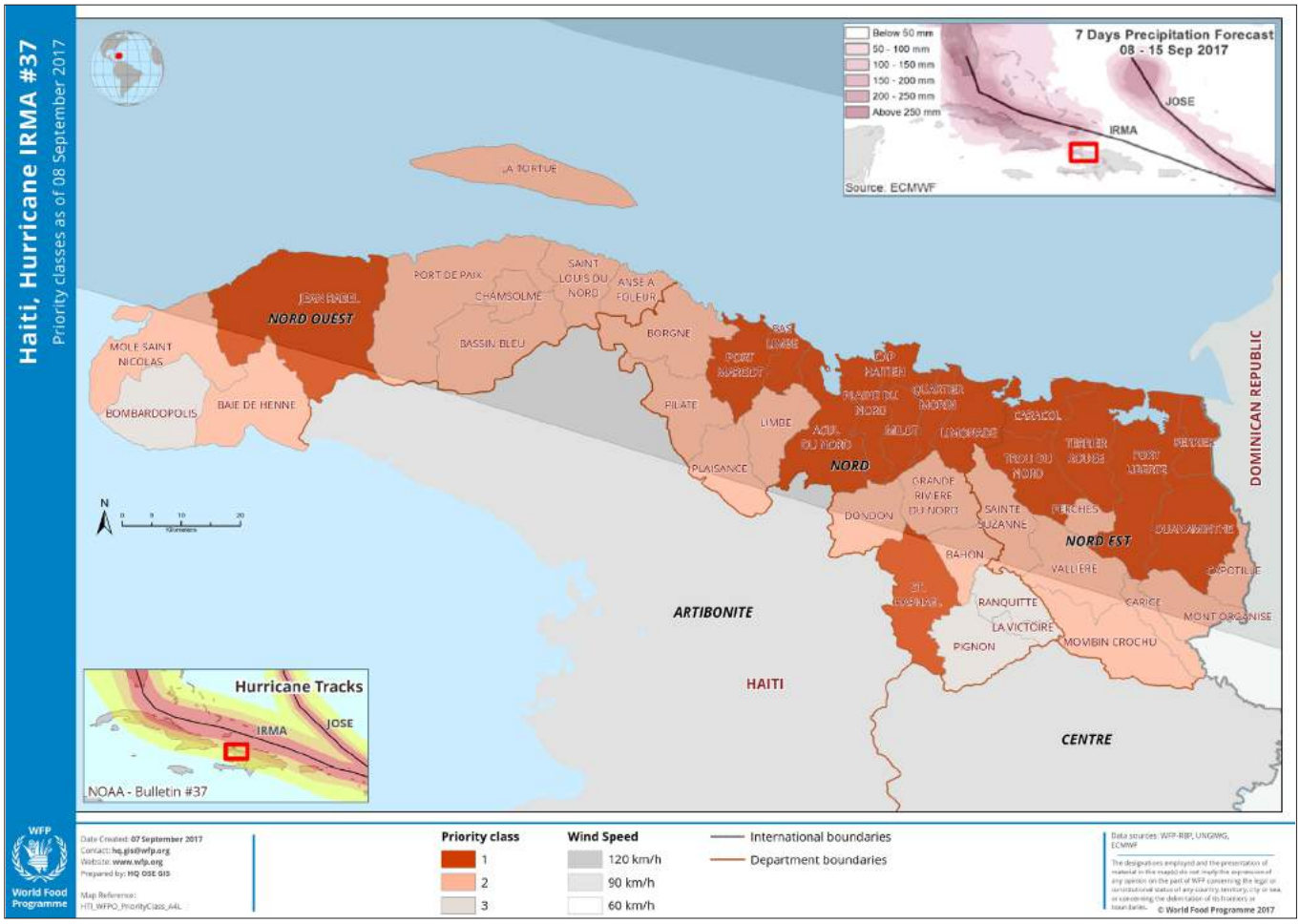
ICA+

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.

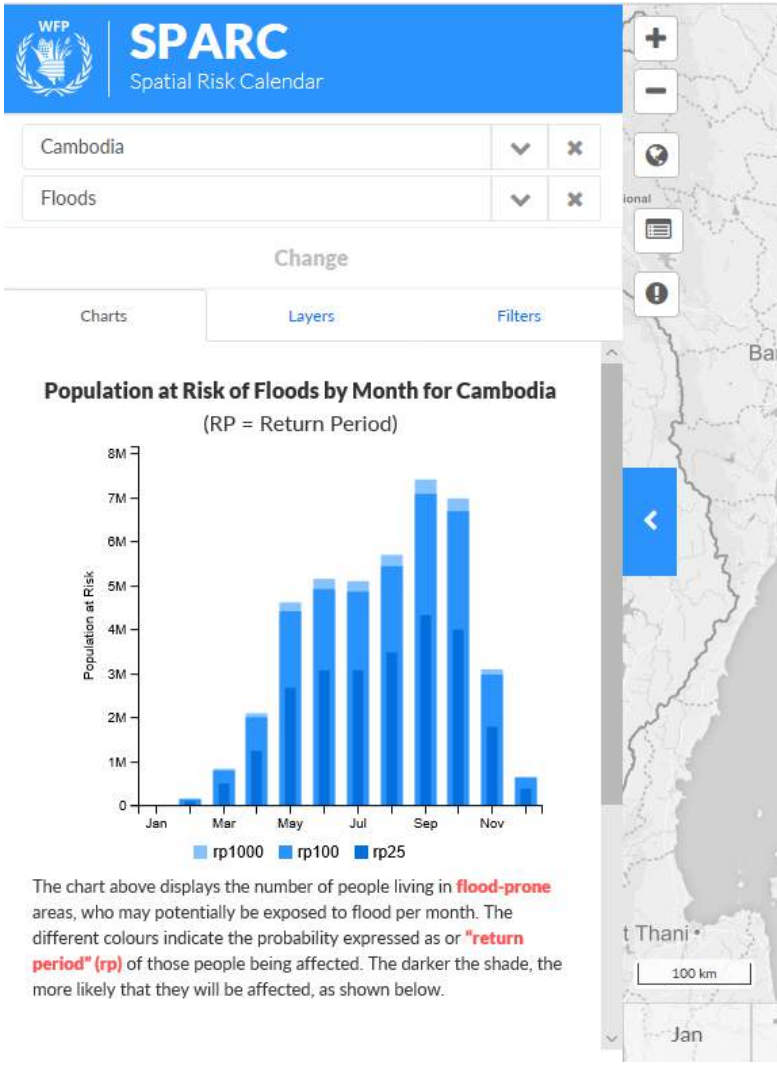

Haiti, Tropical Cyclone IRMA #33
Most prevalent livelihood zones & High prevalence of food insecurity
Cyclone Track
NOAA - Bulletin #33
Livelihood Zones
Central Plateau Maize and Tubers
Dry Coastal Maize and Charcoal
North Tubers and Horticulture
Rice Plains of the Artibonite
South Beans, Bananas, and Petty Trade
Southwestern Coast Maize, Manioc, and Bush Products
Urban
West Gardening and Beans
Western Banana Plains of Arcahaie
NORD OUEST
NORD
NORD EST
ARTIBONITE
CENTRE
OUEST
SUD
GRANDE ANSE
NIPPES
SUD-EST
World Food Programme
Food insecurity classification
High
Wind speed
90 km/h
60 km/h
International boundaries
Department boundaries

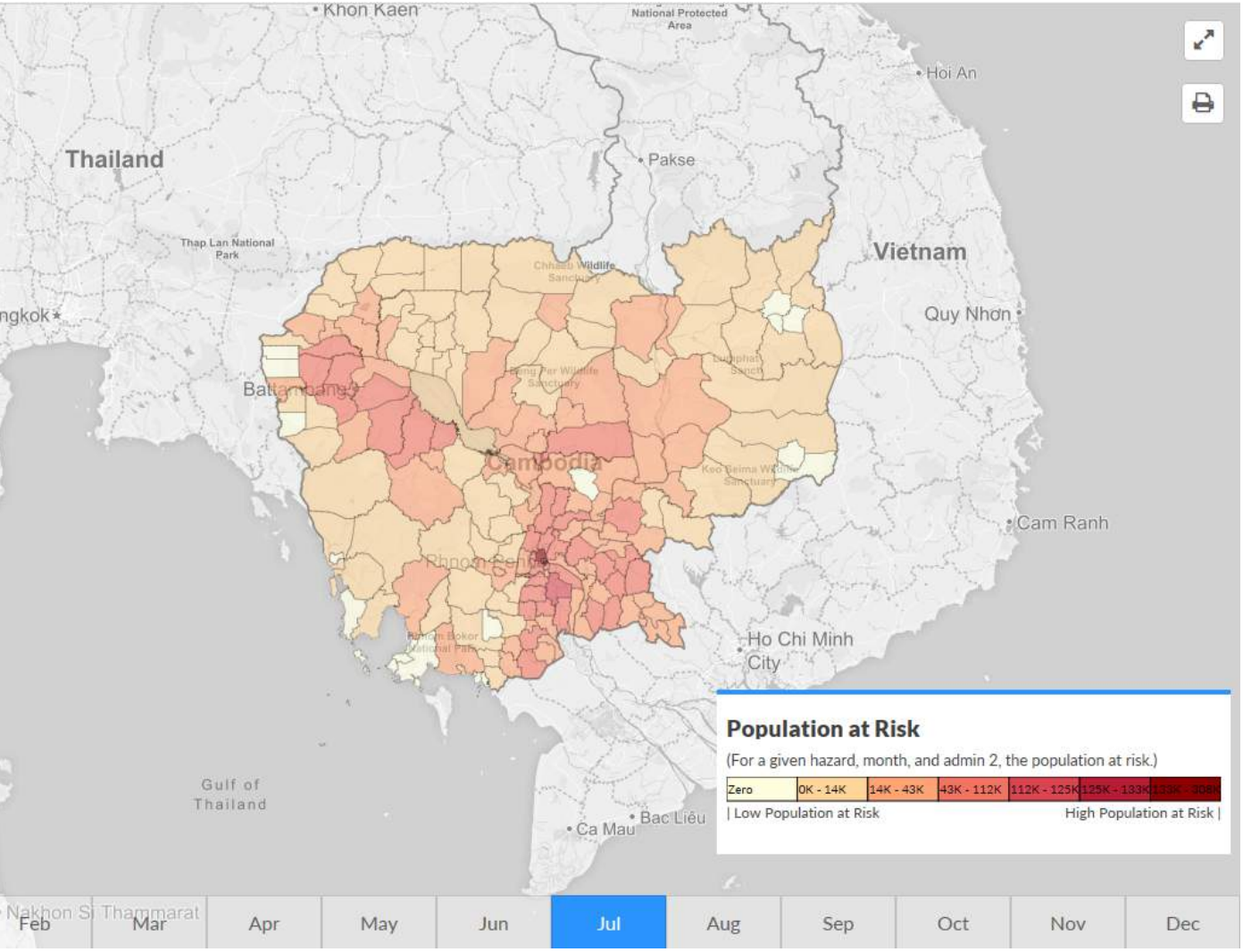

Haiti, Hurricane IRMA #37
Priority classes as of 08 September 2017
7 Days Precipitation Forecast
08 - 15 Sep 2017
Below 50 mm
50 - 100 mm
100 - 150 mm
150 - 200 mm
200 - 250 mm
Above 250 mm
JOSE
IRMA
Source: ECMWF
LA TORTUE
PORT DE PAIX
SAINT LOUIS DU NORD
ANSE A FOLEUR
CHAMSOLME
JEAN RABEL
NORD OUEST
MOLE SAINT NICOLAS
BASSIN BLEU
BORGNE
BAIE DE HENNE
BOMBARDOPOLIS
PILATE
LIMBE
PLAISANCE
NORD
DOMINICAN REPUBLIC
ARTIBONITE
HAITI
CENTRE
NORD EST
Hurricane Tracks
IRMA
JOSE
NOAA - Bulletin #37
World Food Programme
Priority class
1
2
3
Wind Speed
120 km/h
90 km/h
60 km/h
International boundaries
Department boundaries

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.

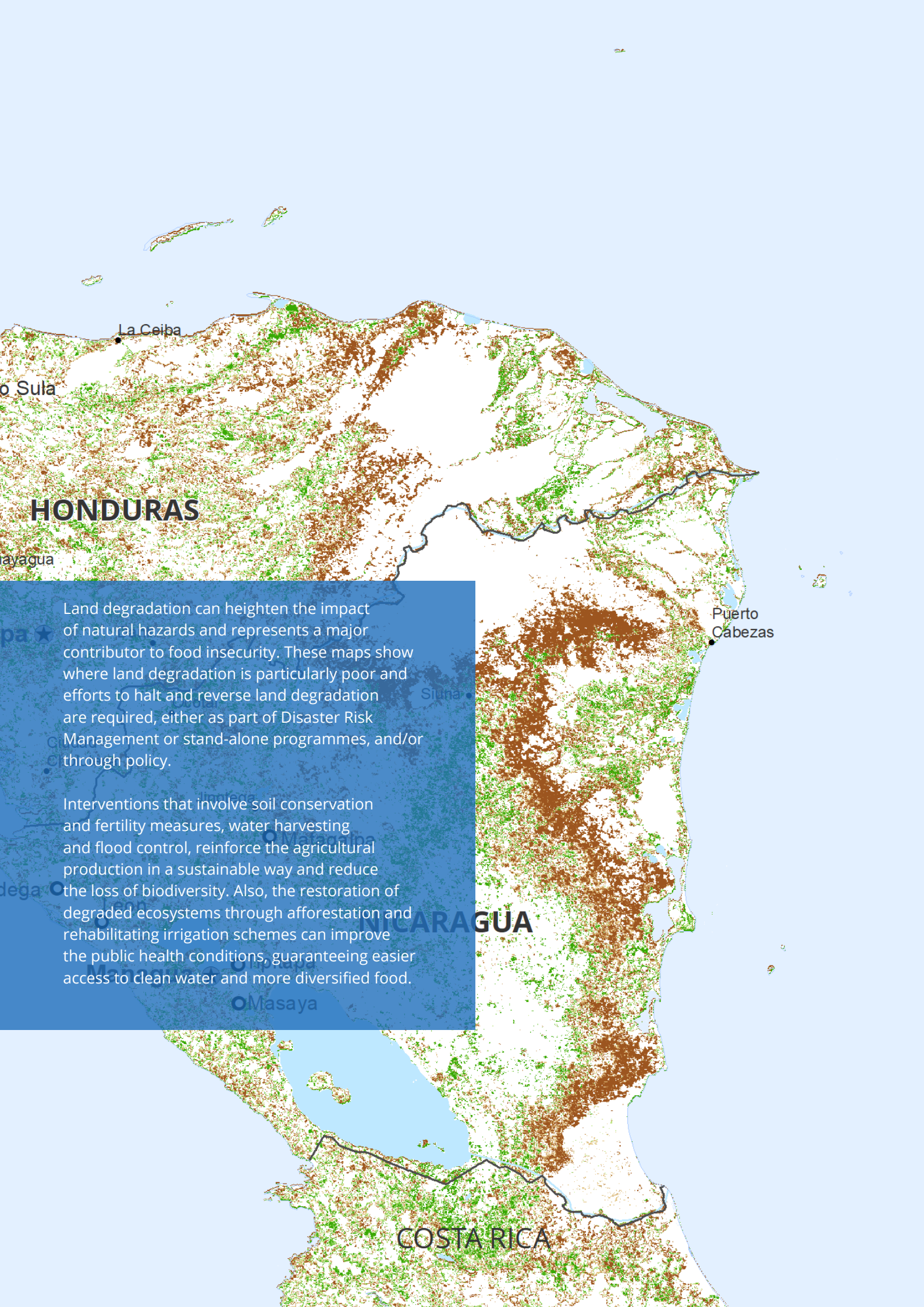




SPARC

SPATIAL RISK CALENDAR

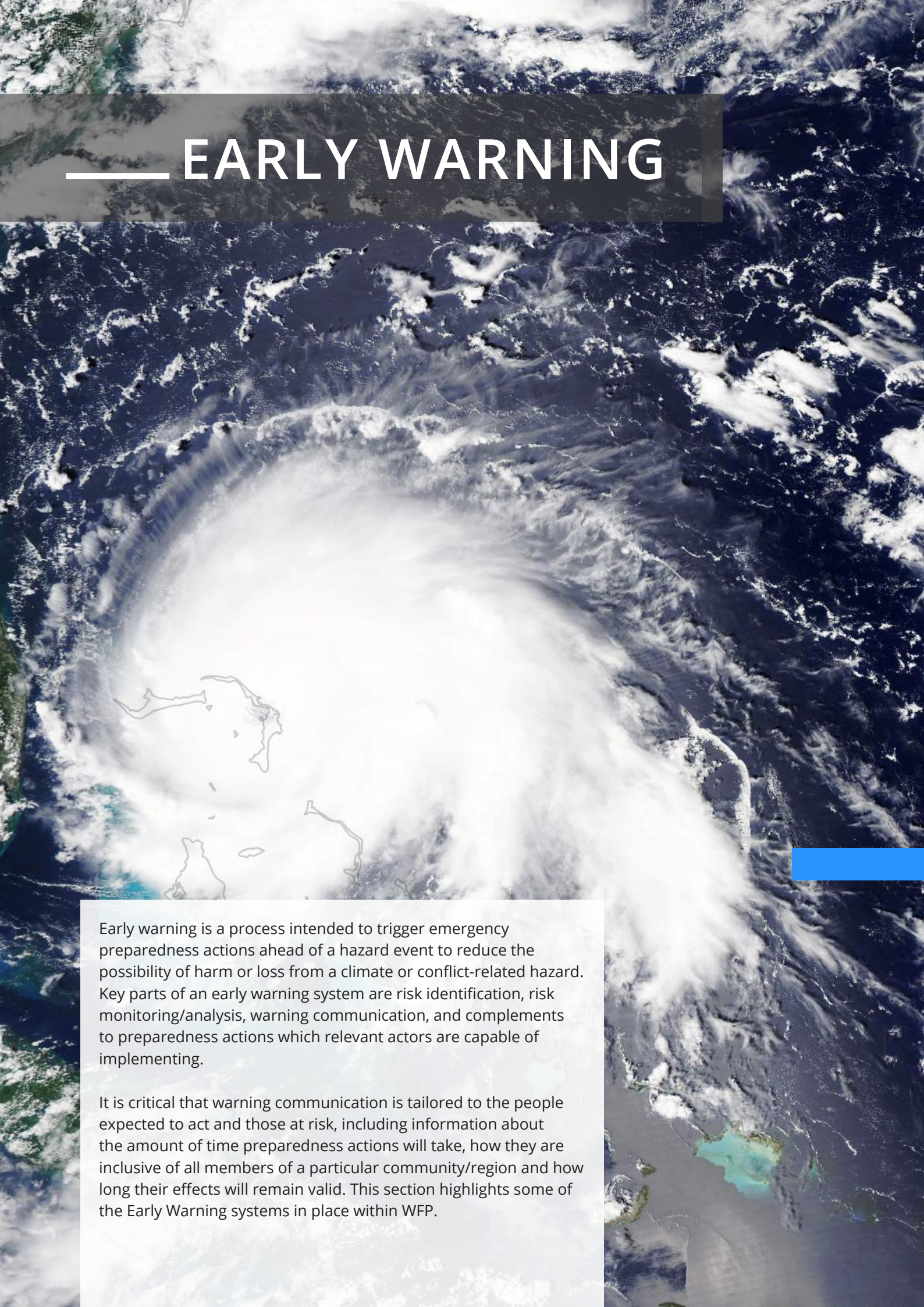

LAND DEGRADATION
MEXICO
BELIZE
GUATEMALA
EL SALVADOR
Belize City
Belmopan
Coban
San Pedr
Quetzaltenango
Guatemala City
Mixco
Villa Nueva
San Miguel Ingenio
Santa Ana
San Salvador
Soyapango
Tegucigal
Chinand
Land cover changes, 2001-2016
Positive
Negative
N
0
50
100
200
Kilometers



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.

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.

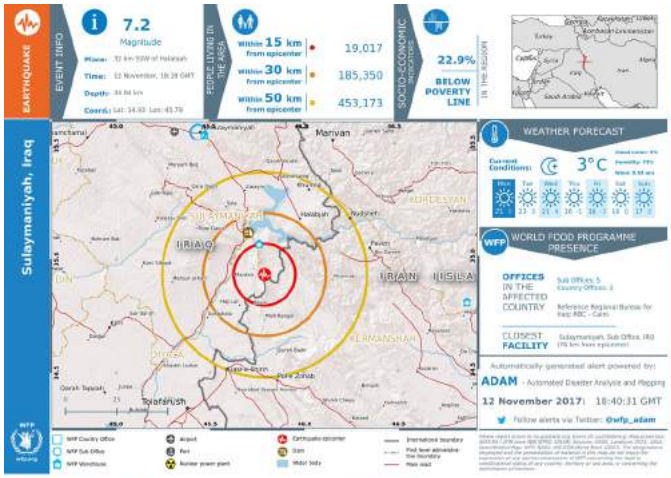
It is critical that warning communication is tailored to the people expected to act and those at risk, including information about the amount of time preparedness actions will take, how they are inclusive of all members of a particular community/region and how long their effects will remain valid. This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

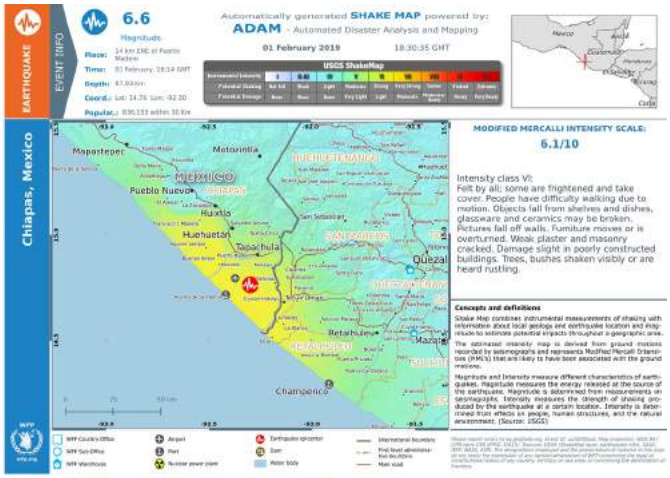
ADAM

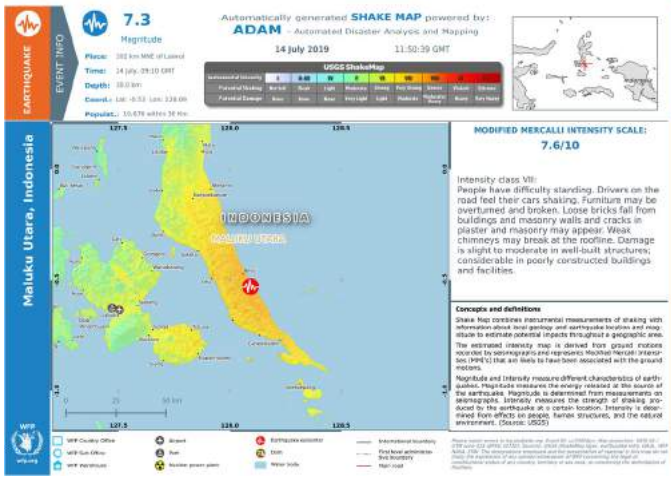
The Automatic Disaster Analysis and Mapping (ADAM) is an automated alert system performing a 24/7 research, collection, analysis and mapping of disaster-related data on a global scale, in order to reduce the time between the occurrence of an event and the time when the field level response starts.

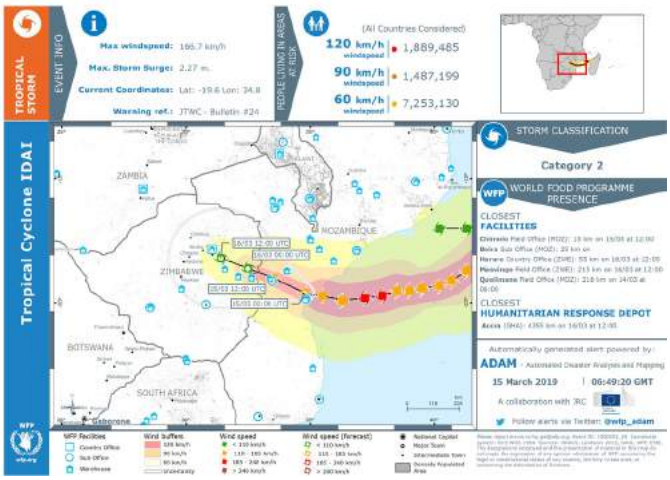
A global overview of the currently active tropical storms and recent earthquakes – last 14 days – is available in the ADAM Live Map (https://gis.wfp.org/adam/). Subscriptions are open to members of the humanitarian community (UN agencies, NGOs, institutions, ministries, etc.), while the general public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

24/7





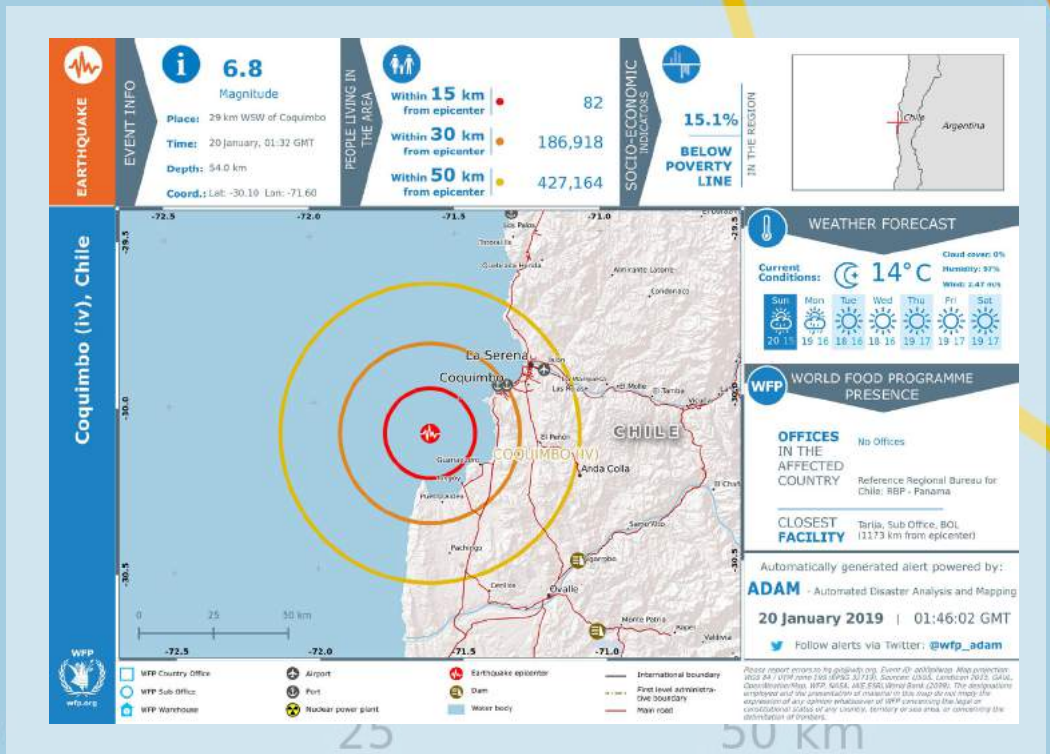


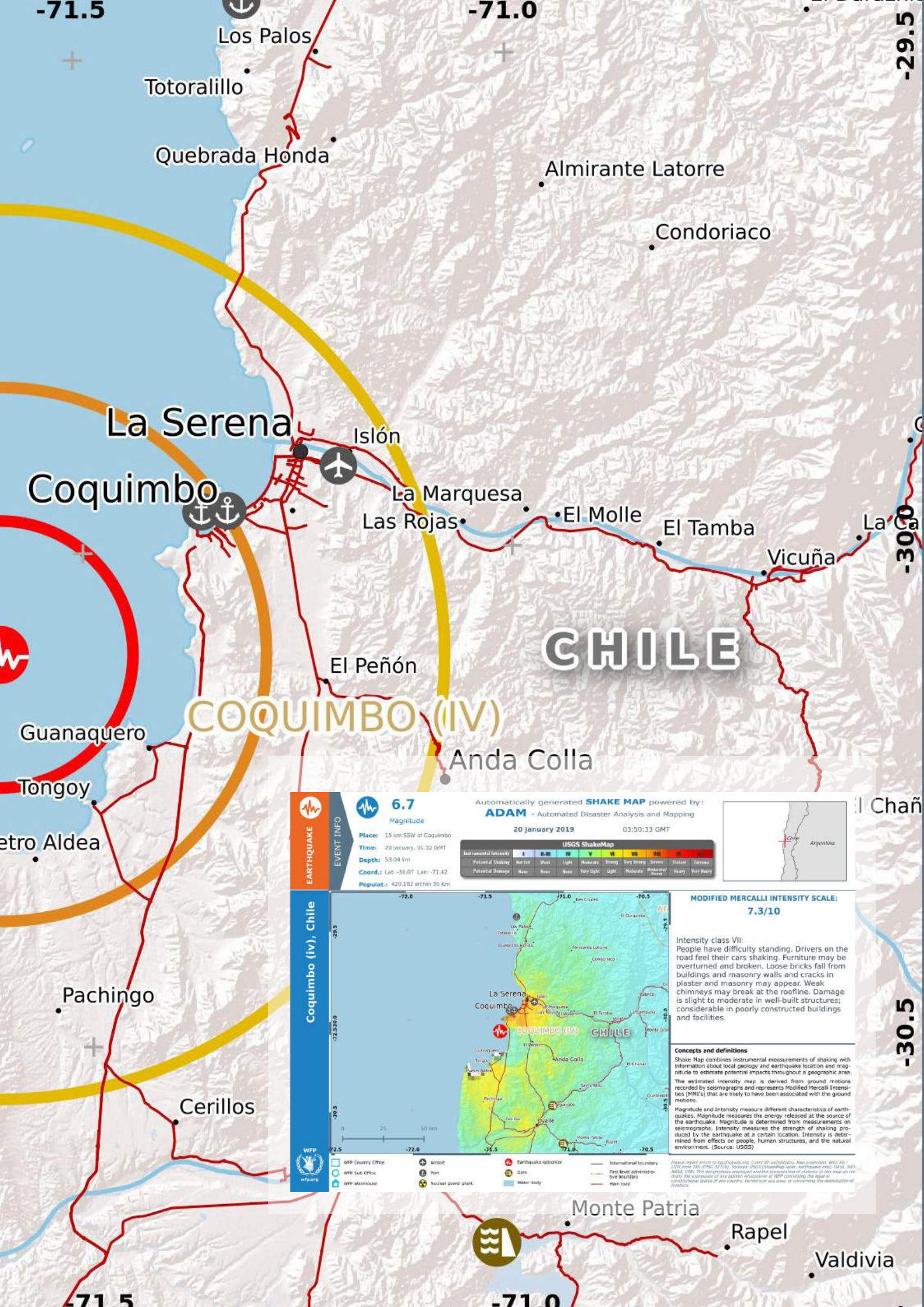


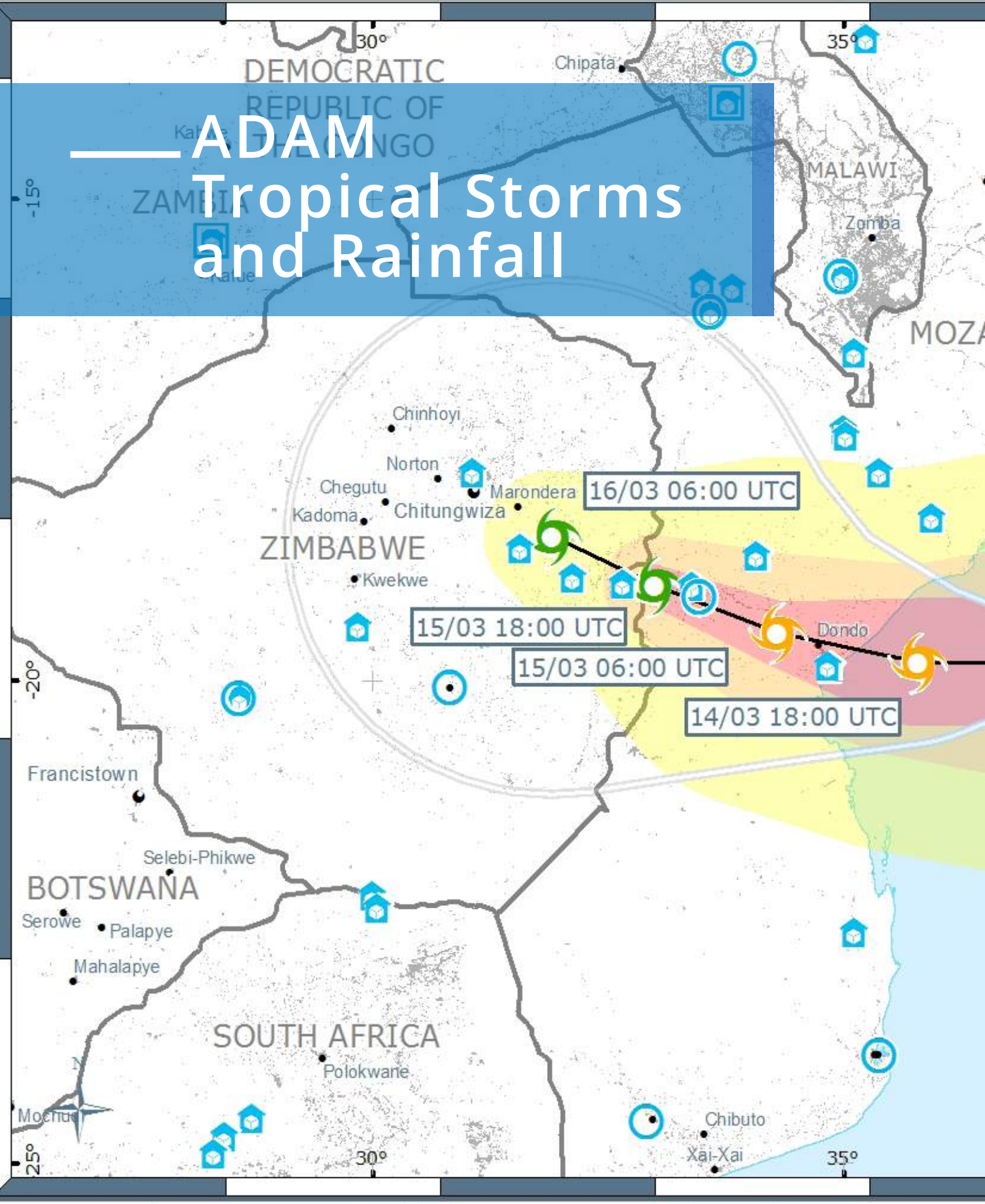
ADAM EARTHQUAKES

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).




-71.5
-71.0
-29.5
-30.0
-30.5
Los Palos
Totoralillo
Quebrada Honda
Almirante Latorre
Condoriaco
La Serena
Islón
Coquimbo
La Marquesa
Las Rojas
El Molle
El Tamba
Vicuña
CHILE
El Peñón
COQUIMBO (IV)
Guanaquero
Anda Colla
Tongoy
Pachingo
Cerillos
Monte Patria
Rapel
Valdivia
EARTHQUAKE
EVENT INFO
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
Popolat.: 420,182 within 30 Km
USGS ShakeMap
Coquimbo (iv), Chile
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.
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
WFP Country Office
WFP Sub Office
WFP Warehouse
Airport
Port
Nuclear power plant
Earthquake epicenter
Dam
Water body
International boundary
First level administrative boundary
Main road



WFP Facilities

- Country Office
- Sub Office
- Warehouse

Wind buffers

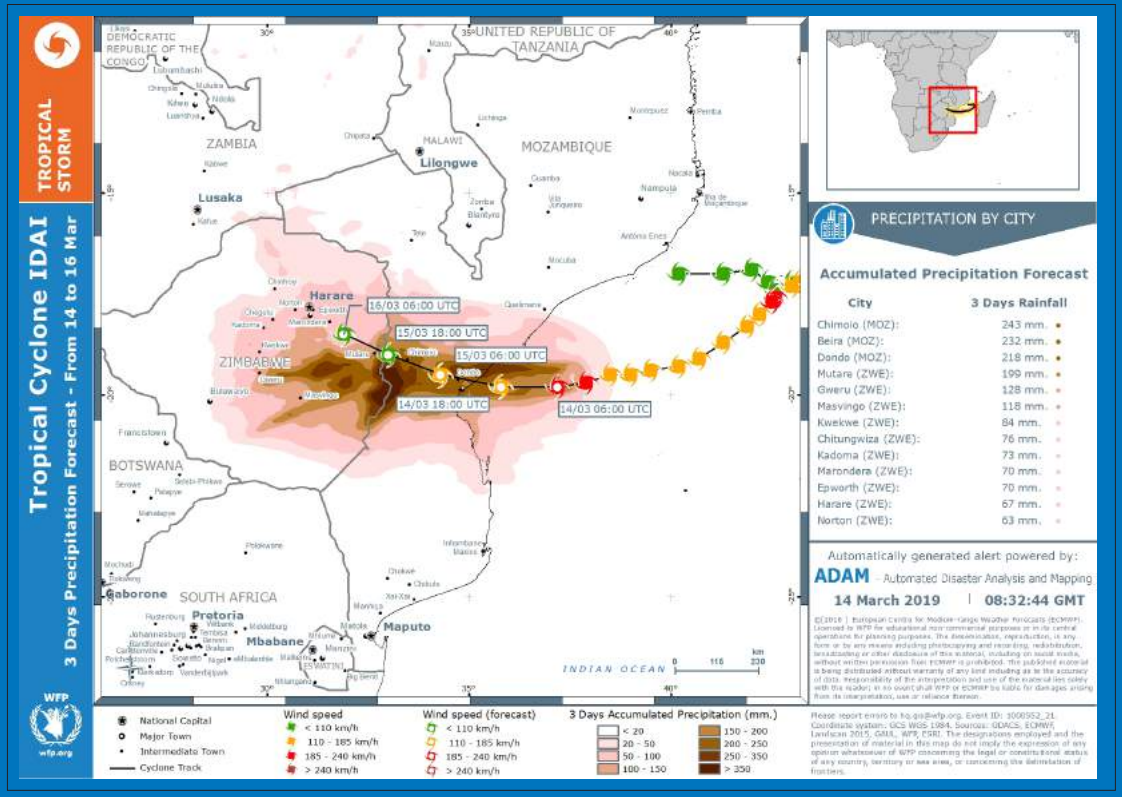
- 120 km/h
- 90 km/h
- 60 km/h
- Uncertainty

Wind speed

- < 110 km/h
- 110 - 185 km/h
- 185 - 240 km/h
- > 240 km/h

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.

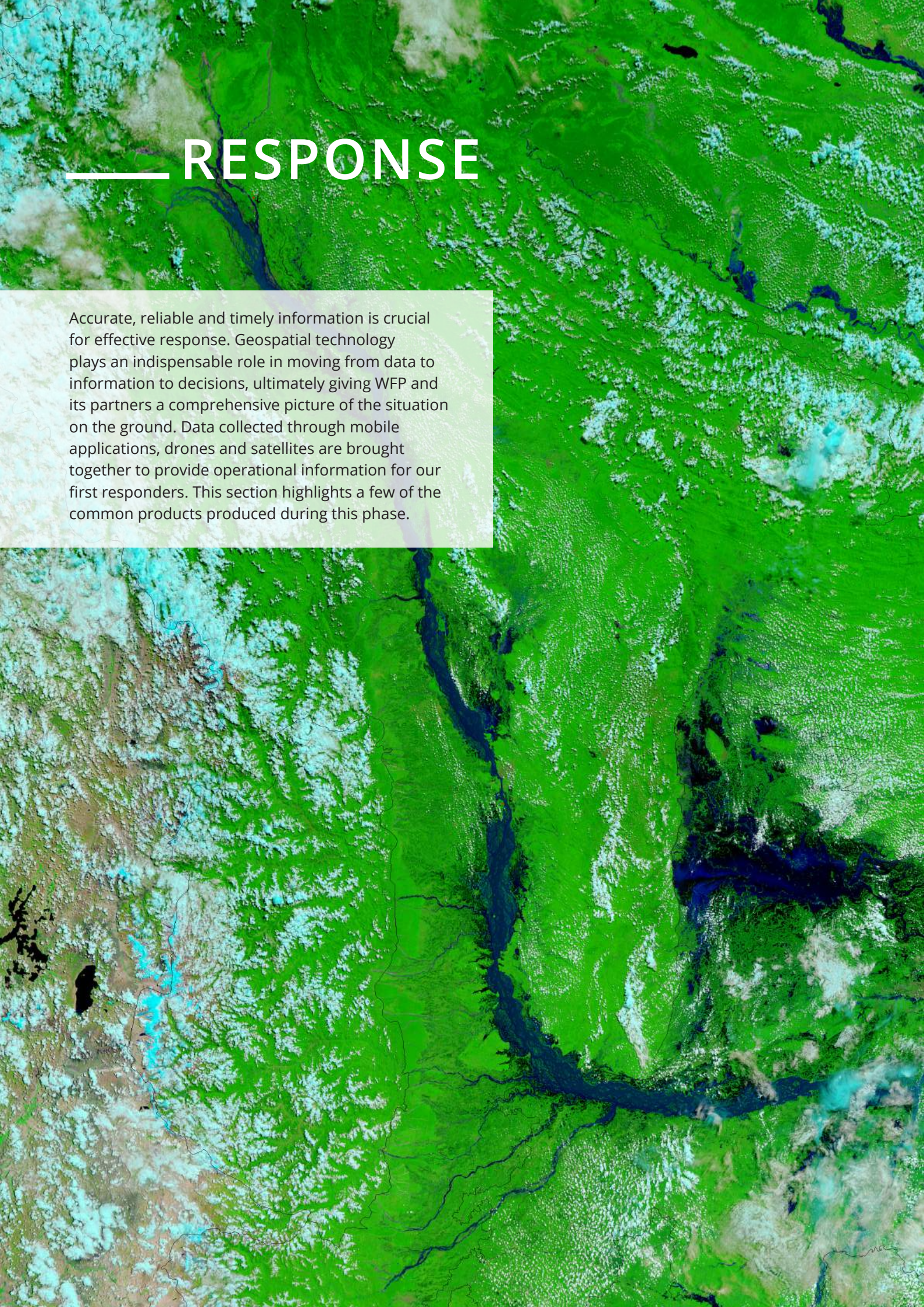


nd speed (forecast)
< 110 km/h
110 - 185 km/h
185 - 240 km/h
> 240 km/h

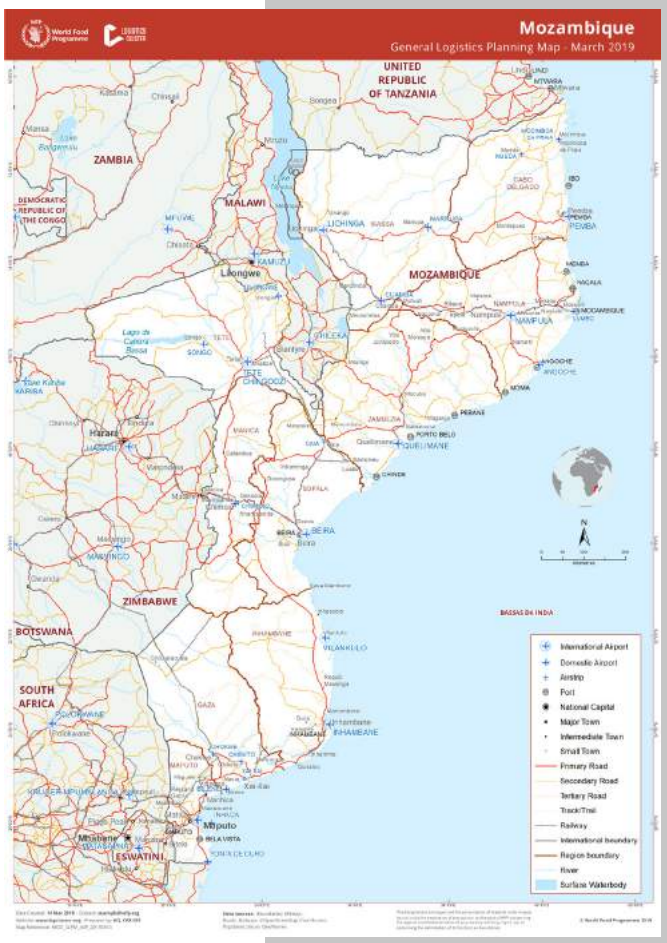
National Capital
Major Town
Intermediate Town
Densely Populated Area

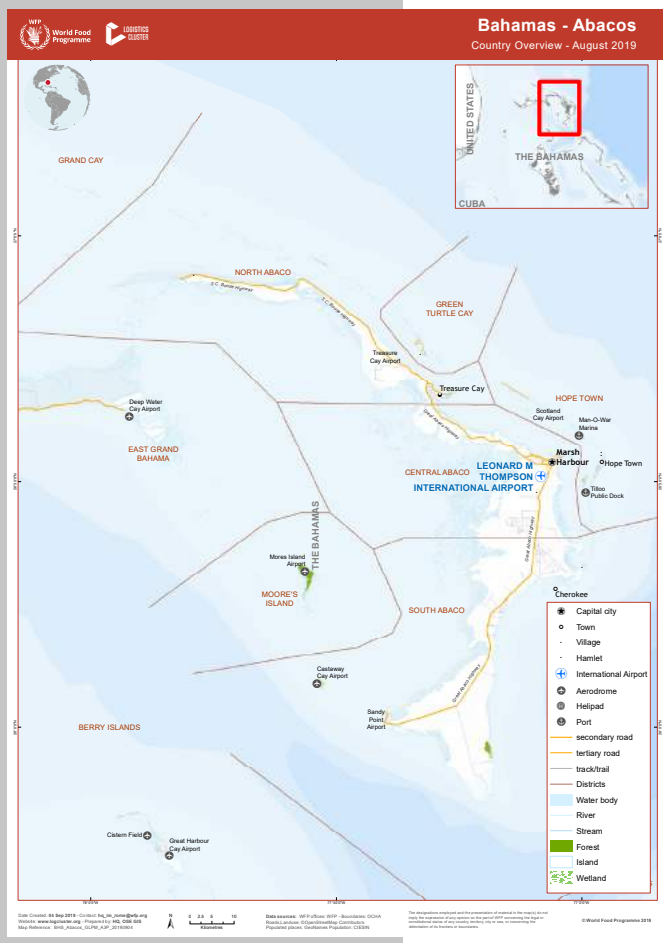
RESPONSE

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)

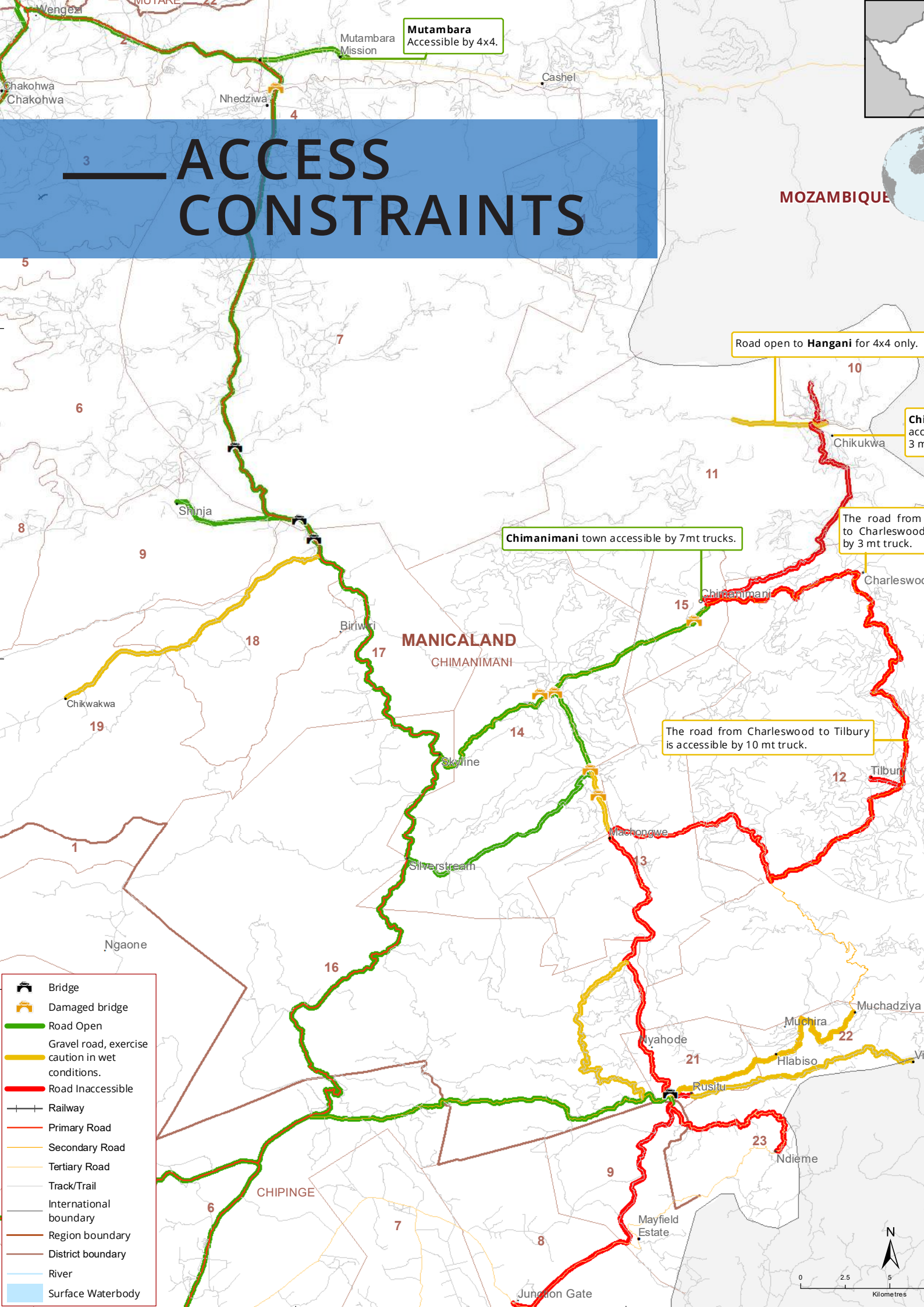


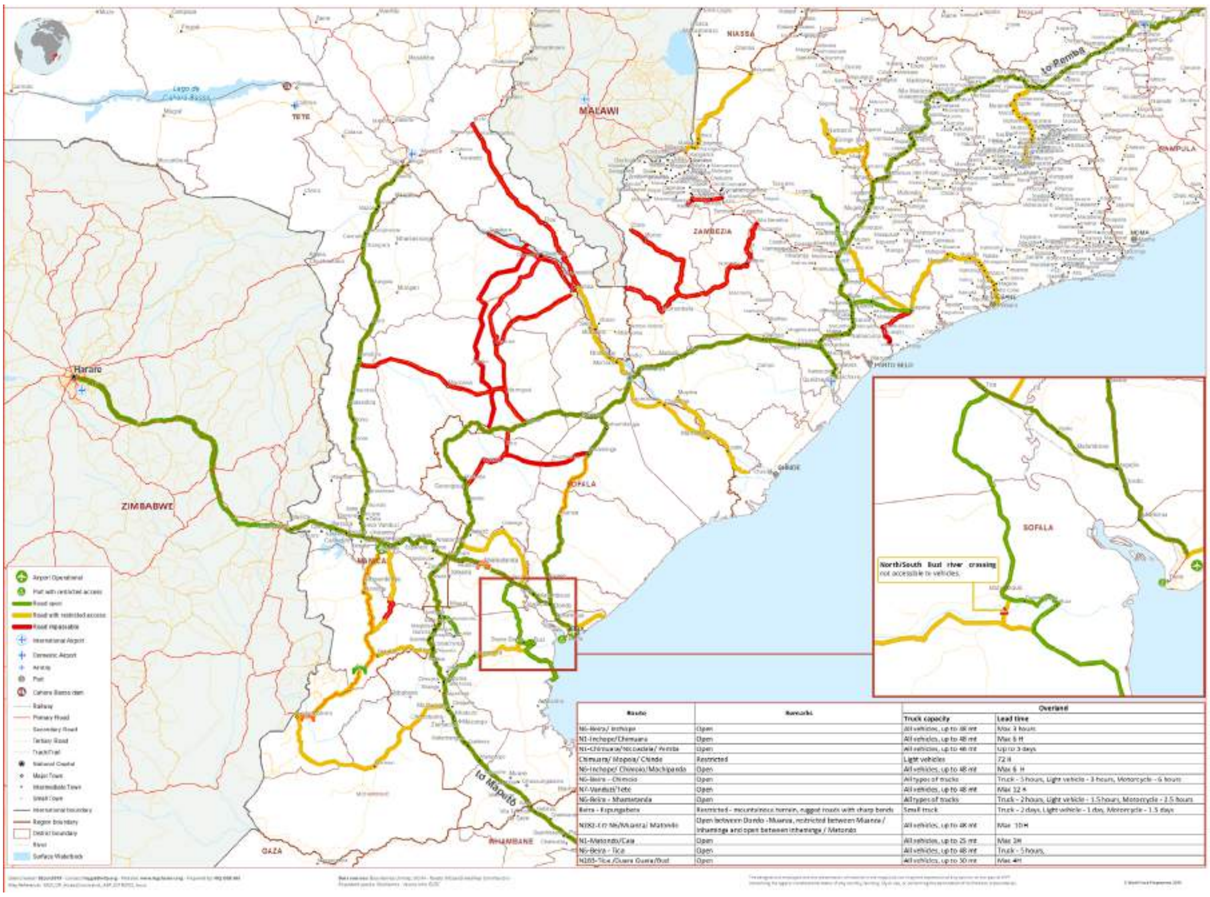


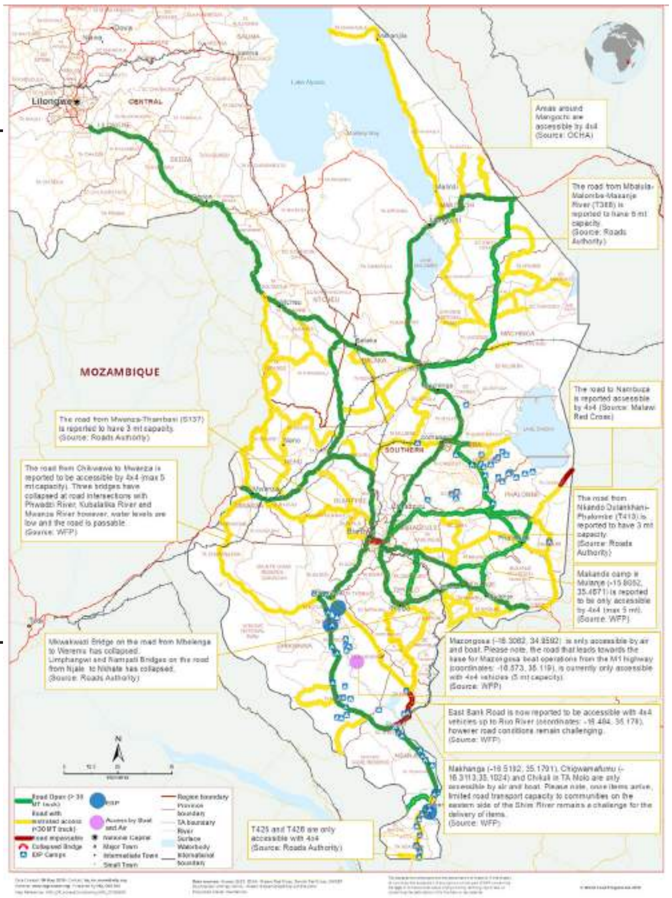
A General Logistics Planning Map (GLPM) is an important standard map applicable across all humanitarian logistics contexts, which visualizes key national logistics infrastructure and networks, administrative boundaries, topographic features (such as waterbodies and elevation) and settlements. It can 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

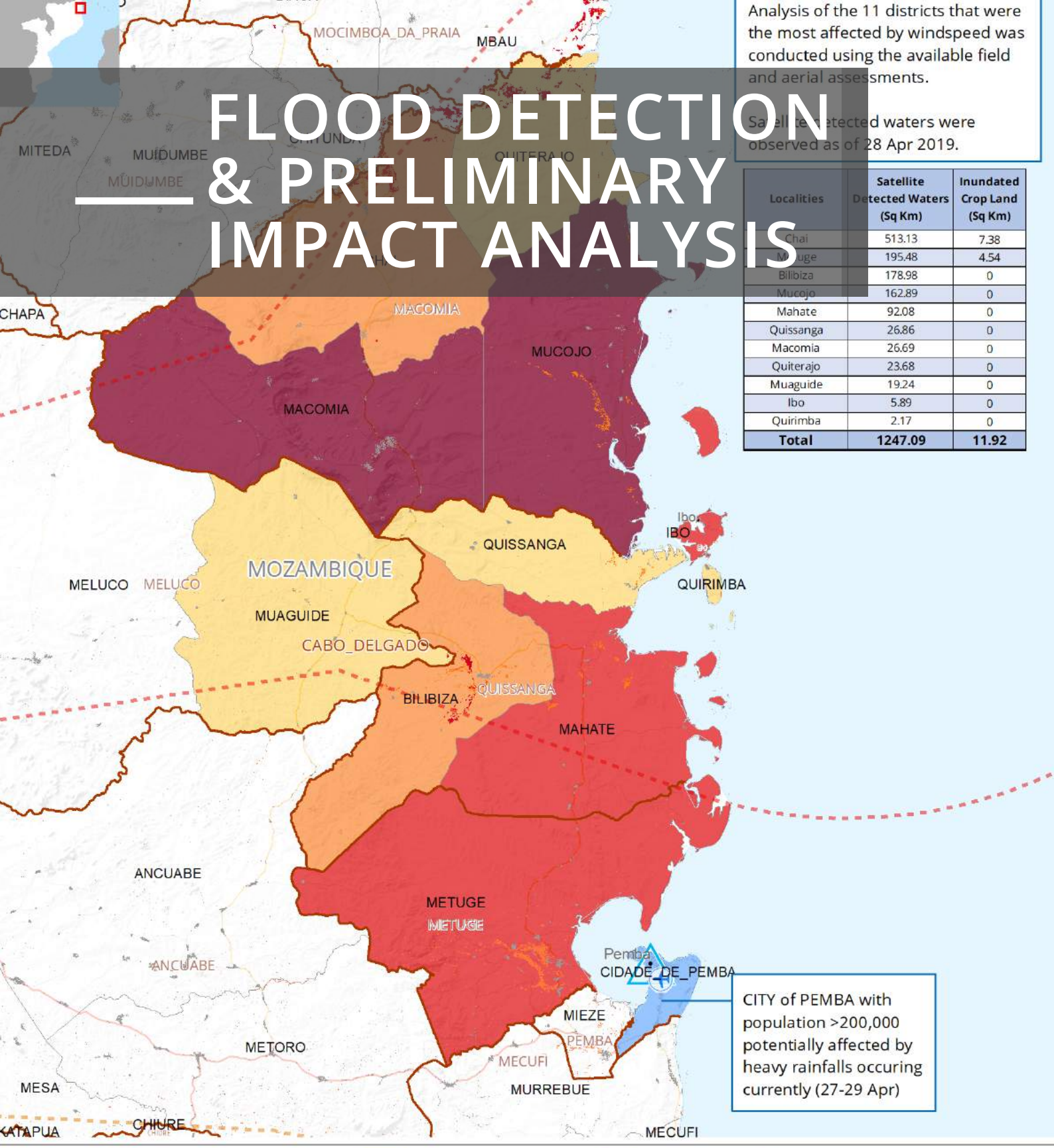



MALAWI
ZAMBEZIA
Harare
ZIMBABWE
SOFALA
MANICA
GAZA
INHAMBANE
to Pemba
to Maputo
N1-Inchope/Chimuara | Open | All vehicles, up to 48 mt | Max 6 H
Chimuara/ Mopeia/ Chinde | Restricted | Light vehicles | 72 H
N6-Inchope/ Chimoio/Machipanda | Open | All vehicles, up to 48 mt | Max 6 H
N6-Beira - Chimoio | Open | All types of trucks | Truck - 5 hours, Light vehicle - 3 hours, Motorcycle - 6 hours
N7-Vanduzi/Tete | Open | All vehicles, up to 48 mt | Max 12 H
N6-Beira - Mafambisse | Open | All types of trucks | Truck - 2 hours, Light vehicle - 1.5 hours, Motorcycle - 2.5 hours
N1-Matondo/Caia | Open | All vehicles, up to 25 mt | Max 3H
N6-Beira - Tica | Open | All vehicles, up to 48 mt | Truck - 5 hours,



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.

FLOOD DETECTION & PRELIMINARY IMPACT ANALYSIS

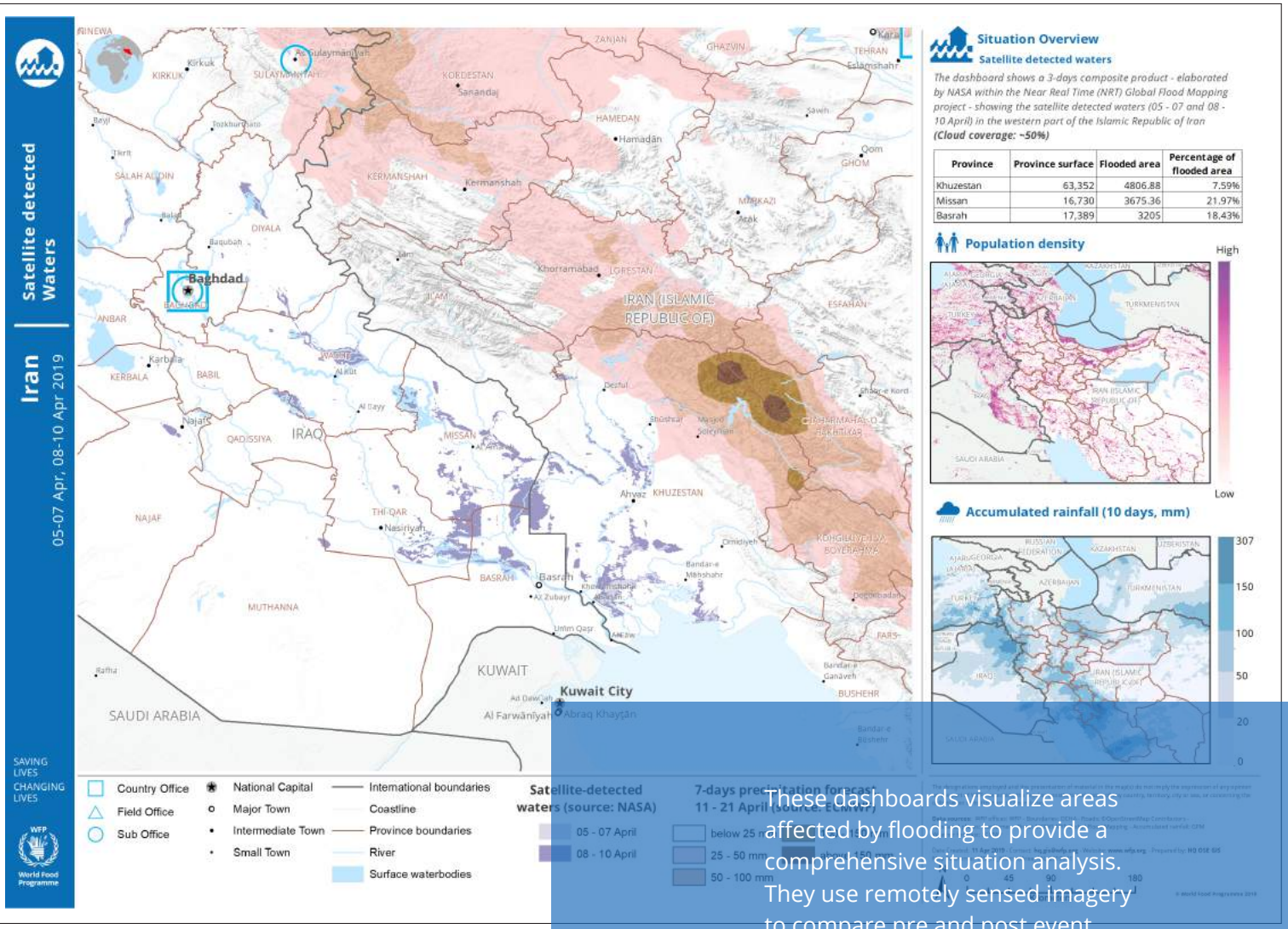


Localities	Satellite Detected Waters (Sq Km)	Inundated Crop Land (Sq Km)
Chai	513.13	7.38
Metuge	195.48	4.54
Bilibiza	178.98	0
Mucojo	162.89	0
Mahate	92.08	0
Quissanga	26.86	0
Macomia	26.69	0
Quiterajo	23.68	0
Muaguide	19.24	0
Ibo	5.89	0
Quirimba	2.17	0
Total	**1247.09**	**11.92**

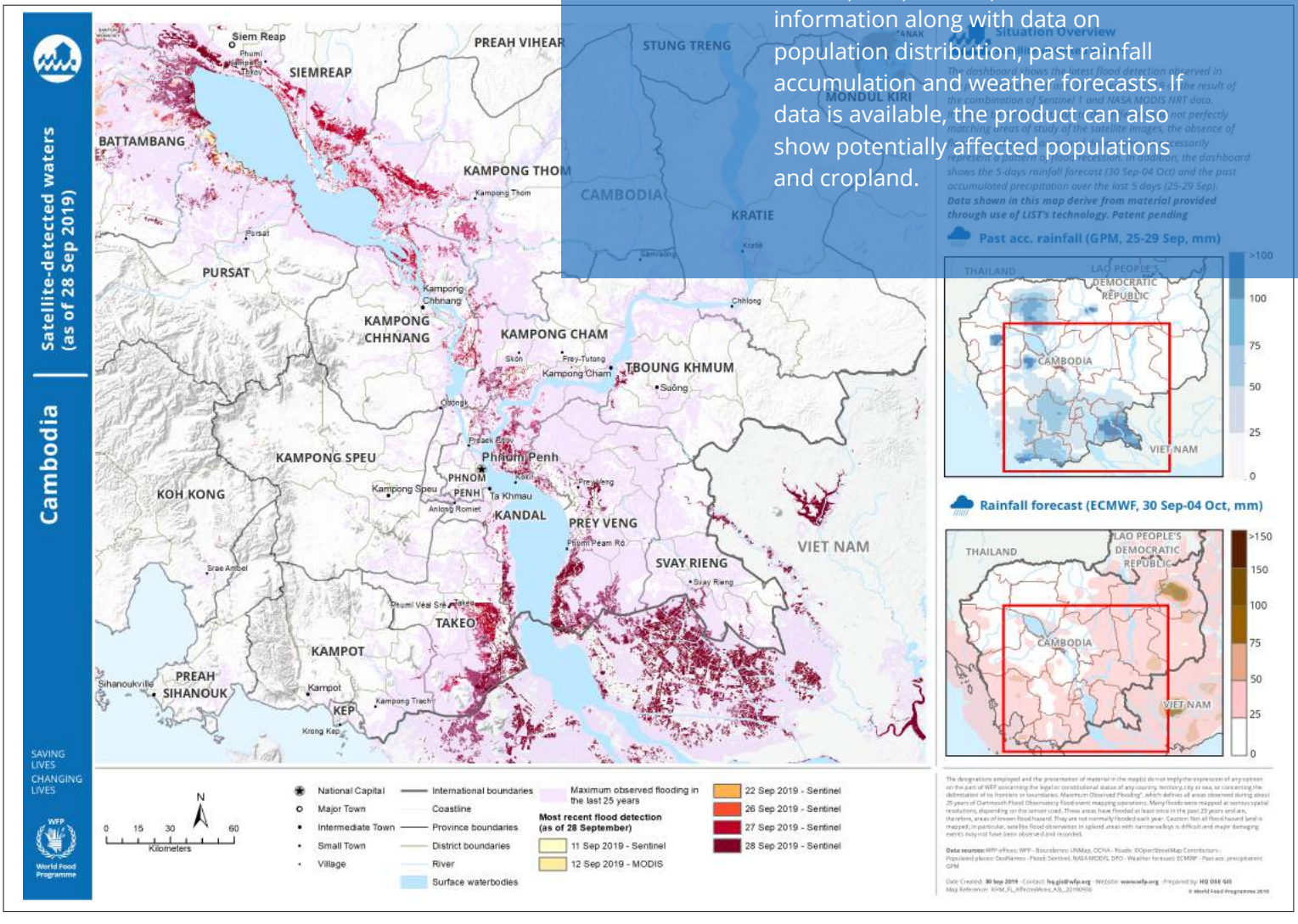
Estimated People Affected
- Data Not Available
- 1 - 3,000
- 3,001 - 10,000
- 10,001 - 20,000
- 20,001 - 35,513

Wind Speed
- 120 km/h
- 90 km/h
- 60 km/h

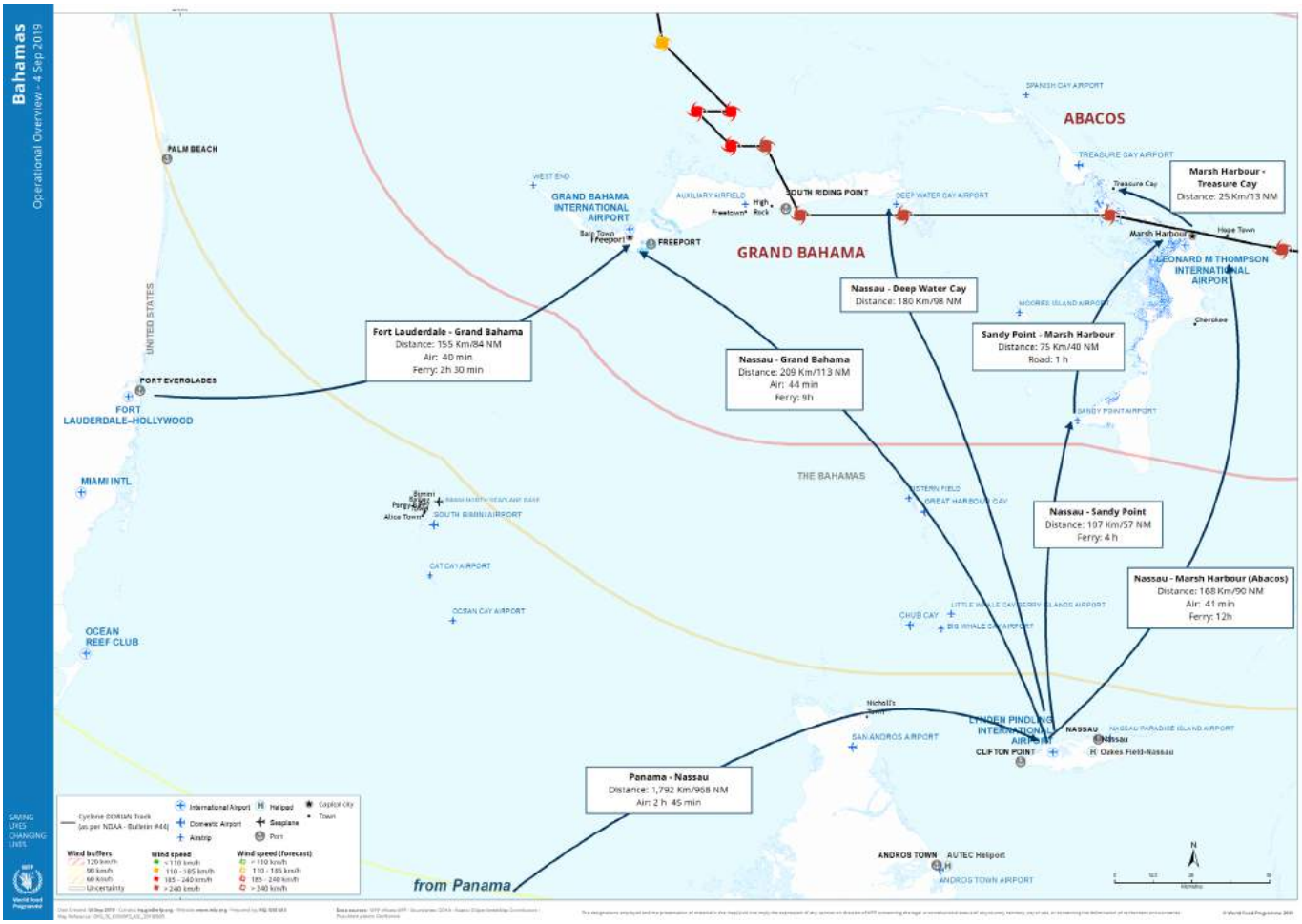
- Satellite Detected Water
- City of Pemba (Flood Analysis Not Available)
- Built Area
- Country Office
- Field Office
- Sub Office
- Main Road
- International Airport
- Airstrip
- National Capital
- Major Town
- Intermediate Town
- Coastline
- Province bo
- District boun
- Locality bo

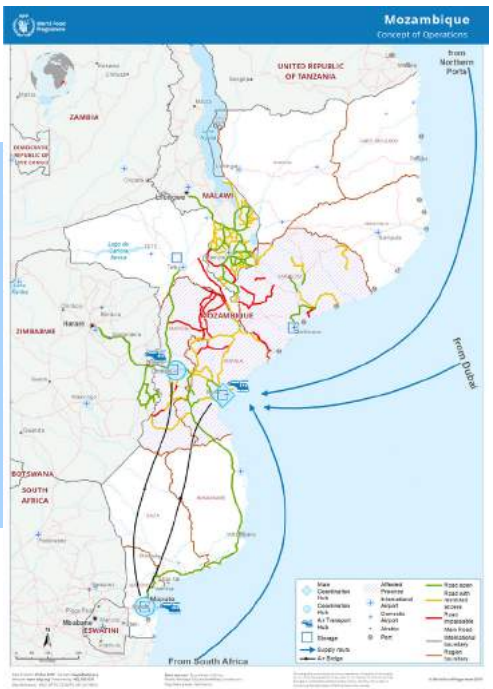


These dashboards visualize areas affected by flooding to provide a comprehensive situation analysis. They use remotely sensed imagery to compare pre and post event information along with data on population distribution, past rainfall accumulation and weather forecasts. If data is available, the product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



SUPPLY CHAIN CONCEPT OF OPERATIONS (CONOPS)





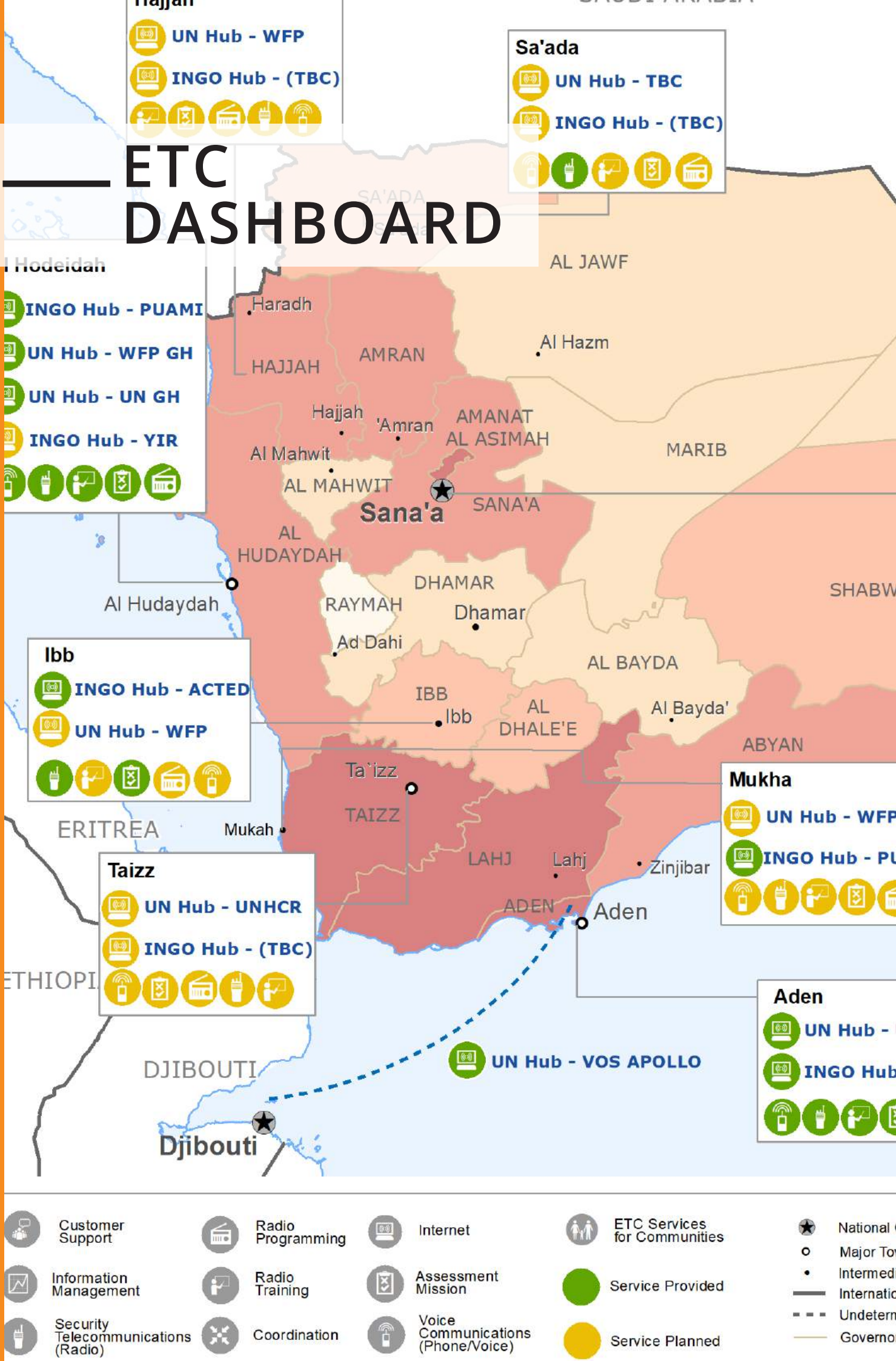
These maps are amongst the key products for supporting operations in the supply chain processes. They enable a full overview of the supply chain, asset visibility and operational readiness on and off the country of interest, to inform planning and execution of current and future operations.

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.

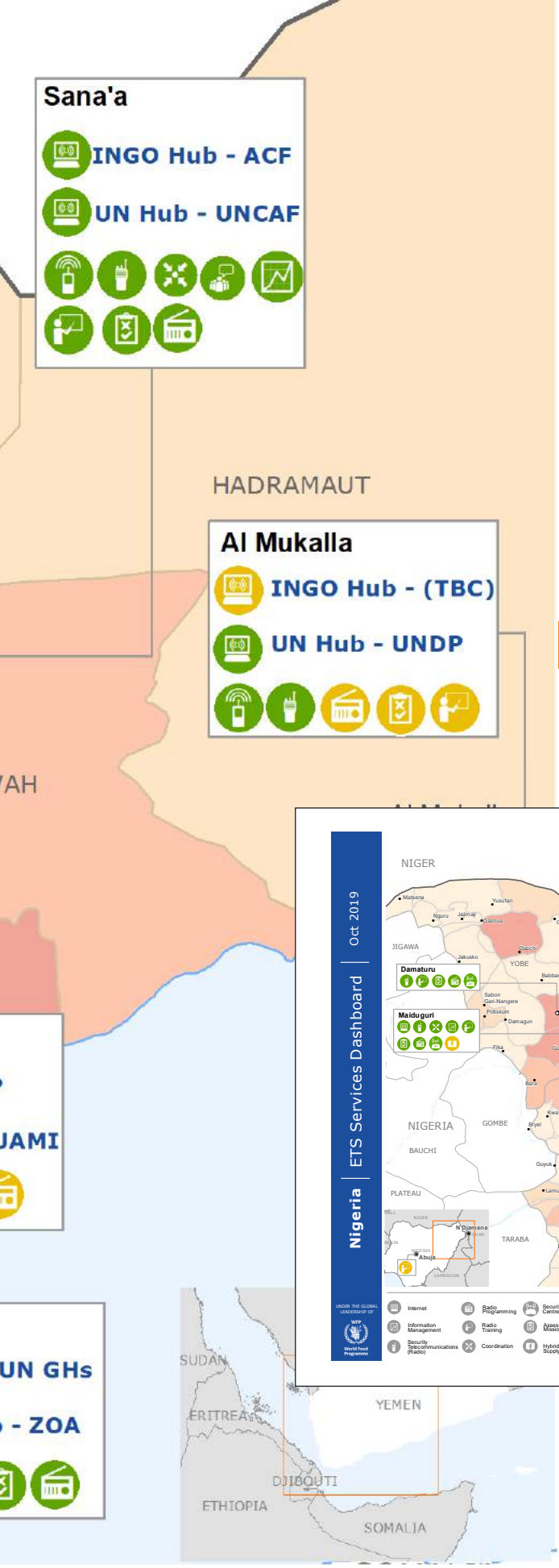
CLUSTER

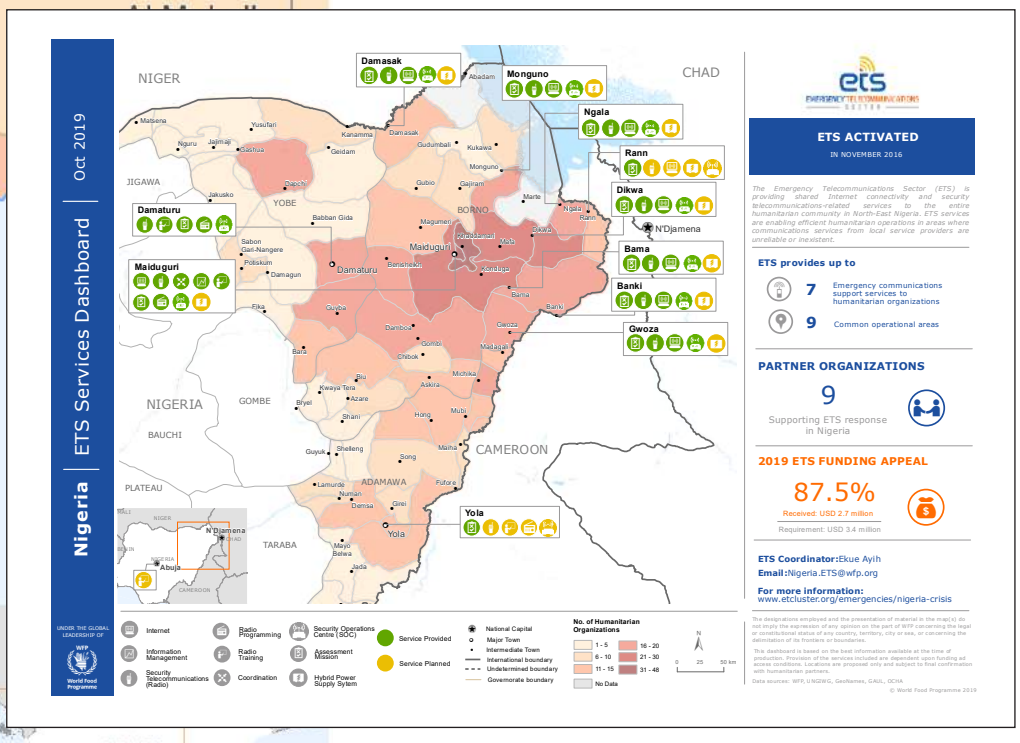
ETC DASHBOARD



EMERGECY TELECOMMUNICATIONS

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.





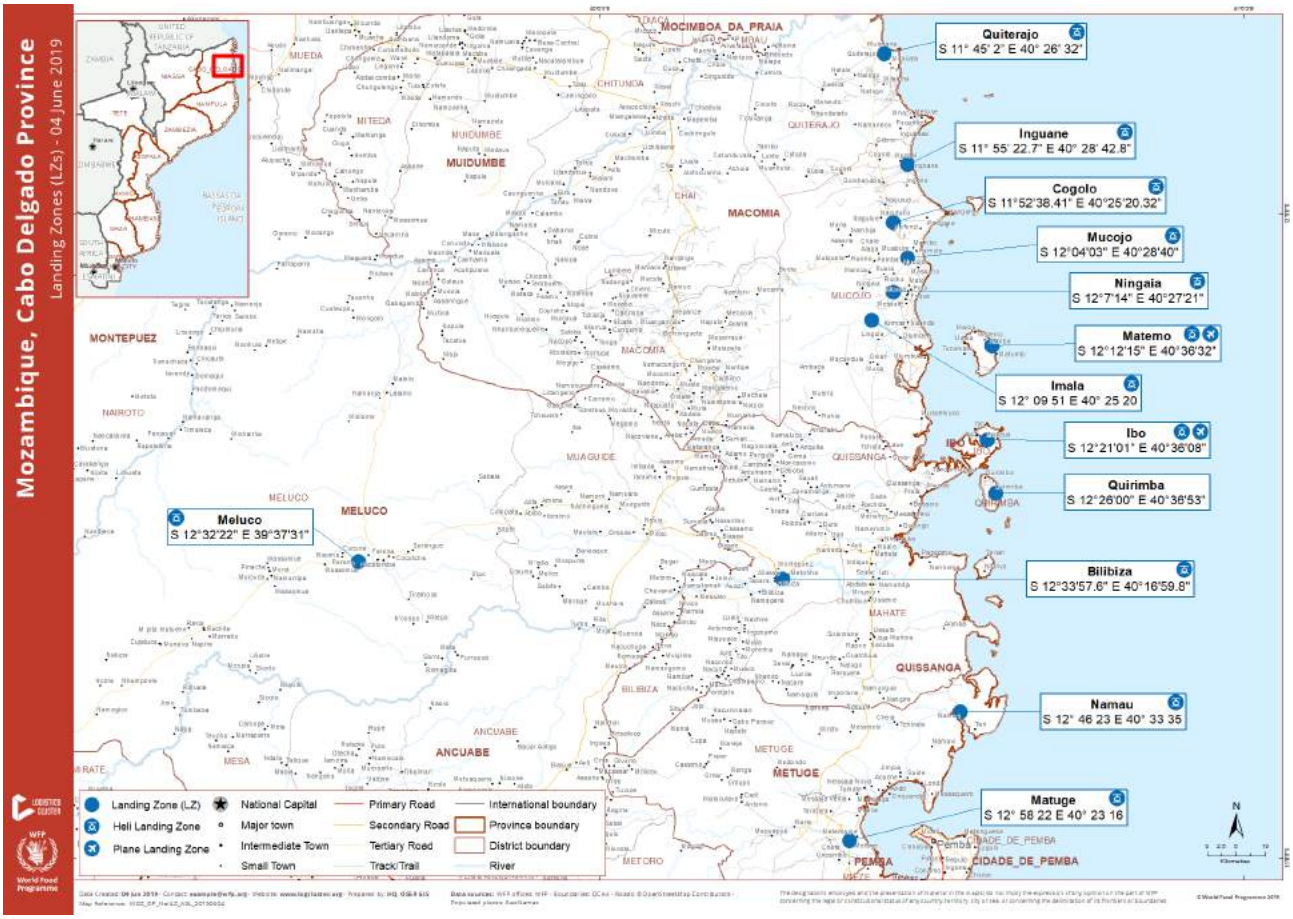
ETC FACEBOOK

2G 3G 4G

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.

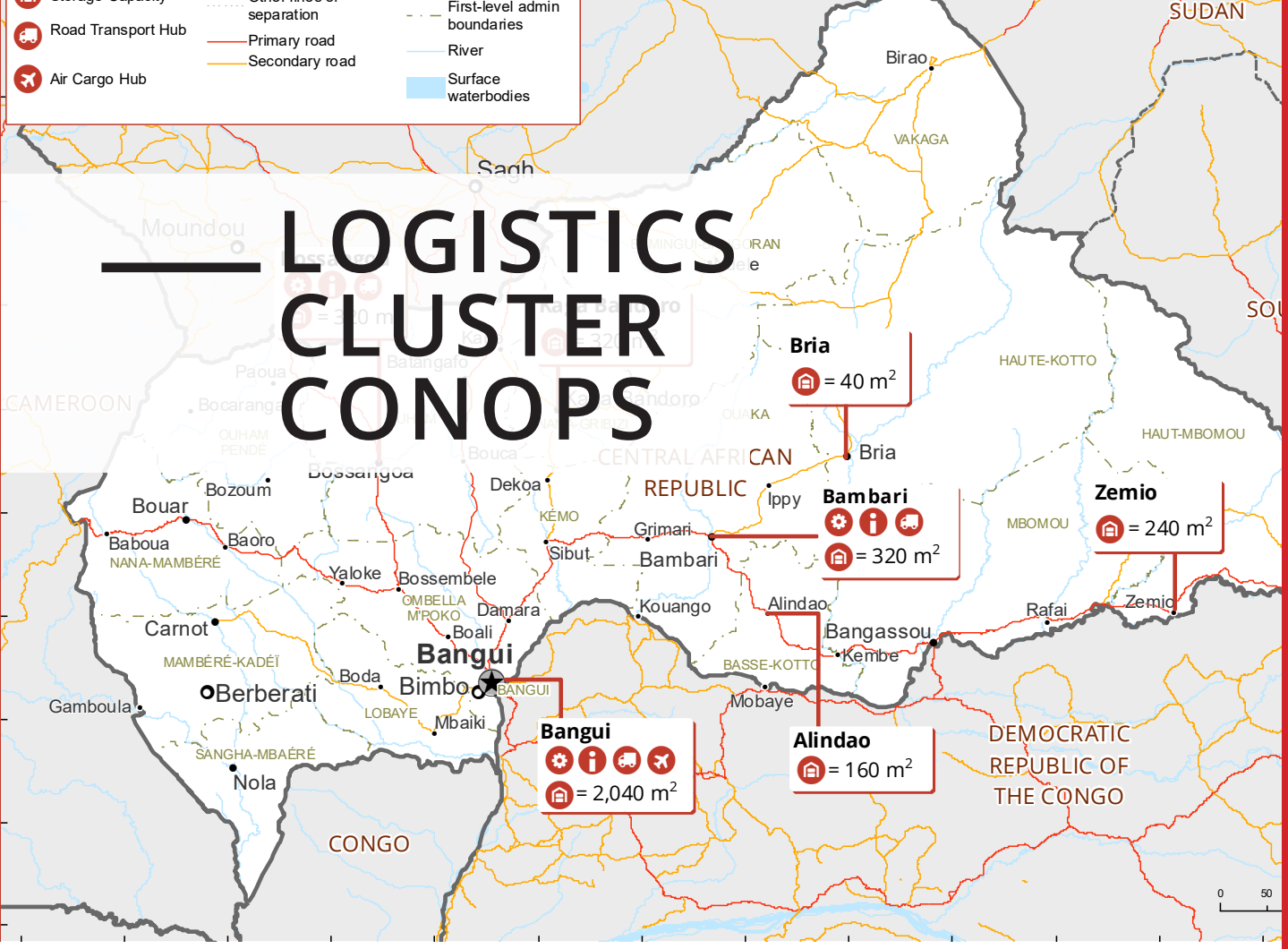
A recent partnership between Facebook and WFP allows the organization to produce maps that show how many people have access to a cellular network – 2G, 3G and 4G. In areas with a low network coverage, emergency responders will have to dedicate more resources to get information about the affected population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

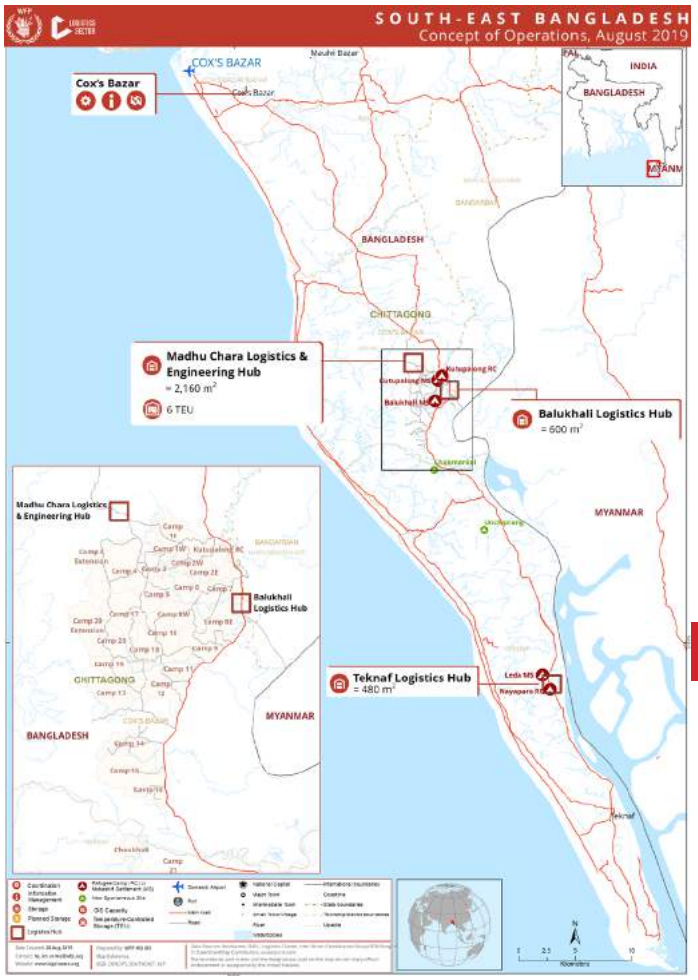
LOGISTICS CLUSTER



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

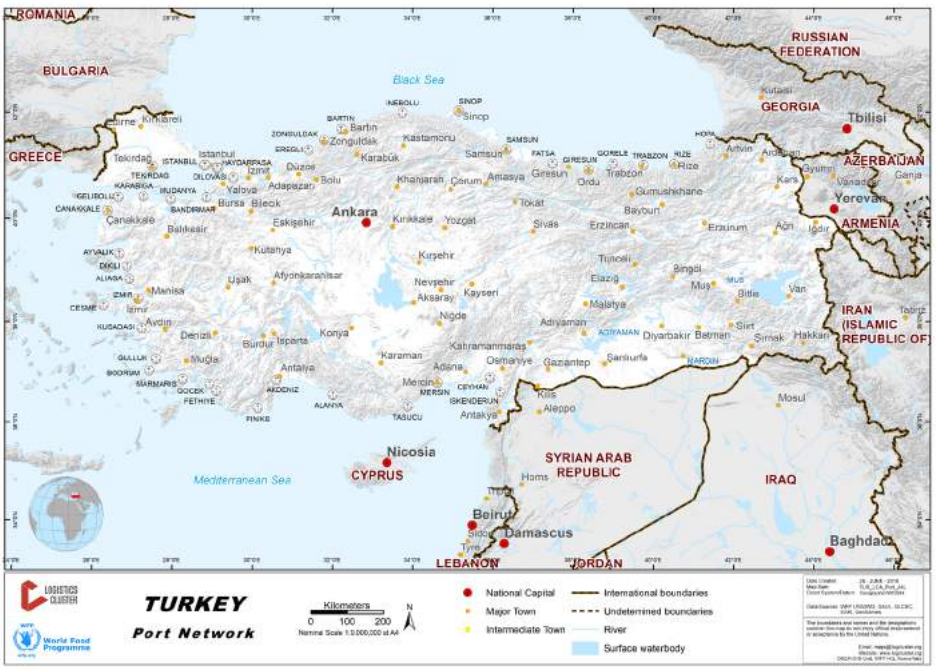




These maps are amongst the key IM products in Logistics Cluster operations. They visualize the range of services that the cluster will facilitate in the operation, such as coordination, storage, air transport and IM, and where these services will take place. They play a crucial role in strategic planning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

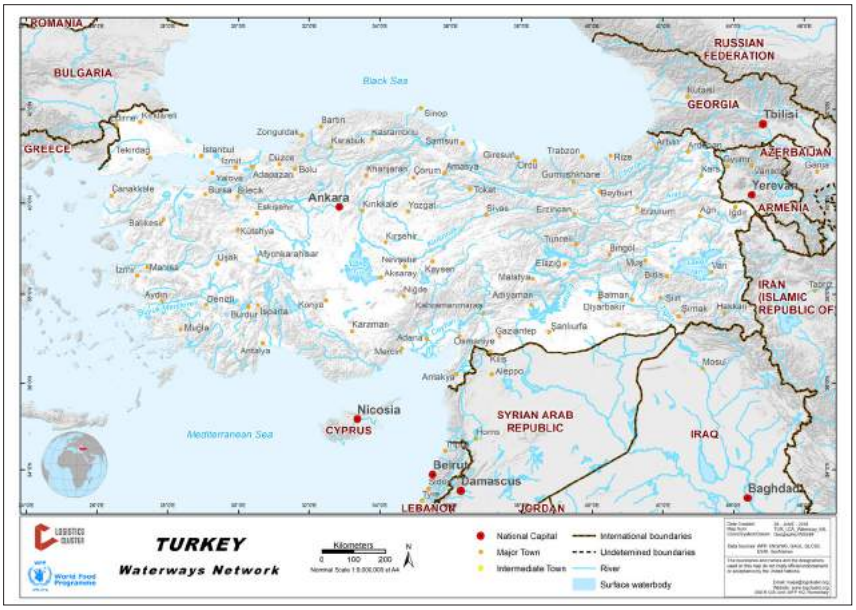
LOGISTICS

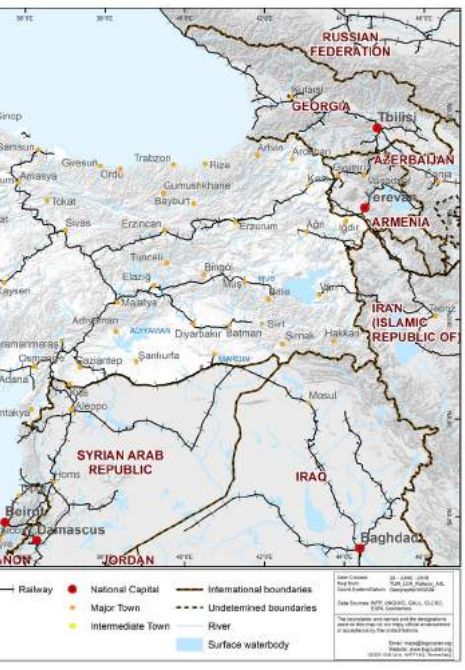
LOGISTICS CAPACITY ASSESSMENT (LCA)

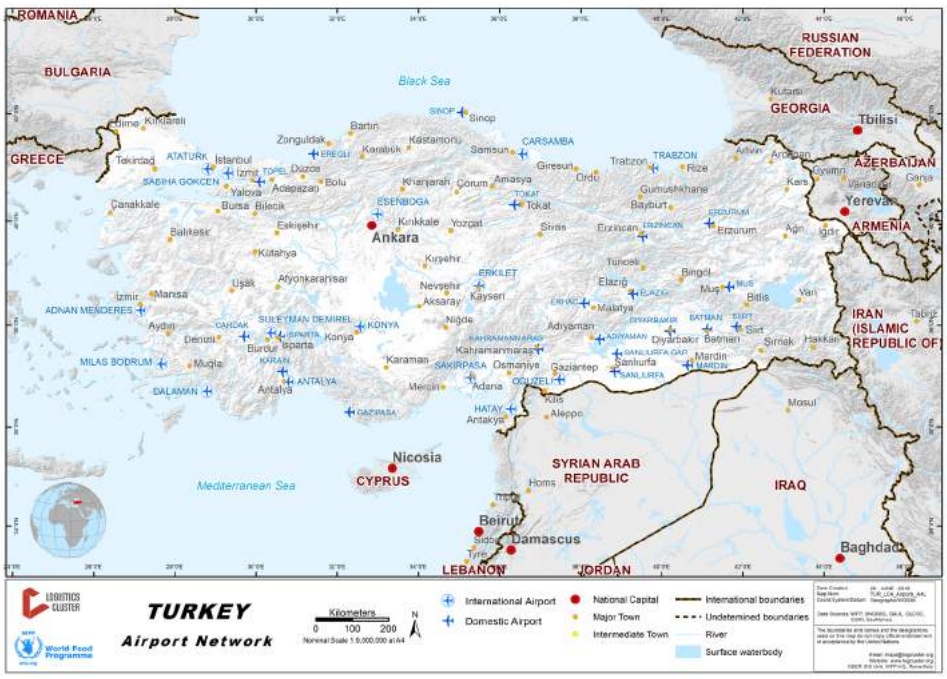


The Logistics Capacity Assessment (LCA) provides logisticians with fundamental, baseline logistics information. The assessment looks at logistics infrastructure and services in a country and represents an operational tool which focuses on critical elements of the supply chain links, such as port and 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.

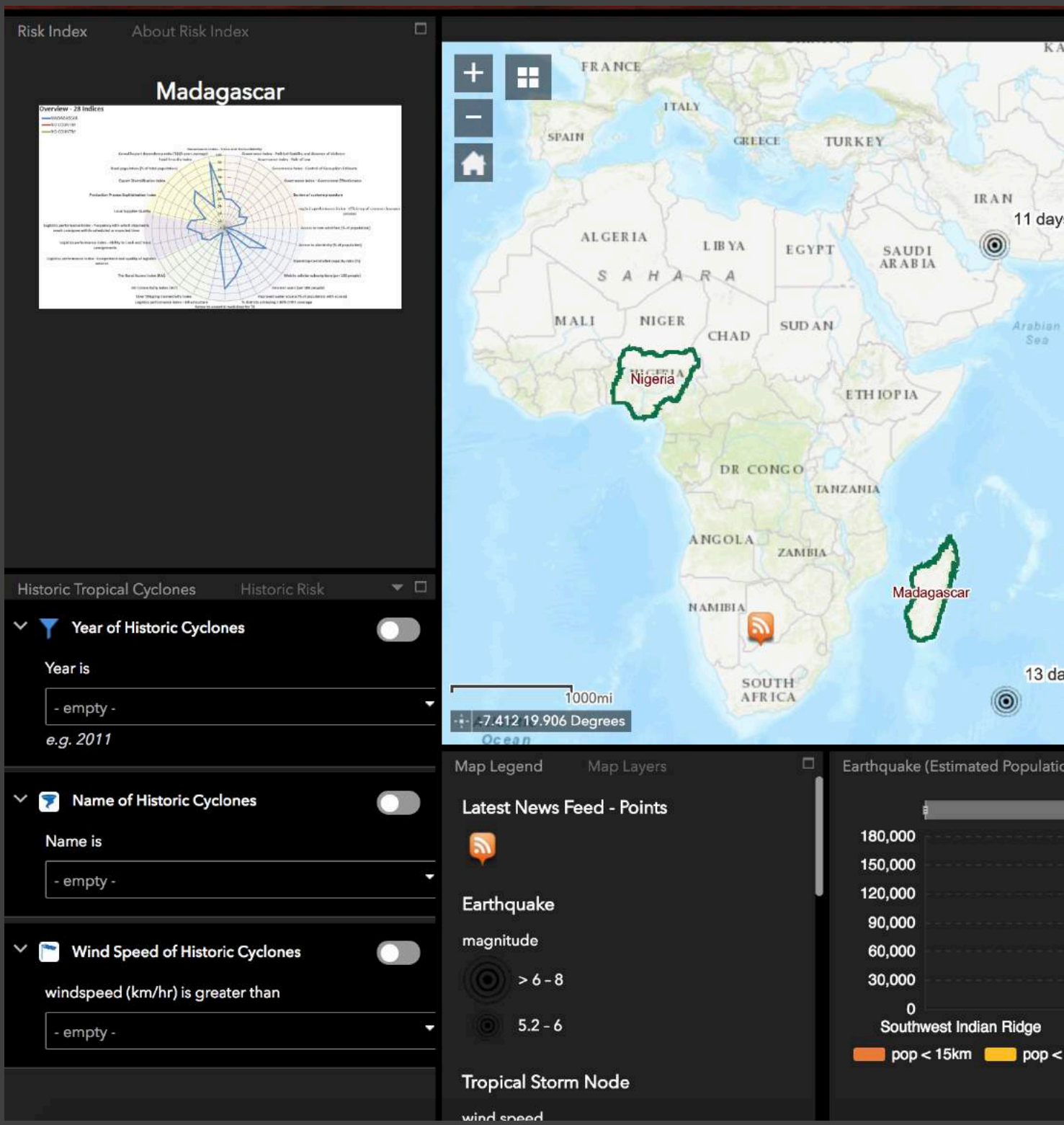
The LCA focuses on countries or regions where there is potential for a sudden onset emergency to occur or where humanitarian actors are present but there is a lack of consolidated information on logistics infrastructure and services.





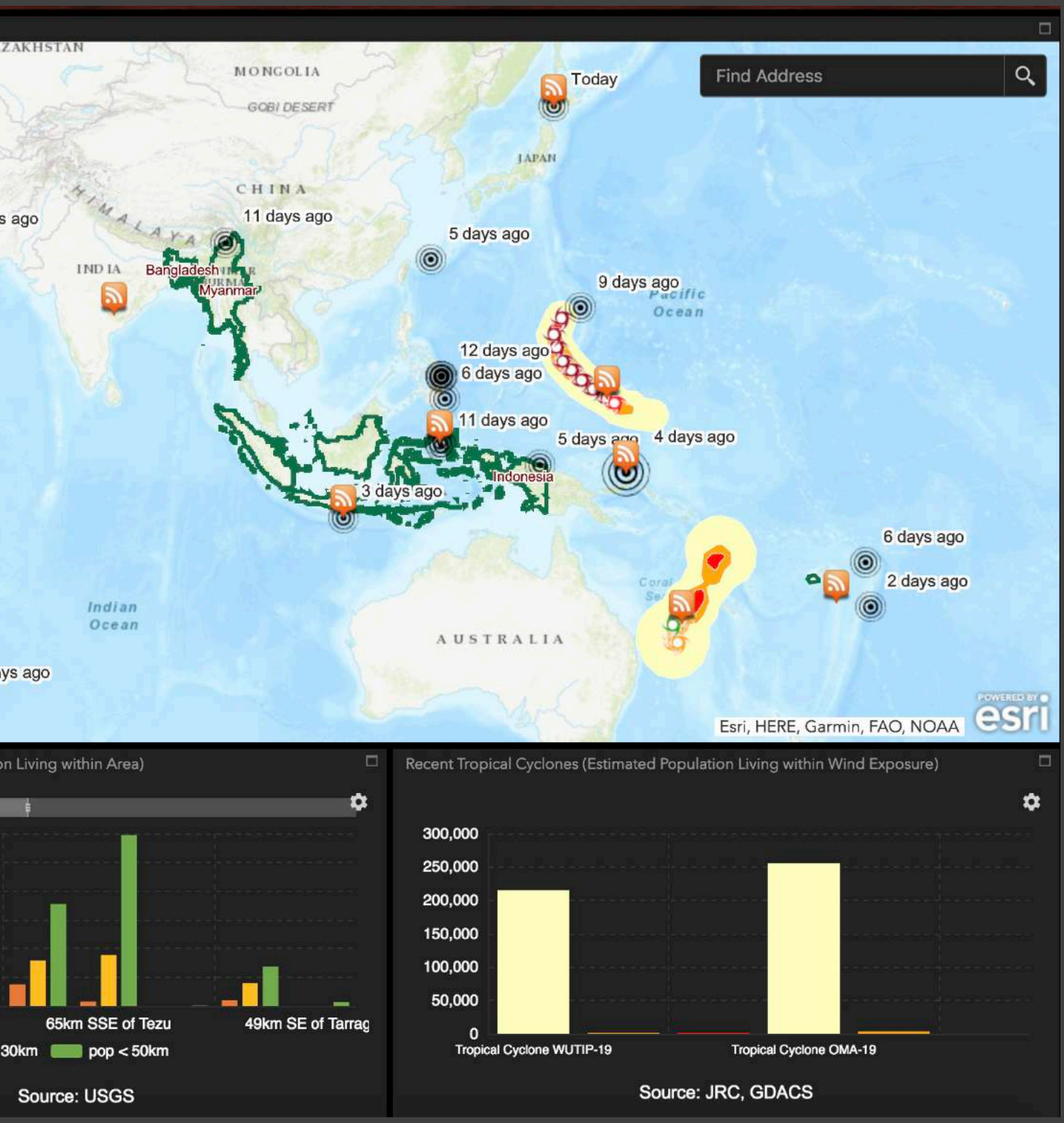


LOGISTICS CLUSTER PREPAREDNESS PLATFORM

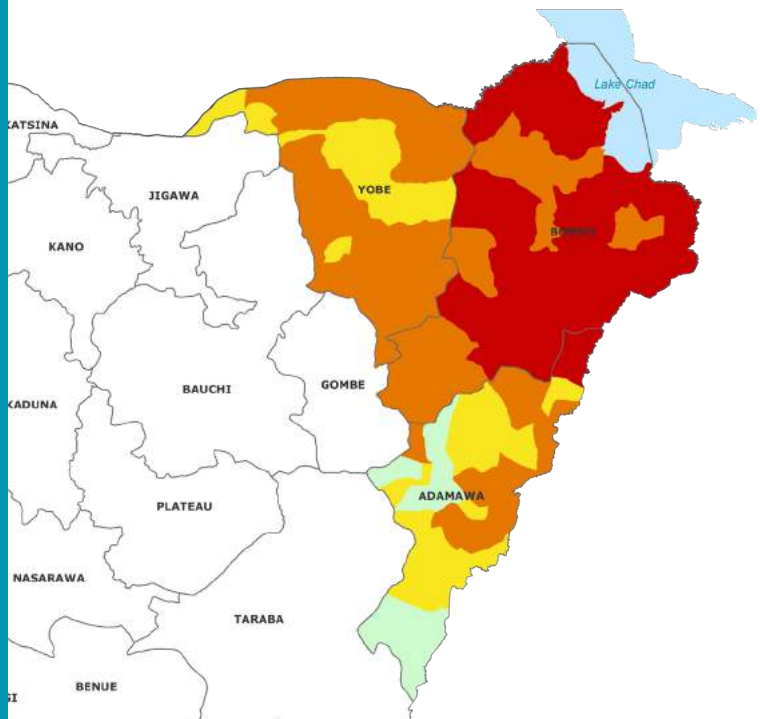


The Logistics Cluster Preparedness Platform (LCPP) is designed as a dynamic, innovative digital information tool to ensure all actors work towards a common, coordinated and localized approach to logistics preparedness, strengthening information management and knowledge sharing capacities. With the capacity 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.



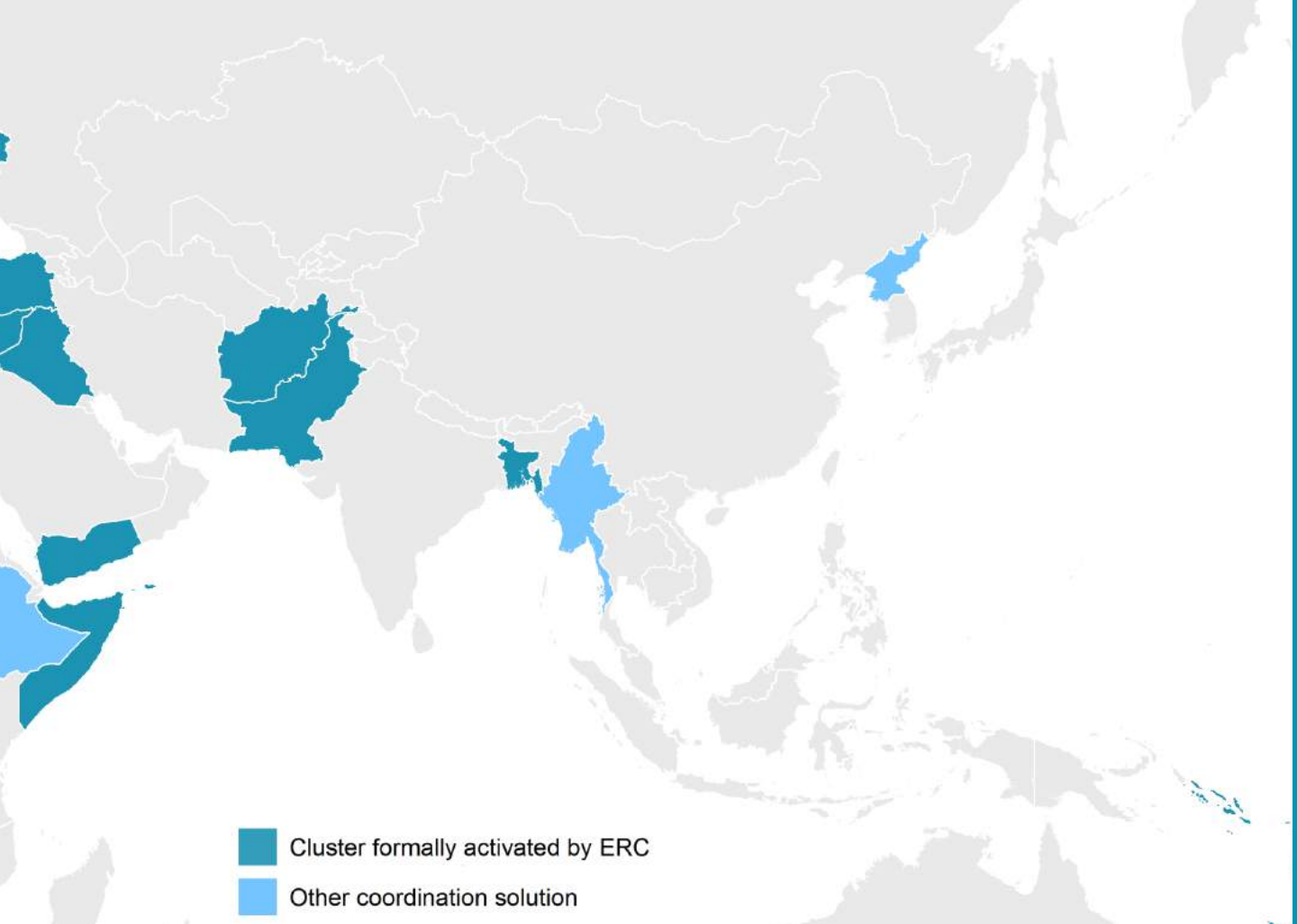
FOOD SECURITY CLUSTER



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.



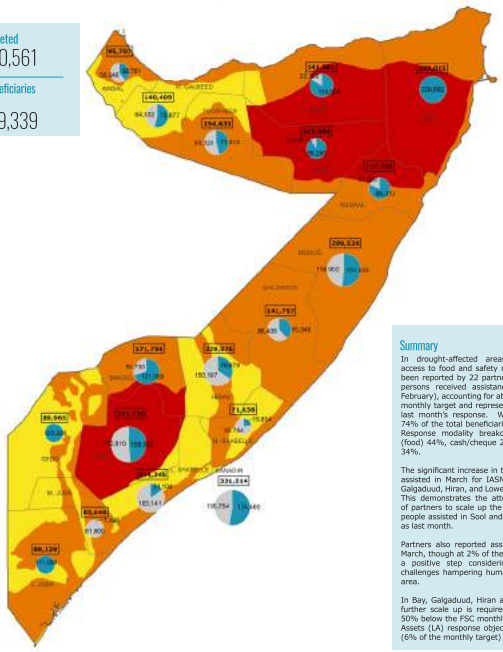
SOMALIA
FOOD SECURITY CLUSTER
Strengthening Humanitarian Response

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



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.

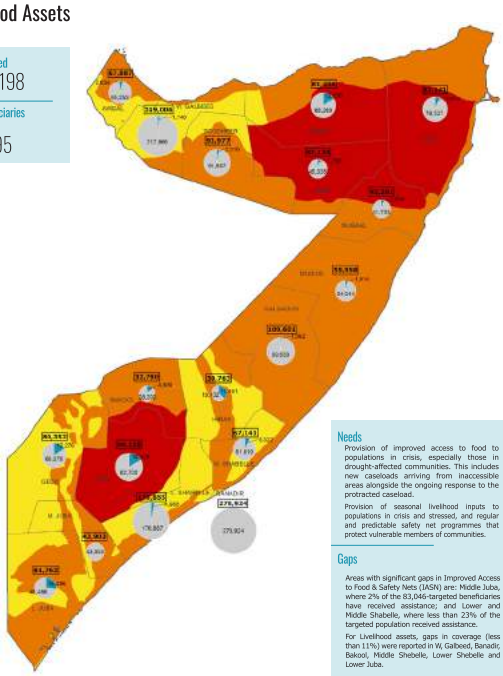
Partners also reported assistance for Middle Juba in March, though at 2% of the target. This is nonetheless a positive step considering the significant access challenges hampering humanitarian assistance in this area.

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.

Livelihood Assets

Tot Targeted
1,663,198

Tot. Beneficiaries Assisted
101,795



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.

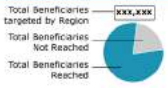
Provision of seasonal livelihood inputs to populations in crisis and stressed, and regular and predictable safety net programmes that protect vulnerable members of communities.

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.

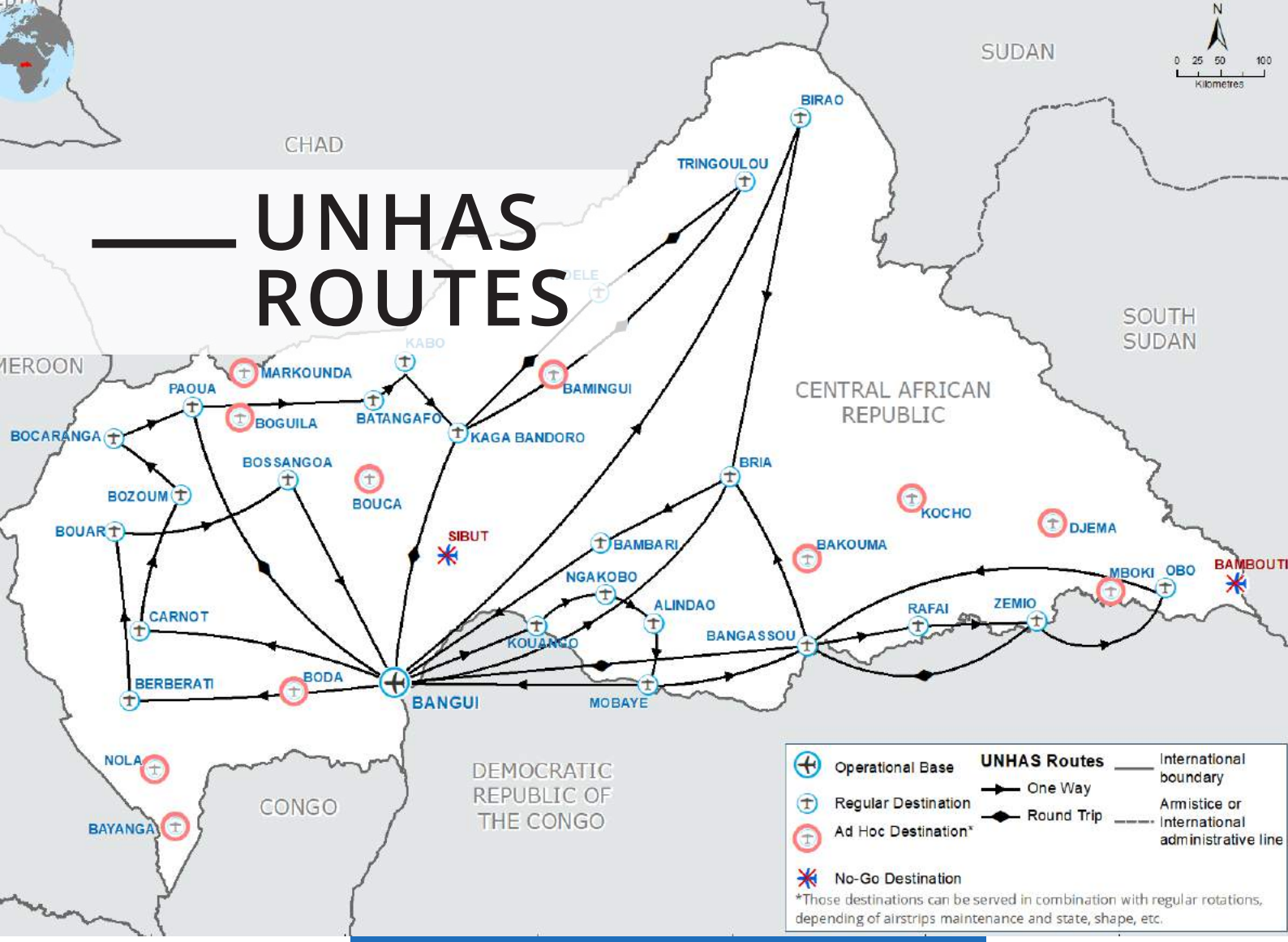
Total Beneficiaries targeted by Region — XXX,XXX
Total Beneficiaries Not Reached
Total Beneficiaries Reached



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

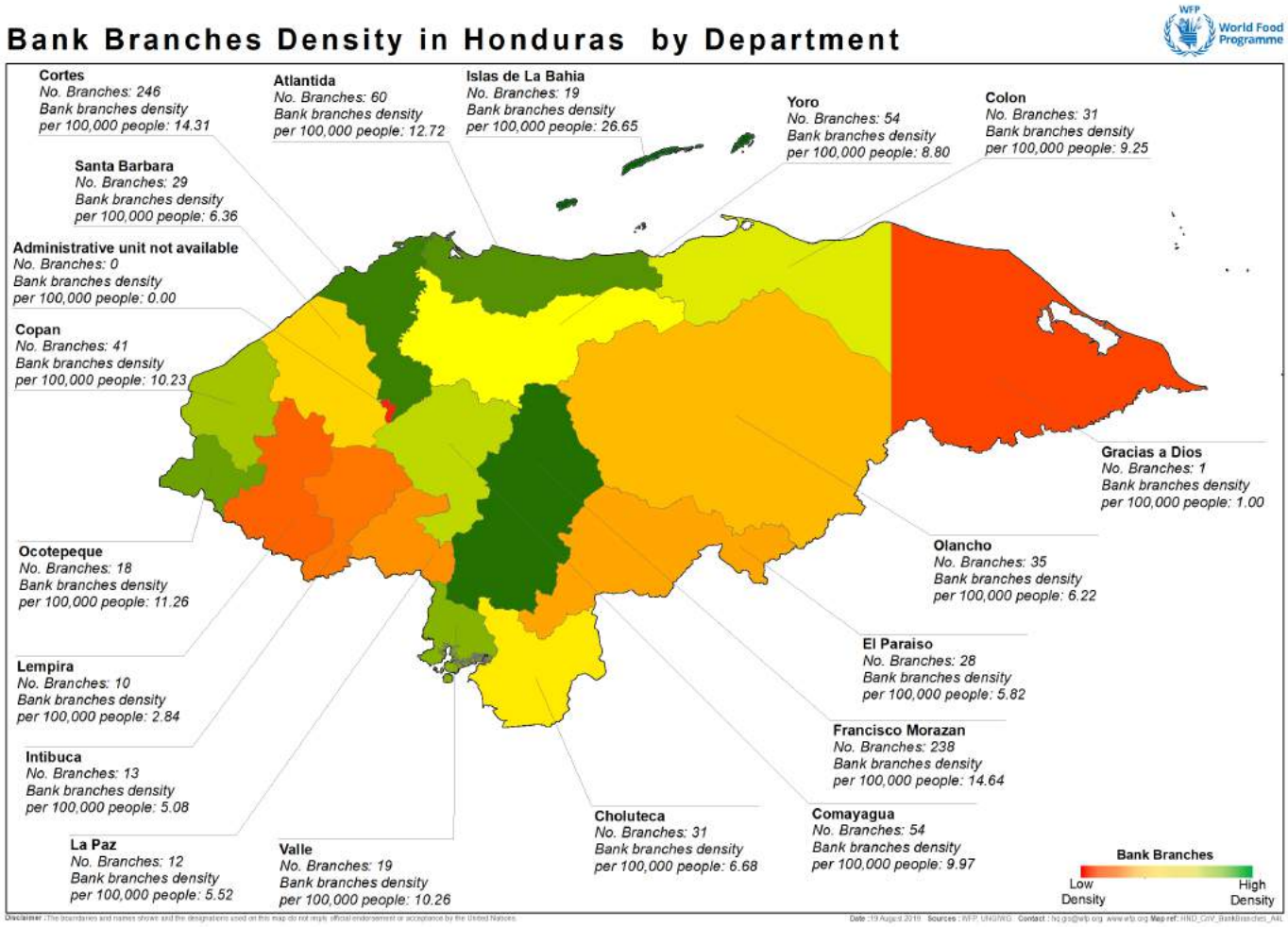
No Data	Crisis
Minimal	Emergency
Stressed	Famine

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.

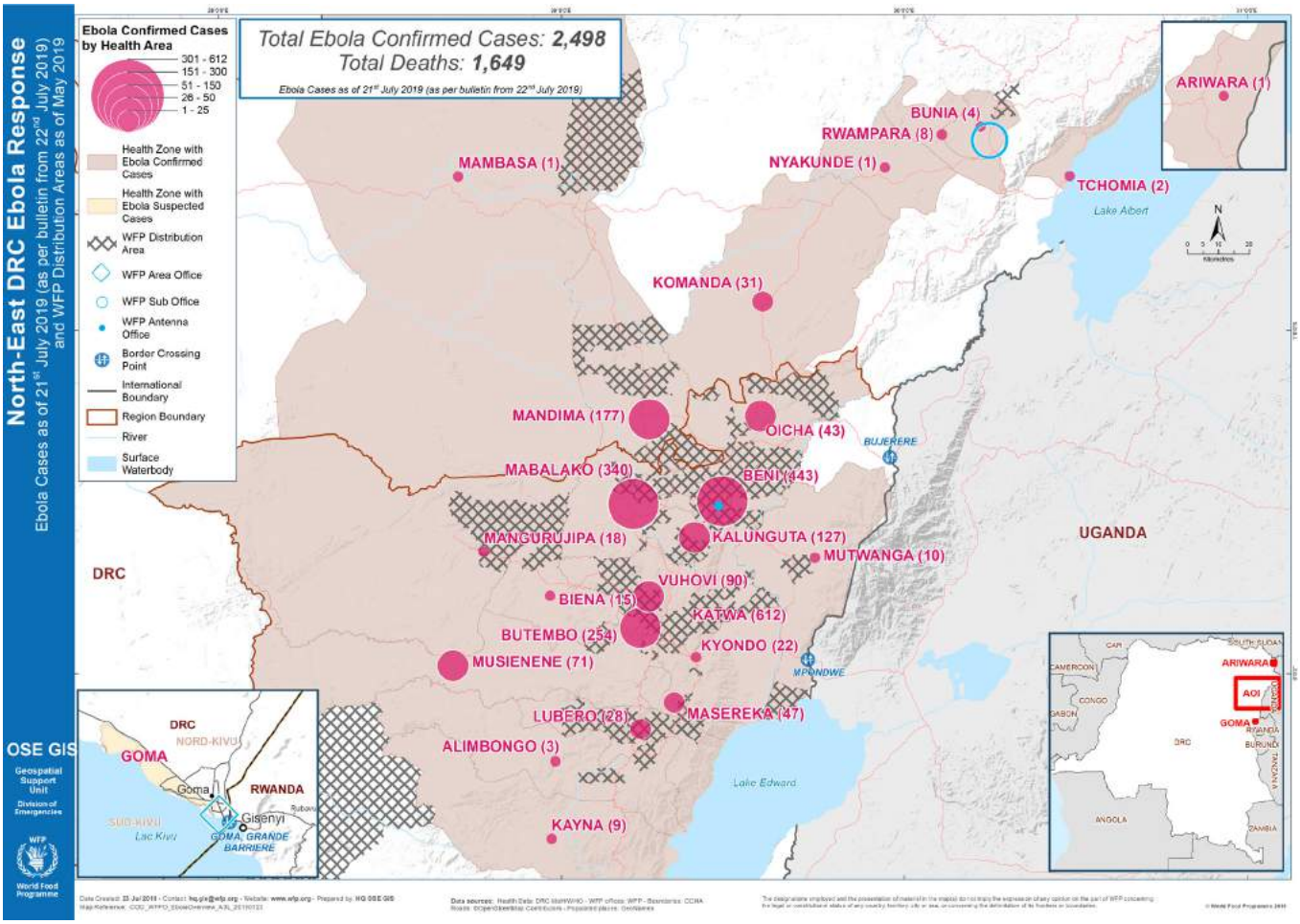
CASH-BASED TRANSFERS AND VOUCHERS

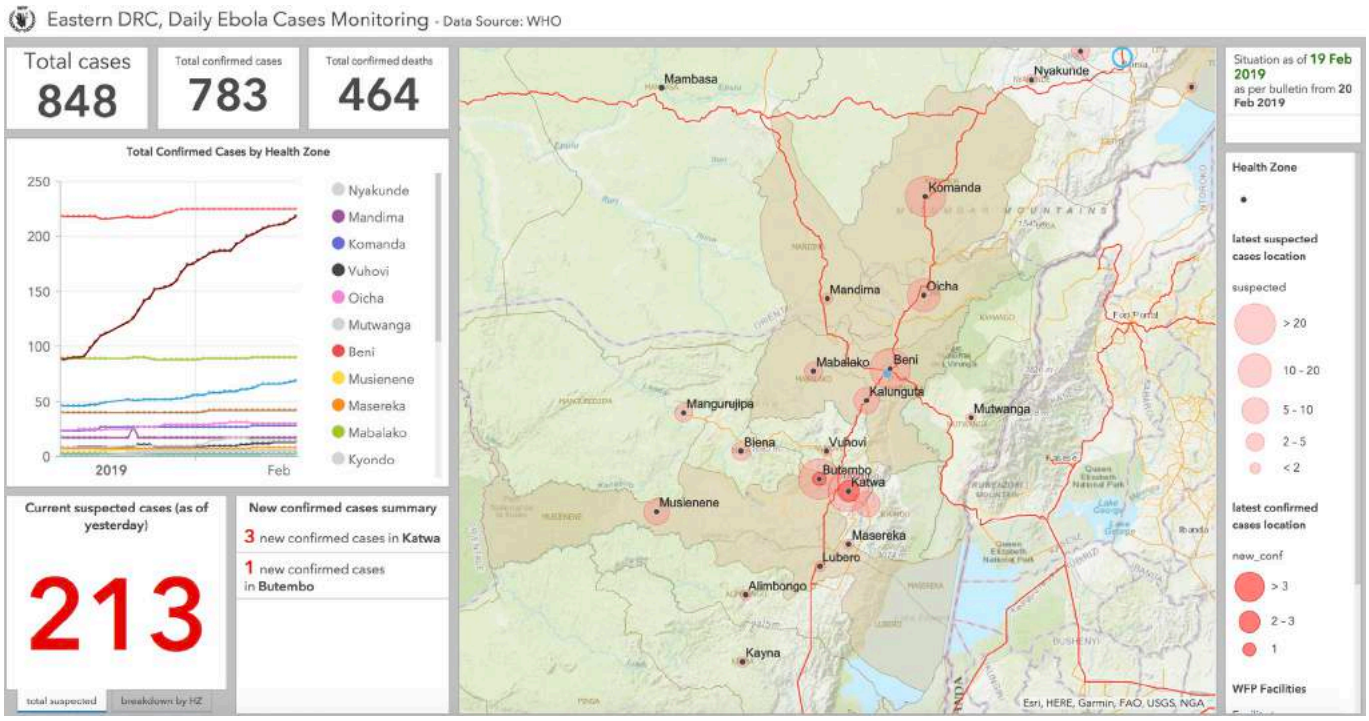


These maps are used to provide the Country Offices with additional information about the recipients of Cash-Based Transfers (CBT) and the location of specific Financial Service Providers (FSPs), in terms of geographical distribution and their density compared to the local population.

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



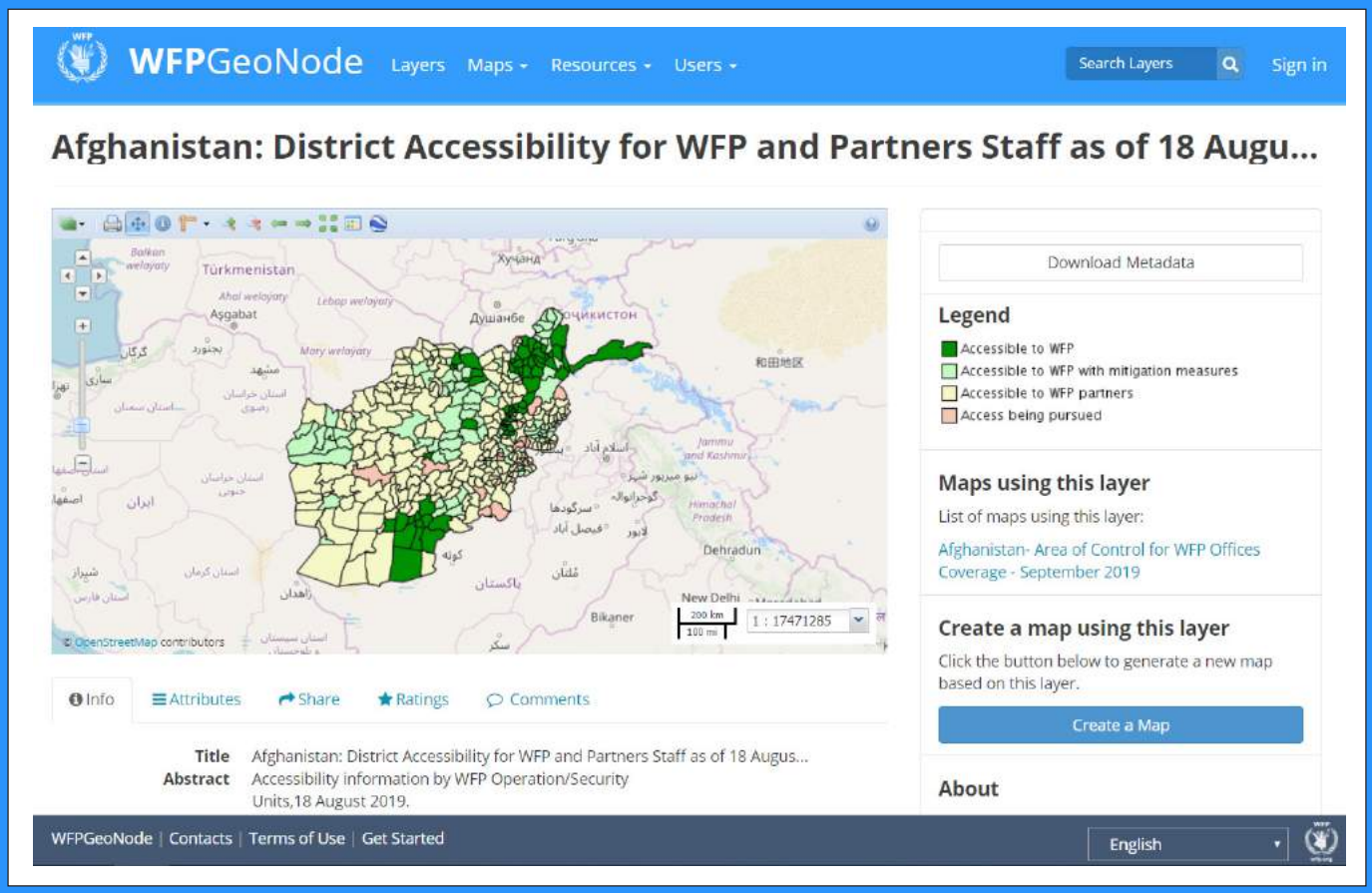


PROJECTS

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.

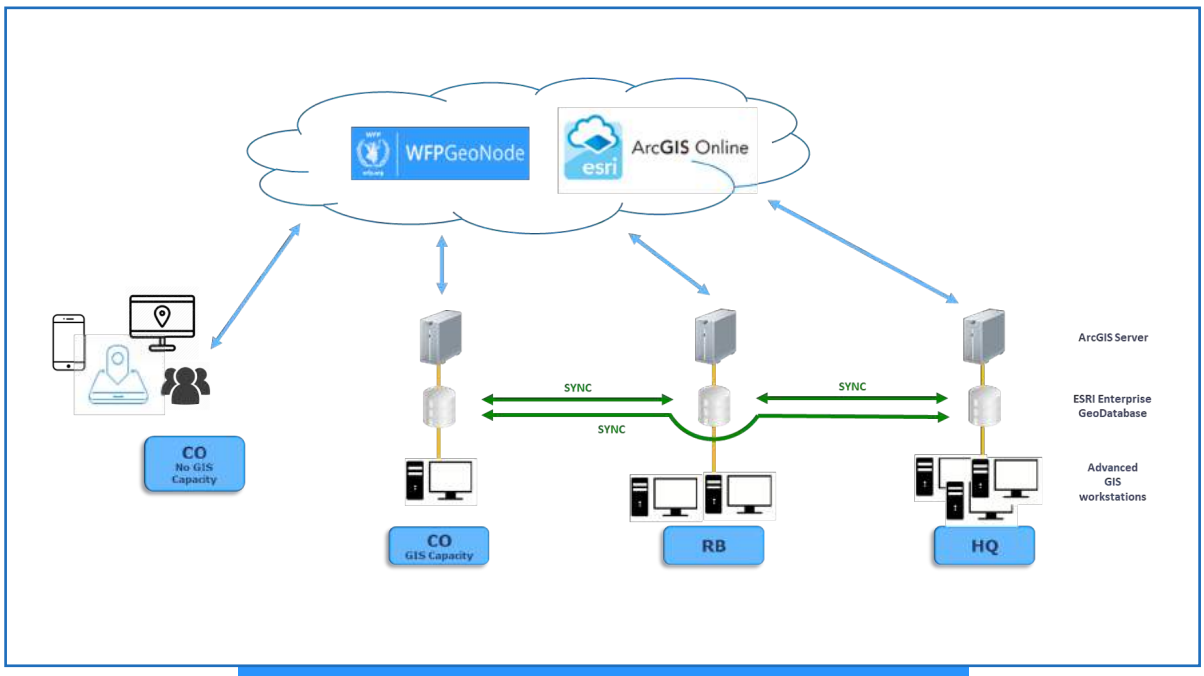
The greatest challenge remains bringing together capacities in different divisions and improve coordination for better results and to avoid duplication of efforts. With the introduction of Spatial Data Infrastructure in many Country Offices, continuous updates and improvements to Geonode (WFP's corporate 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 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.



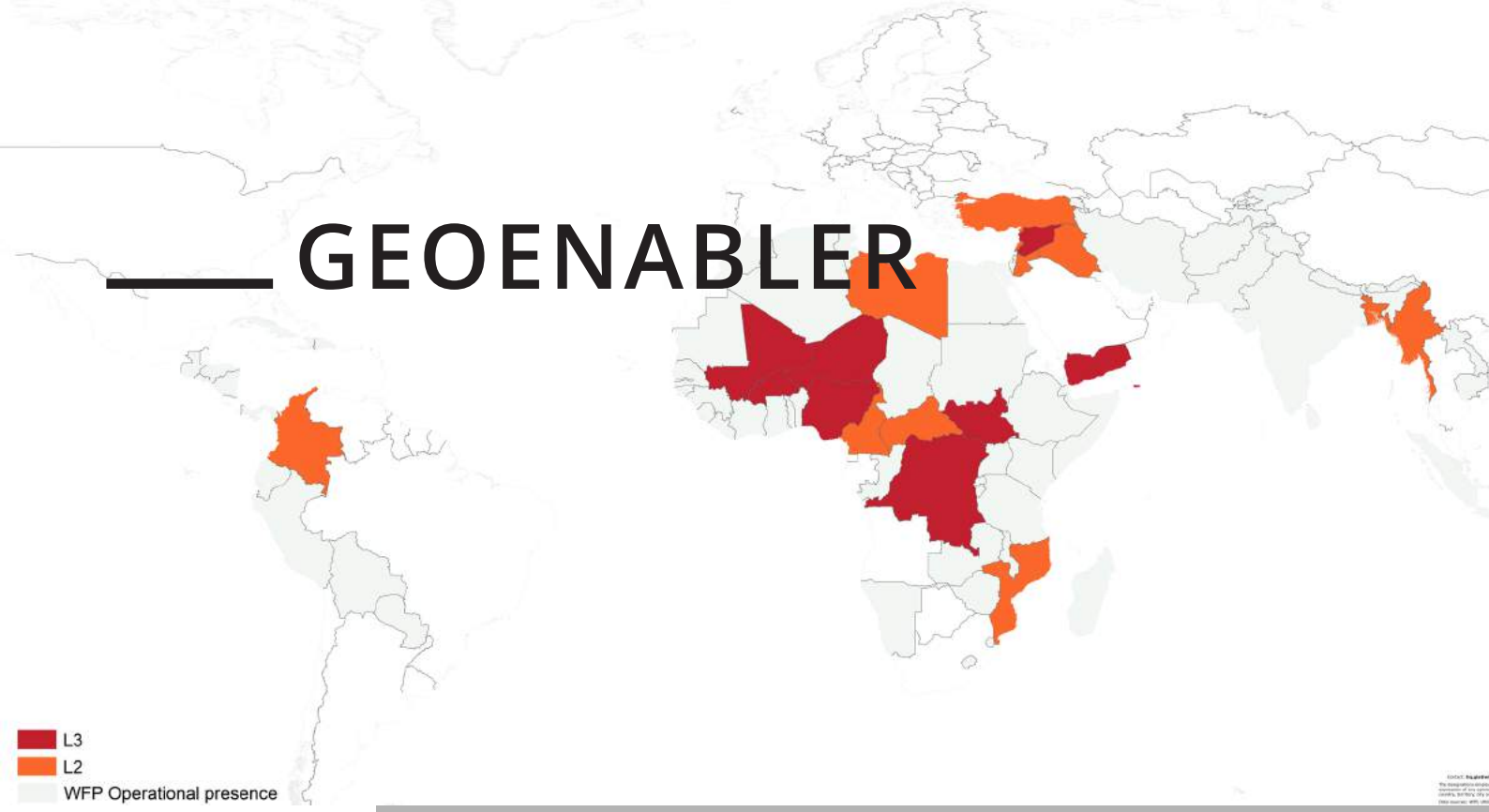
EOSPATIAL
IPPORT UNIT

SPATIAL DATA INFRASTRUCTURE (SDI)

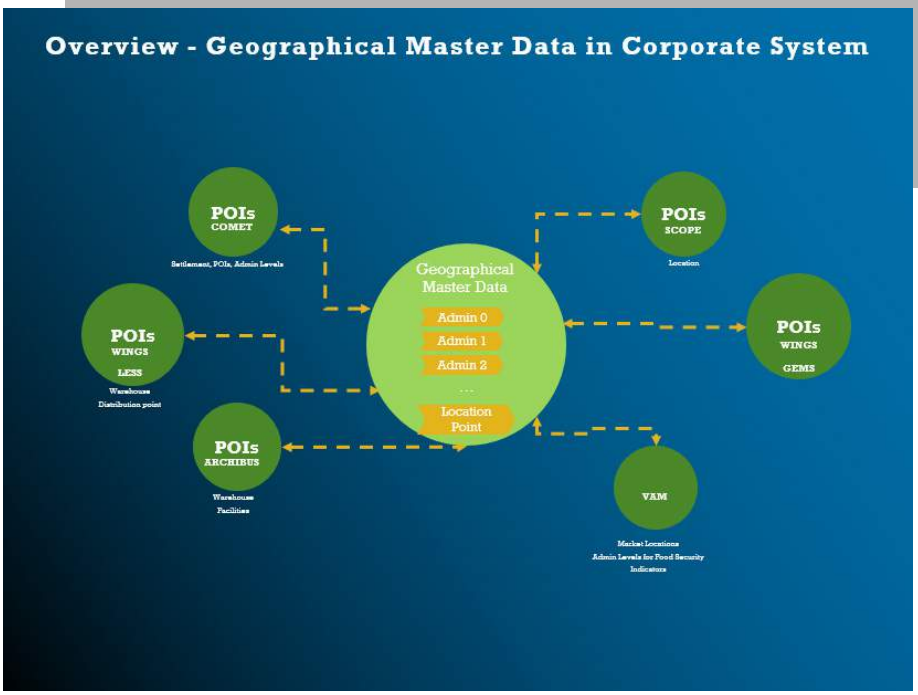


The Spatial Data Infrastructure (SDI) project is the other major pillar of the GIS Infrastructure. The SDI project was launched in 2010 with the objectives to establish a standardized way to store data and synchronize them between HQ, RBs and COs, build capacity on the use of the new infrastructure and 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



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.



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