Copernicus Service

in support to

EU External Action

PRODUCT PORTFOLIO

Copernicus at a Glance

Copernicus is the European Union's Earth Observation programme: a user driven space programme under civil control. Copernicus monitors the Earth using its own dedicated constellation of satellites – the Sentinels – complemented by other satellites provided by Member States and other third parties, as well as utilising a range of non-space ('in situ') data sources. The Copernicus programme supports the protection of the environment, the efforts of Civil Protection and civil security, and contributes to European participation in global initiatives. Copernicus offers six different service lines: Emergency Management, Atmosphere Monitoring, Marine Environment Monitoring, Land Monitoring, Climate Change, and services for Security applications. More information on Copernicus can be found at the following location:

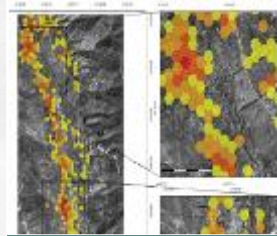http://copernicus.eu.

Copernicus Service in Support to EU External Action

Reference Map

Road Network Status Assessment

Conflict Damage Assessment

Critical Infrastructure Analysis
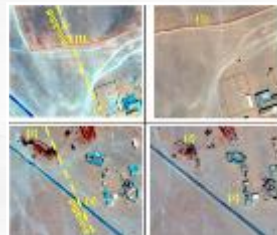

Support to Evacuation Plan

Non-EU Border Map

Camp Analysis

Crisis Situation Picture

Activity Report

Copernicus Service in Support to EU External Action

As a global actor, Europe has a responsibility in promoting stable conditions for human and economic development, human rights, democracy and fundamental freedoms. In this context, a main objective of the EU is to assist third countries in a situation of crisis or emerging crisis and to prevent global and trans-regional threats having a destabilising effect.

In particular the Support to EU External Action (SEA) component will assist the EU in its operations outside EU territory, providing decision makers with geo-information on remote, difficult to access areas, where security issues are at stake. It targets mainly European users but it can also be activated by key International stakeholders, as appropriate under EU International cooperation agreements.

A delegation agreement with the European Union Satellite Centre (EU SatCen) has been signed on 6 October 2016 to support EU external actions with state-of-the-art satellite data imagery and technologies utilised in a secure mode and environment.

Application Domains

The Copernicus SEA services provide strategic support to EU External Action Security stakeholders through the provision of **Earth Observation** (EO) based information. The services are categorised by their application domain:

Political and Armed Conflicts
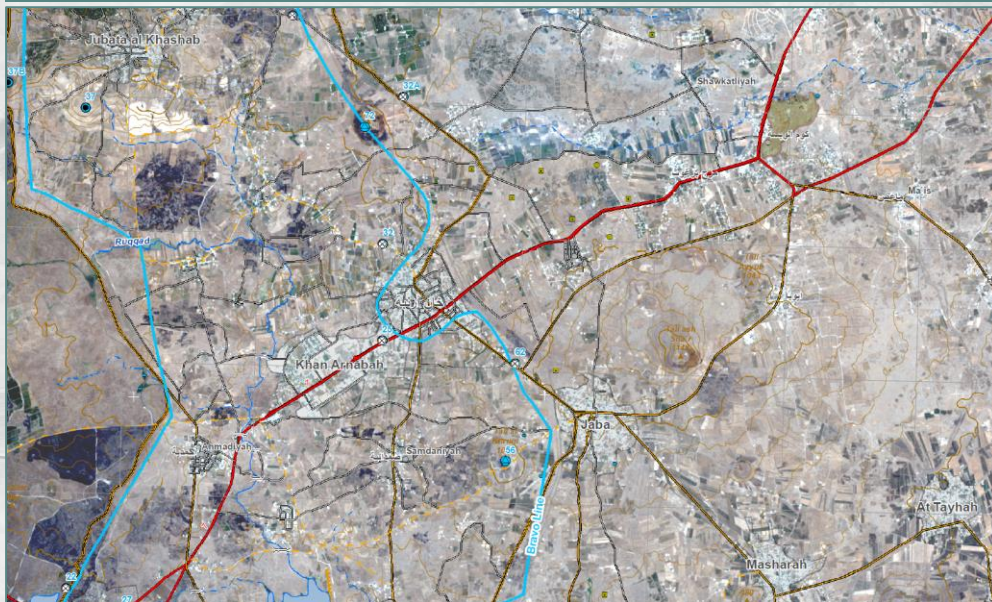
Situation Awareness

Humanitarian Support

Border Survey (outside EU)

Activity Monitoring

REFERENCE MAP

Reference Maps are high quality cartographic products including a wide range of observable features
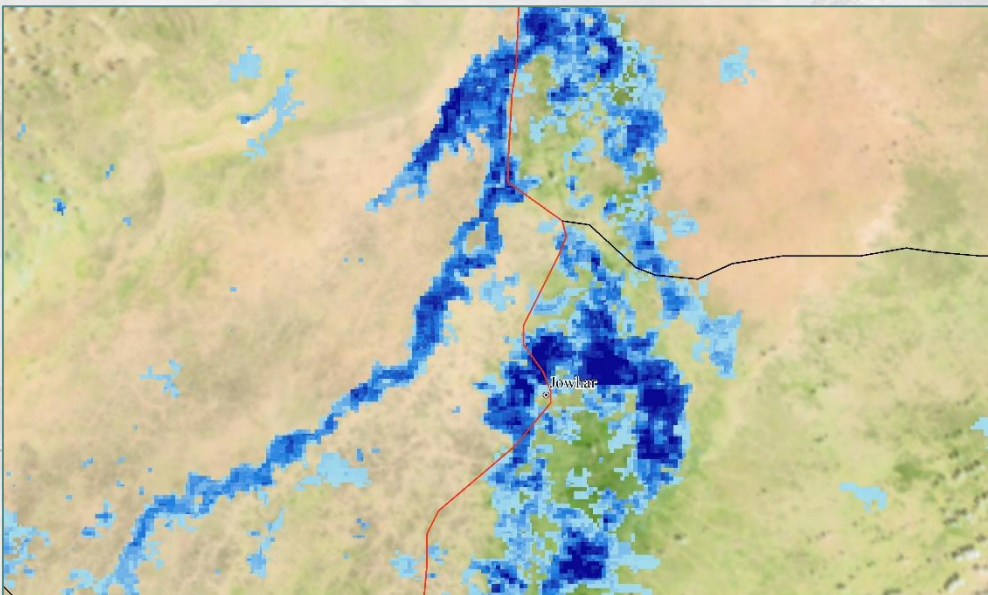
MODE

CRISIS

PREPAREDNESS

INFORMATION LAYERS

- Transportation Network (Main Roads, Harbours, Airfields)
- Populated Areas
- Hydrography
- Administrative Boundaries
- Detailed Transportation Network (All roads classified according to hierarchy, checkpoints, harbours, airfields, train and bus stations)
- Points of Interest (industrial, power production, electricity, military, dams, generic enclosed facilities)
- Topography
- Place Names (multilingual support)
- Land Use/Land Cover

IMAGERY USED

- Optical Imagery (from <1m to 5m)

OBSERVATION MODE

- ☑ On Demand
- ☐ Monitoring

APPLICABLE SCALE

- ☐ 5K – Very Detail (Facilities)
- ☑ 25K – Small Urban Areas
- ☑ 50K – Large Urban Areas
- ☑ 100K – Small Regions
- ☑ 500K – Large Regions

OUTPUT TYPES

- ☑ Printable Map Series (A1 – A3 PDF)
- ☑ Geo-referenced map (A1- A3 .tiff or .jp2)
- ☑ Layer Group (.KML, .gdb, .shp, WMS)
- ☐ Report (PDF) (optionally provided by the service in case the complexity of the results require it)

ROAD NETWORK STATUS ASSESSMENT
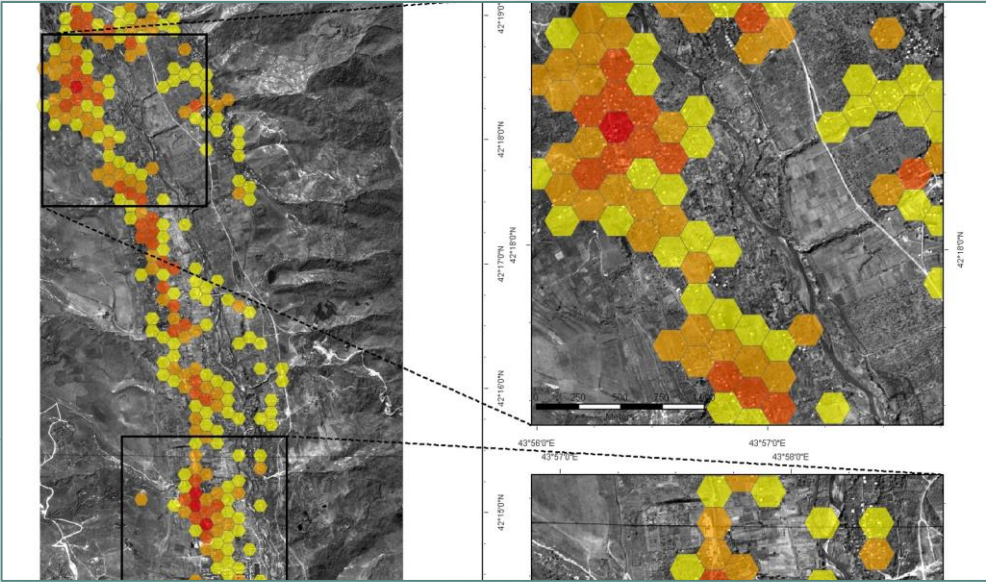

MODE

CRISIS

PREPAREDNESS

INFORMATION LAYERS

- Road Network (basic)
- Populated Areas
- Road Blocks (checkpoints, destroyed, debris, etc.)
- Bridges (operational status)
- Detailed Road Network (Roads classified according to surface)
- Wet Season Impact (optionally added for the case of logistic deployments in tropical regions)

Road Network Status Assessment provides users with up-to-date information of the status of the road network. This information is designed to support the planning of logistic operations in the field.

IMAGERY USED

- Optical Imagery (5m to 250m)
- SAR Imagery (30m to 250m)

OBSERVATION MODE

- ☑ On Demand
- ☐ Monitoring

APPLICABLE SCALE

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CONFLICT DAMAGE ASSESSMENT
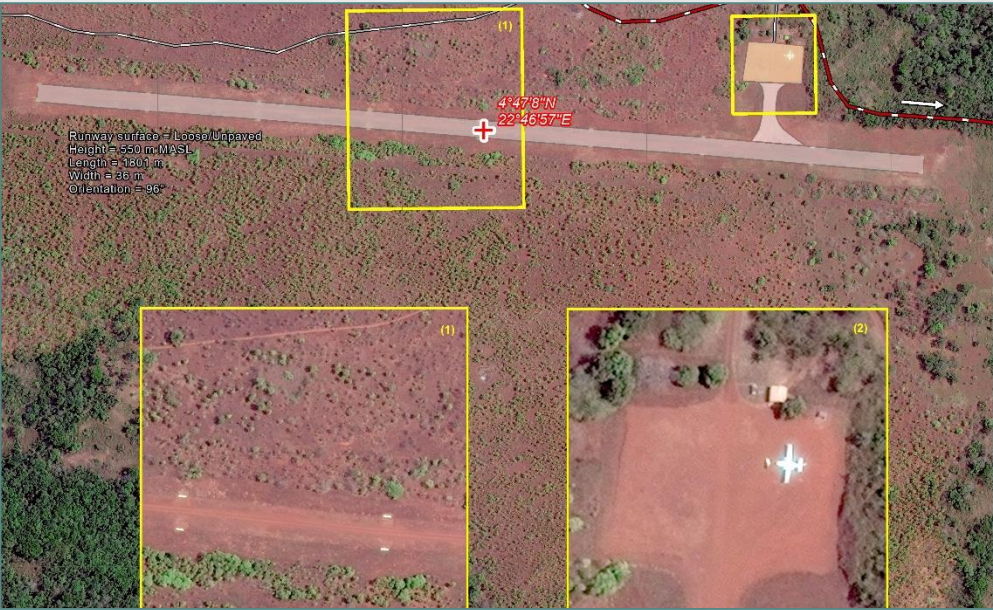

MODE

CRISIS

PREPAREDNESS

INFORMATION LAYERS

- Transportation Network
- Populated Areas
- Distribution of damage (per urban block in urban areas, heat map in disperse areas)
- Damaged buildings
- Points of Interest operational status (Airports, Harbours, Industrial Facilities, Specific buildings, etc.)
- Damage on sites of cultural heritage

Conflict Damage Assessment product uses change detection in order to provide visual interpretation containing information on distribution of damage in a crisis area.

IMAGERY USED

- Optical Imagery (1m to 5m)
- SAR Imagery (1m to 5m)

OBSERVATION MODE

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- ☐ Monitoring

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CRITICAL INFRASTRUCTURE ANALYSIS

Runway surface = Loose/Unpaved
Height = 550 m MASL
Length = 1501 m
Width = 36 m
Orientation = 96°

4°47'8"N
22°46'57"E

MODE | **INFORMATION LAYERS**

CRISIS

PREPAREDNESS
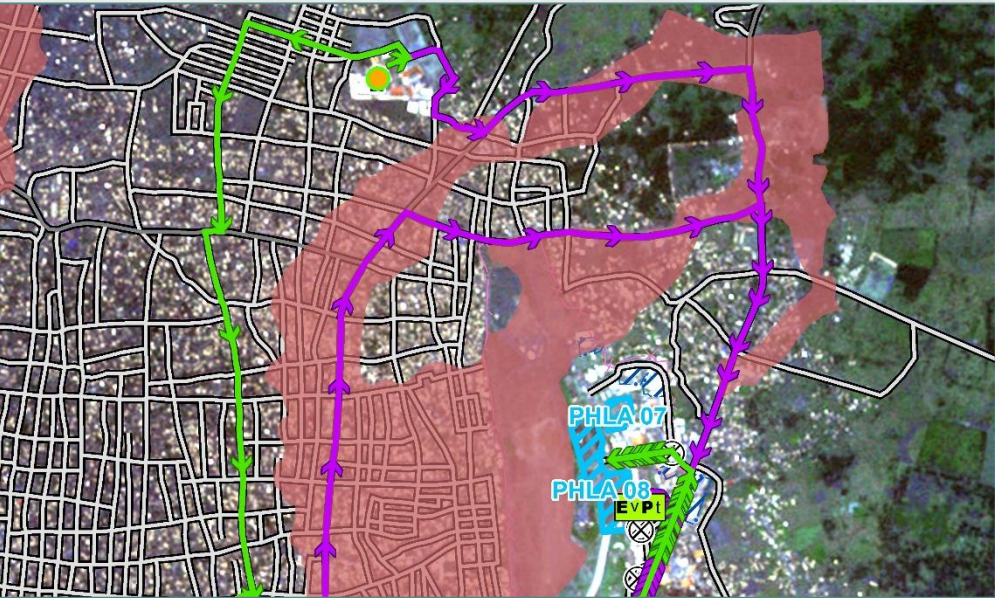
- Critical Infrastructure Operational elements (with operational status)
- Transportation Network
- Enclosure and security measures
- Populated Areas
- Changes in the infrastructure or in the operational status (for monitoring mode)

Critical Infrastructure Analysis *identifies the relevant components of an infrastructure (e.g. power plants, industrial sites, transportation facilities) considered to be critical and assess their operational status.*

IMAGERY USED

- SAR and/or Optical Imagery (from <1m to 5m)

OBSERVATION MODE

- ☑ On Demand
- ☑ Monitoring

APPLICABLE SCALE

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SUPPORT TO EVACUATION PLAN

Support to Evacuation Plan provides geospatial information to support the evacuation of EU citizens from crisis areas.
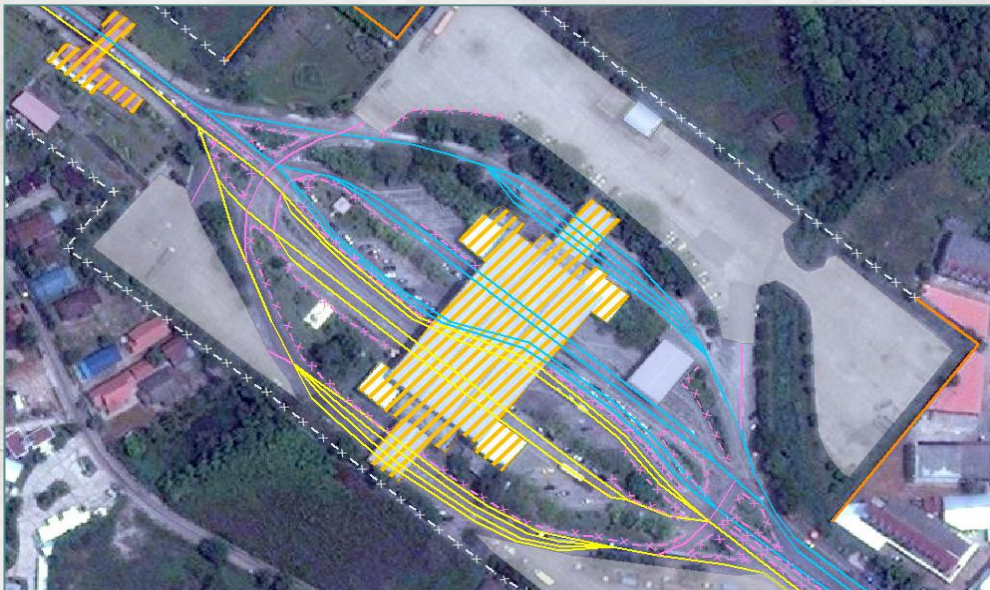
MODE

CRISIS

PREPAREDNESS

INFORMATION LAYERS

- Transportation Network (basic)
- Points of Interest
- Evacuation Routes
- Potential Helicopter Landing Areas
- Gathering Areas
- Road Blocks (checkpoints, destroyed, debris, etc.)
- Detail Transportation Network (classified according to hierarchy, bridges, culverts, tunnels)
- Tools to input Rally Points and generate automatically evacuation routes and convoy routes to the Evacuation Point.

IMAGERY USED

- SAR and/or Optical Imagery (from <1m to 5m)

OBSERVATION MODE

☑ On Demand
☑ Monitoring

APPLICABLE SCALE

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NON-EU BORDER MAP

Non-EU Border Map *provides users with the possibility of acquiring information specific to support decisions about non-EU border issues.*

MODE
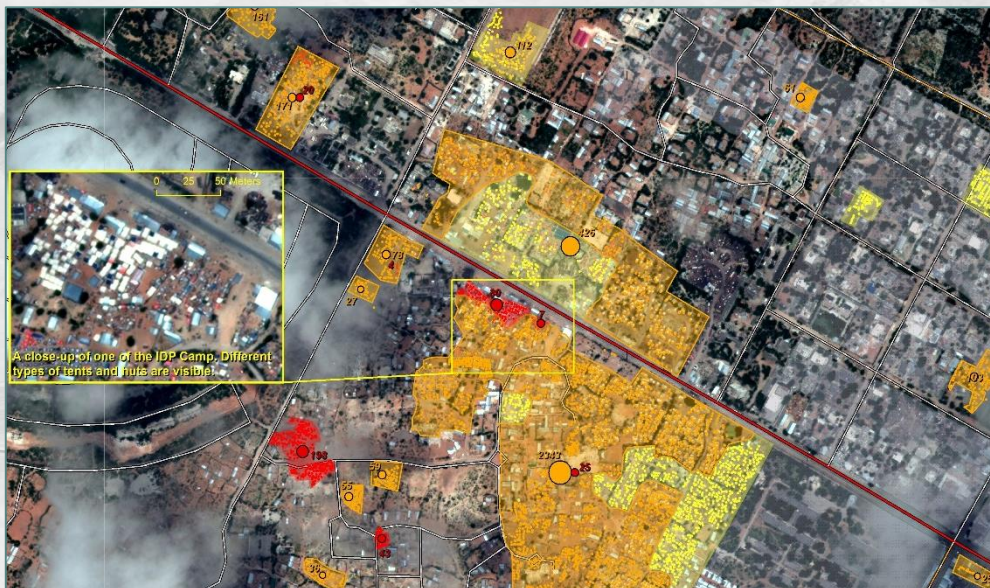
CRISIS

PREPAREDNESS

INFORMATION LAYERS

- Transportation Network (Roads, bridges, fords, ferry crossing points)
- BCPs (Checkpoints, enclosure, capacity, current activity)
- Facilities (power generation, harbours, airports)
- Administrative Boundaries
- Hydrography
- Built up Areas
- Point of Interest
- Land Use/Land Cover (forested areas, swamps, mangroves)

IMAGERY USED

- Optical Imagery (from <1m to 5m)

OBSERVATION MODE

- ☑ On Demand
- ☐ Monitoring

APPLICABLE SCALE

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CAMP ANALYSIS

A close-up of one of the IDP Camp. Different types of tents and huts are visible.
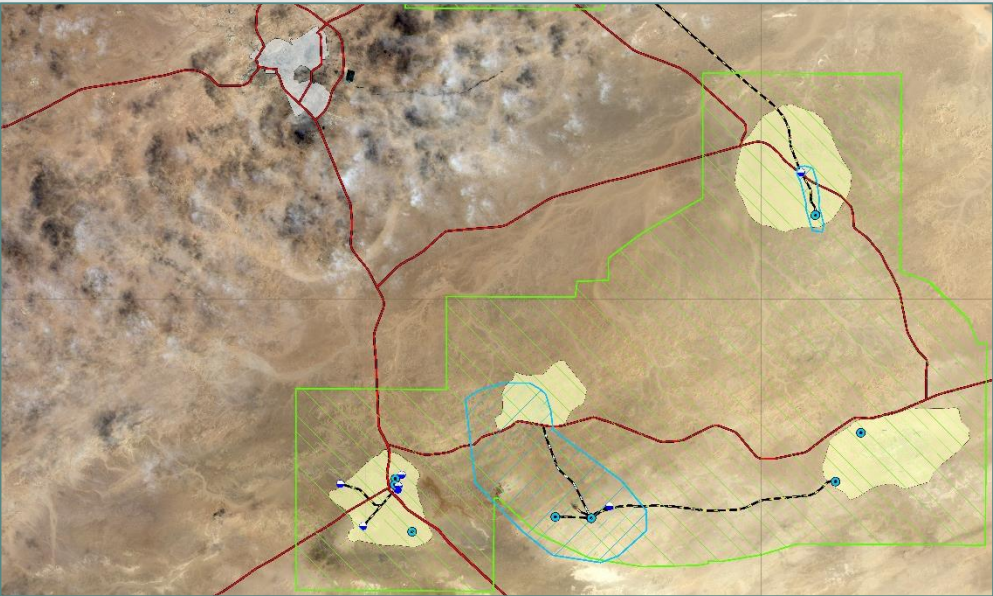
MODE | **INFORMATION LAYERS**

CRISIS

PREPAREDNESS

- Camp dwellings
- Camp non-dwelling buildings
- Changes in the camp (if applicable)
- Transportation Network
- Trends in population changes
- Hydrography
- Enclosure
- Urban areas (non-camp)
- Land Cover/ Land Use (agricultural exploitation)

Camp Analysis is a product oriented to support decision making regarding displaced population (either internally displaced or refugees).

IMAGERY USED

- Optical Imagery (from <1m to 5m)

OBSERVATION MODE

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- ☑ Monitoring

APPLICABLE SCALE

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CRISIS SITUATION PICTURE

Crisis Situation Picture is a product designed for the overall assessment of the severity of a conflict/crisis and its consequences.
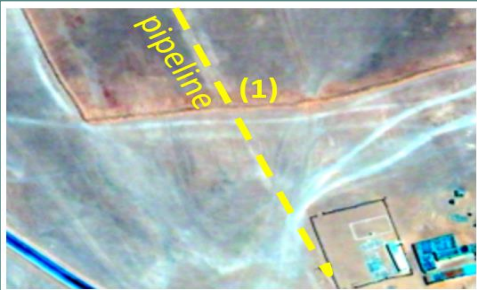
MODE

CRISIS

INFORMATION LAYERS

- Ancillary information related to the triggering crisis
- Human Geography layers
- Administrative boundaries
- Land use/land cover
- Other ancillary data (transportation network, hydrography, etc.)

IMAGERY USED

- Freely available ancillary information
- Optical Imagery (10m to 500m)

OBSERVATION MODE

☑ On Demand
☑ Monitoring

APPLICABLE SCALE

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ACTIVITY REPORT

Activity Report *is a product focused in providing the user with an analysis of a given human activity. By its nature, this product is very flexible and can be applied to a variety of situations.*

MODE	INFORMATION LAYERS
CRISIS	▪ Indicators of activity
	▪ Areas under construction
	▪ Areas abandoned or without activity
	▪ Detected changes
	▪ Features relevant to the activity monitored

IMAGERY USED

- Optical Imagery (from <1m to 5m)
- SAR Imagery (from <1m to 5m)
- Pre and post event

OBSERVATION MODE

☑ On Demand
☑ Monitoring

APPLICABLE SCALE

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