

# Panorama de UNITAR-UNOSAT y del sistema de coordinación de mapeo del GDACS

**Presentador**  
**Luca Dell'Oro**

21 feb 2017

# Reseña

- **Panorama del Programa de aplicaciones satelitales operacionales del UNITAR (UNOSAT)**
- **Marco de mapeo rápido humanitario del UNOSAT**
- **Estudios de caso operativos**
  - Amenazas naturales
  - Emergencias complejas
- **Plataformas y herramientas del UNOSAT para compartir datos y la coordinación de mapeo satelital**
  - Satellite Mapping Coordination System – SMCS del GDACS
- **Preguntas**

La finalidad de la lección es presentar a los participantes un panorama del servicio de mapeo rápido humanitario del UNOSAT para apoyar la planificación y coordinación de organismos de la ONU y estados miembros de la ONU durante crisis humanitarias.

**Al concluir la lección los participantes deben poder:**

- Describir las actividades operativas del UNOSAT incluso el análisis derivado de satélites en apoyo a operaciones humanitarias.
- Describir como el Sistema de coordinación de mapeo satelital GDACS-Satellite Mapping Coordination System (SMCS) apoya el intercambio de datos y la coordinación de mapeo satelital durante desastres graves.

## Funciones principales del instituto

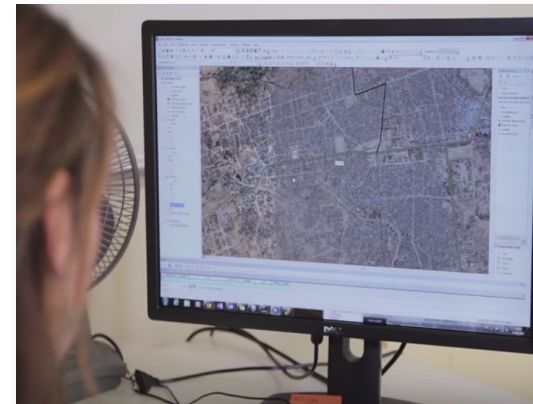
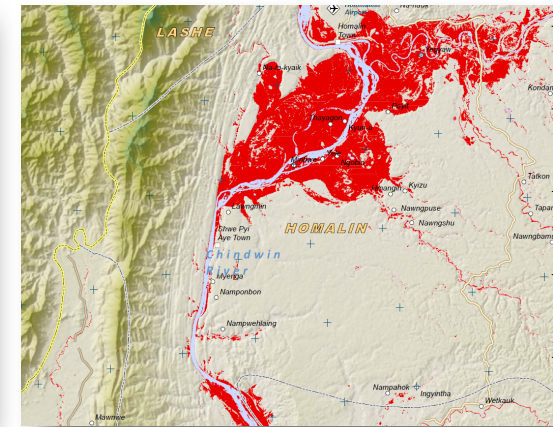
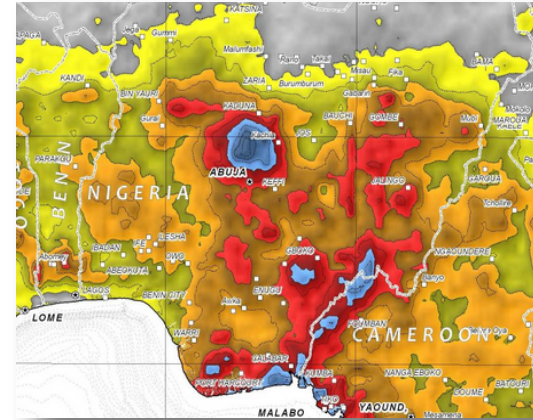
- Diseñar y ofrecer **capacitación** innovadora
- Facilitar el **intercambio de conocimiento y experiencias**
- Realizar **investigaciones** sobre y ser pioneros de estrategias de aprendizaje innovadoras
- Aconsejar y apoyar gobiernos, la ONU y otros socios con **servicios** relacionados con el conocimiento **basado en la tecnología**
- **9 programas** que ofrecen capacitación y desarrollo de capacidades en áreas de enfoque específicas

## Áreas temática

- Capacidad para la Agenda 2030
- Fortalecimiento del multilateralismo
- Avanzar la sustentabilidad ambiental y el desarrollo verde
- Mejorar la resiliencia y la ayuda humanitaria
- Promover la paz sustentable
- Promover el desarrollo económico y la inclusión social

# UNOSAT: UNITAR Programa de aplicaciones satelitales

- Una **programa operativo** del UNITAR sirviendo la ONU, organismos internacionales y gobiernos
- Dedicado completamente al **análisis de imágenes satelitales**, a las aplicaciones de tecnologías de información geoespacial, a la **capacitación y desarrollo de capacidades**
- Operativo desde **2001**
- Actualmente **30 empleados**



[www.unitar.org/unosat](http://www.unitar.org/unosat)



## ANÁLISIS & MAPEO


Análisis satelital, servicio climático, Investigación e innovación aplicada e innovación



## CAPACITACIÓN Y DESARROLLO DE CAPACIDADES

Prácticas, a nivel nacional y regional, respaldo técnico

Servicios de apoyo geoespacial y transferencia de conocimientos



# Capacitación y desarrollo de capacidades

# Actividades de capacitación y de desarrollo de capacidades

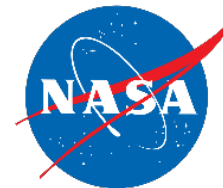
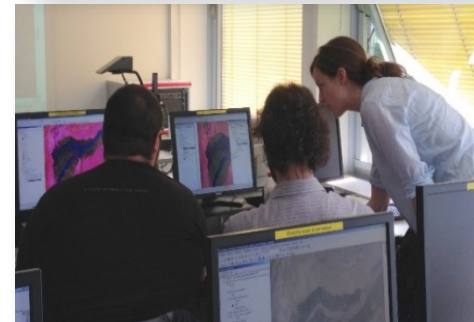
Cursos nivel maestro

Cursos básicos y avanzados

Programas de desarrollo de capacidades

Talleres e intercambio de información

- Diseñamos y brindamos capacitación (**básica** y **avanzada**) del uso y las aplicaciones de la tecnología de información geoespacial (Geospatial Information Technology o GIT) para la reducción del riesgo de desastres.
- Los cursos se realizan de manera presencial o in situ o en la central en Ginebra, Suiza y pueden ser modificados según las necesidades.
- **Público objetivo:** **Profesionales** de:
  - Gobiernos nacionales
  - Organismos regionales e internacionales
  - Organismos de la ONU
  - La academia
  - El sector privado







# Análisis y mapeo satelital en apoyo a operaciones humanitarias

[www.unitar.org/unosat/rapid-mapping](http://www.unitar.org/unosat/rapid-mapping)

# Servicio de mapeo rápido humanitario de UNOSAT

- UNOSAT ofrece Análisis de imágenes satelitales durante Emergencias humanitarias – Desastres naturales y situaciones de conflicto (Mapas, datos listos para el GIS, estadísticas e informes).
- Varios cientos de miles de km<sup>2</sup> de imágenes satelitales de sensores comerciales y científicos son adquiridos y procesados por UNOSAT (al año): de resolución muy alta (50 cm), a muy baja (1km)

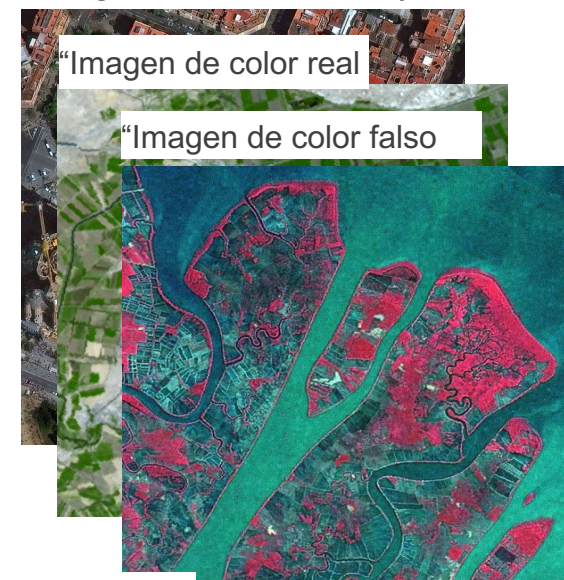
## ÓPTICOS:

DG (Worldview-1/2/3, GeoEye ) ; Pléiades ; MODIS, Landsat-8 ; Sentinel-1/2, Landsat 8, Deimos, KOMPSAT-2/3

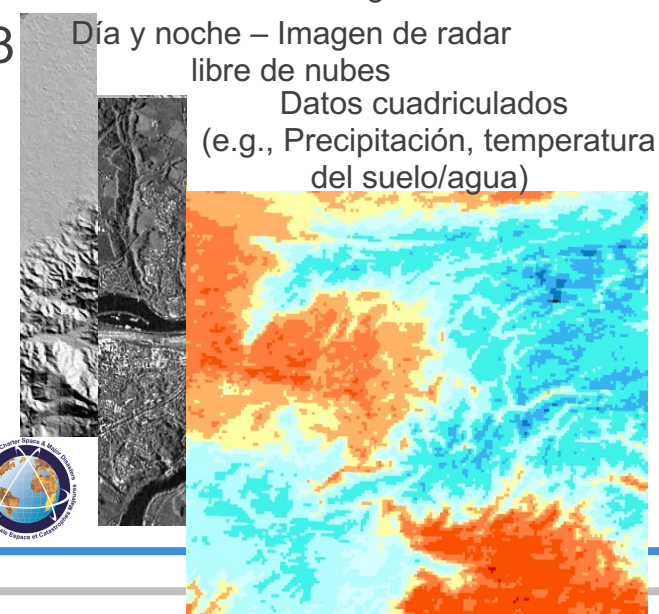
## RADAR :

- Sentinel-1 / Radarsat-2 / TerraSAR-X / CosmoSkyMed/ RISAT, ALOS-PALSAR

Imagen de resolución muy alta



Modelos de elevación digital

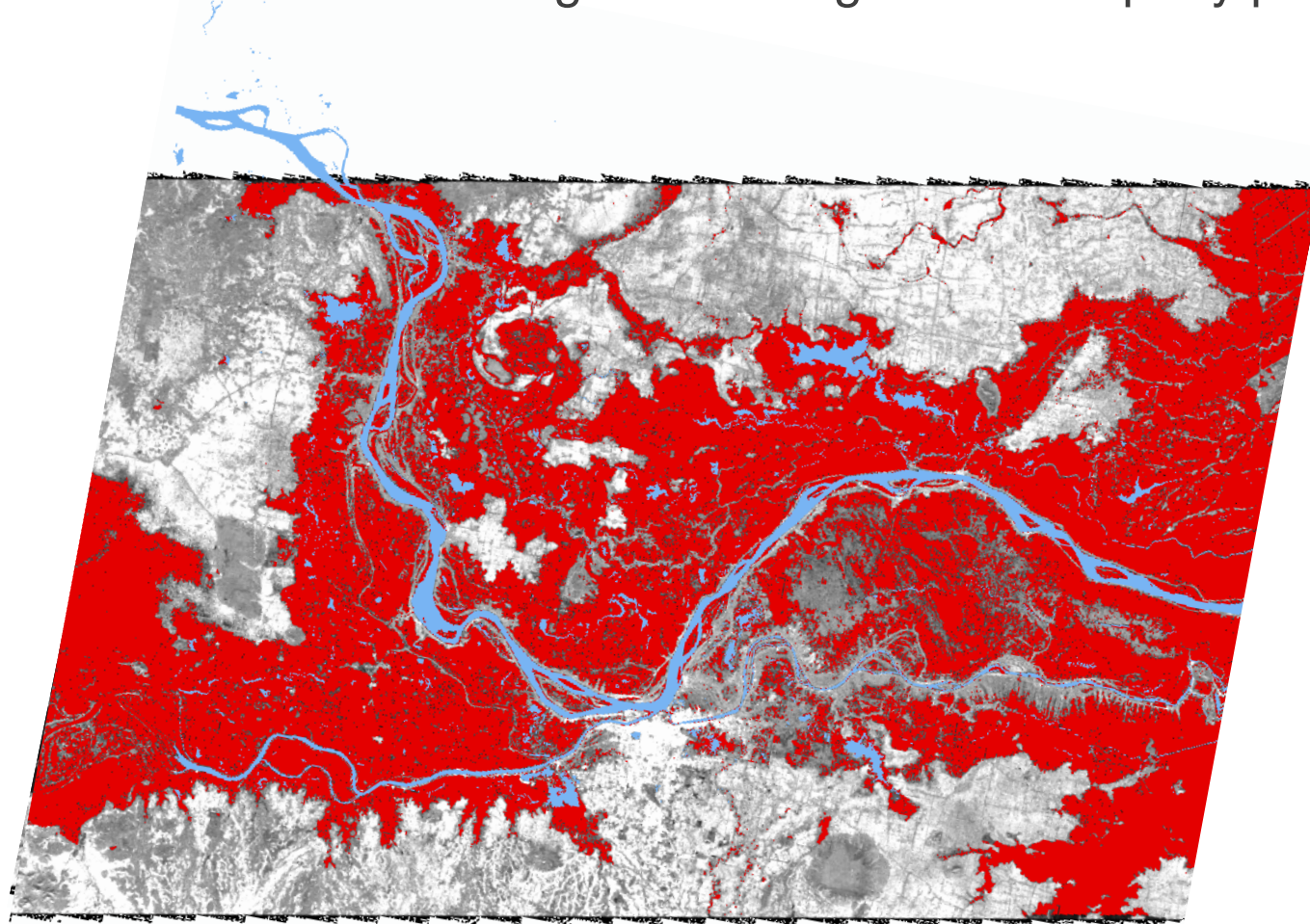


# Beneficios de las imágenes satelitales en la respuesta a

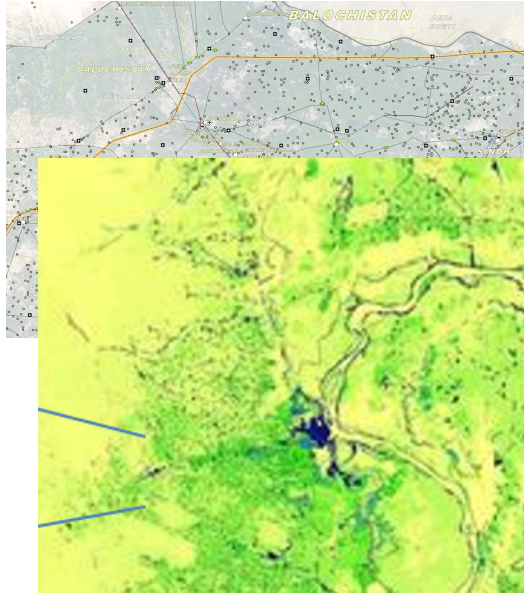
- **Flexibilidad de escala**  
Muchos diferentes sensores ópticos y de radar orbitando la tierra capaces de proporcionar información basada en evidencias en escala global, regional y local.
- **Adquisición de imágenes diaria a semanal**  
Capacidad de monitorear desastres de inicio repentino/lento así también como crisis prolongadas en el mundo entero.
- **Multiplicidad de bandas espectrales**  
Discriminación fina de características físicas y espectrales de objetos y aspectos a nivel del suelo (para evaluar impactos y daños: edificios, infraestructura, caminos, áreas agrícolas etc.).
- **Falta de límites políticos o físicos**  
Adquisición de imágenes cubriendo miles de km<sup>2</sup>. Ideal para obtener información acerca de áreas remotas, inaccesibles o/y políticamente sensibles..
- **Objetividad de información-objetividad / basada en evidencia**  
Como los satélites registran lo que realmente existe en el suelo, nadie puede argumentar que la información ha sido omitida o cambiada (denominador común para declarar hechos y base para negociaciones)



Extracción de extensión de aguas de imagen satelital pre y post evento



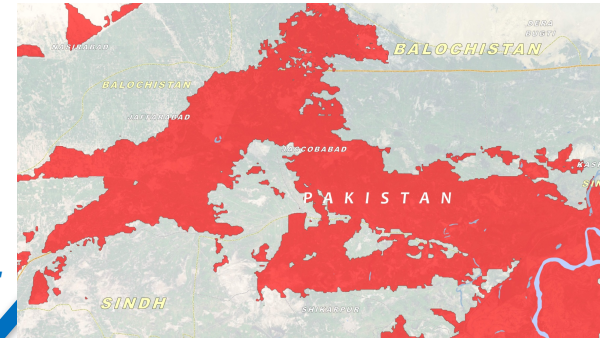
## Análisis de exposición/impacto preliminar



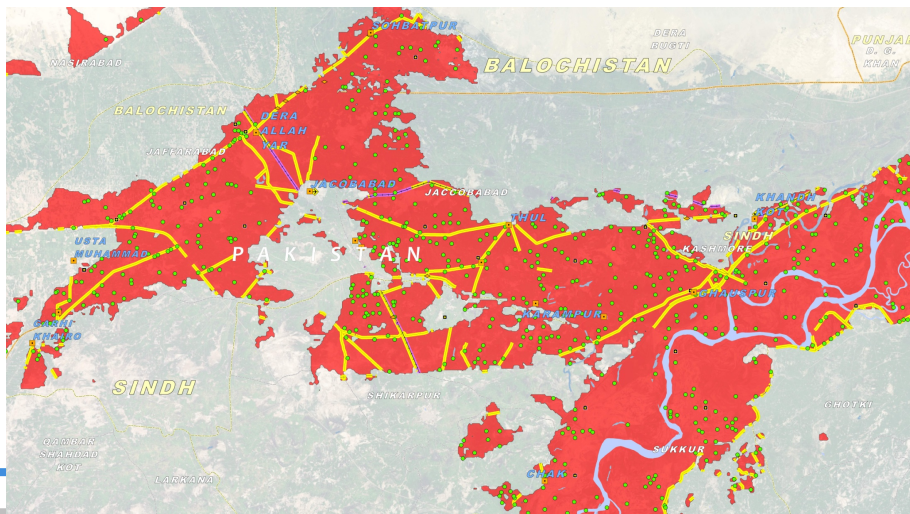
Datos de referencia de vector

Distribución poblacional

+ Análisis de aguas de inundación de UNOSAT



Combinación de datos permite un análisis preliminar de exposición detallado y comprensivo



Summary of Flood-Affected Populated Places and Infrastructure

Province	BALUCHISTAN	KHYBER PAKHTUNKHWA	PUNJAB	SINDH	Others	Total
Village Count	174	808	4,037	2,463	10	7,492
Towns / Cities	6	39	54	36	0	135
Health facilities	12	20	70	88	0	190
Bridges	11	183	139	95	1	429
Roads (km)	313	772	1,613	2,331	21	5,051
Railways (km)	10	27	169	199	0	406

## Interpretation visual de nivel de daños a edificios de imagen de resolución muy alta Pre y Post

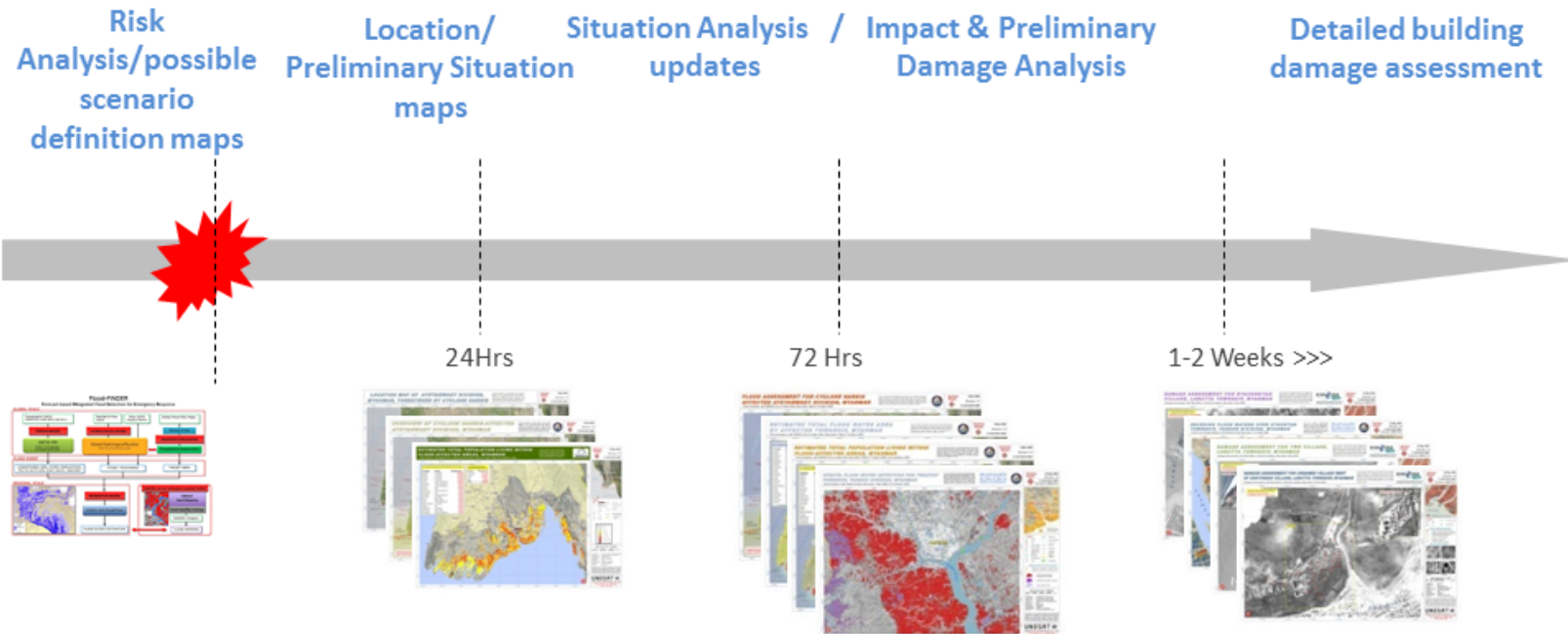
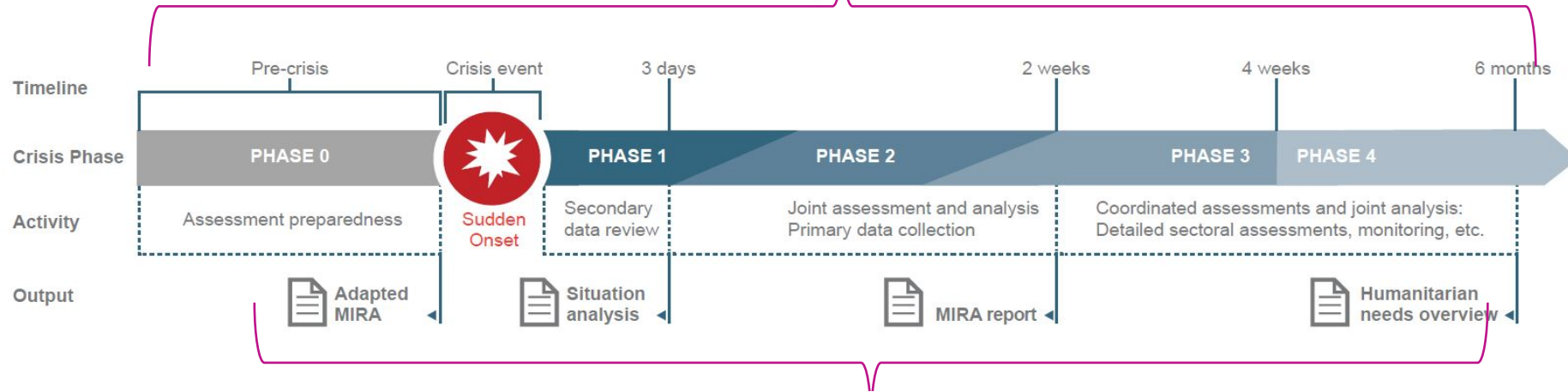


“Una emergencia compleja o un **desastre grave** es una crisis humanitaria pluriforme en un país, una región, o sociedad donde hay un total o **considerable debilitamiento de la autoridad y la capacidad de respuesta** que requiere una respuesta multi-sectorial, internacional que **va más allá del mandato o la capacidad de cualquier organismo por sí solo y/o programa actual de la ONU para el país afectado.**”

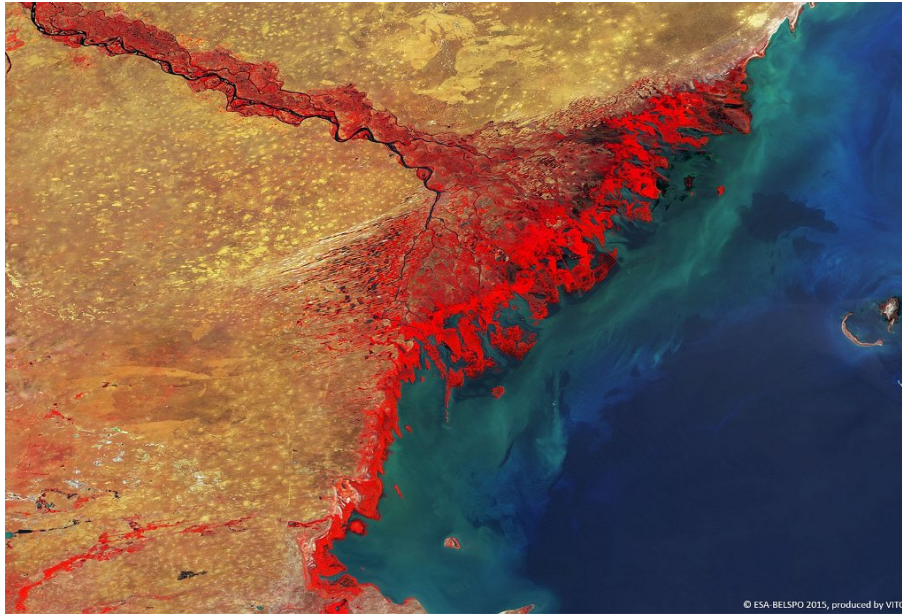
Comité Permanente Entre Organismos, dic. 1994.



# Esquema operativo de mapeo rápido de UNOSAT







## Desastres naturales:

- ✓ Inundaciones
- ✓ Sequías
- ✓ Ciclones
- ✓ Derrumbes
- ✓ Terremotos
- ✓ Erupciones volcánicas

## Conflictos:

- ✓ Mapeo de refugiados y de personas internamente desplazadas
- ✓ Evaluación de daños de conflictos
- ✓ Patrimonio de la Humanidad
- ✓ Etcétera..



# Haití - Huracán Matthew 2016: Método geoespacial de estimar la población expuesta/ impacto y daños a infraestructura (Desastre natural)

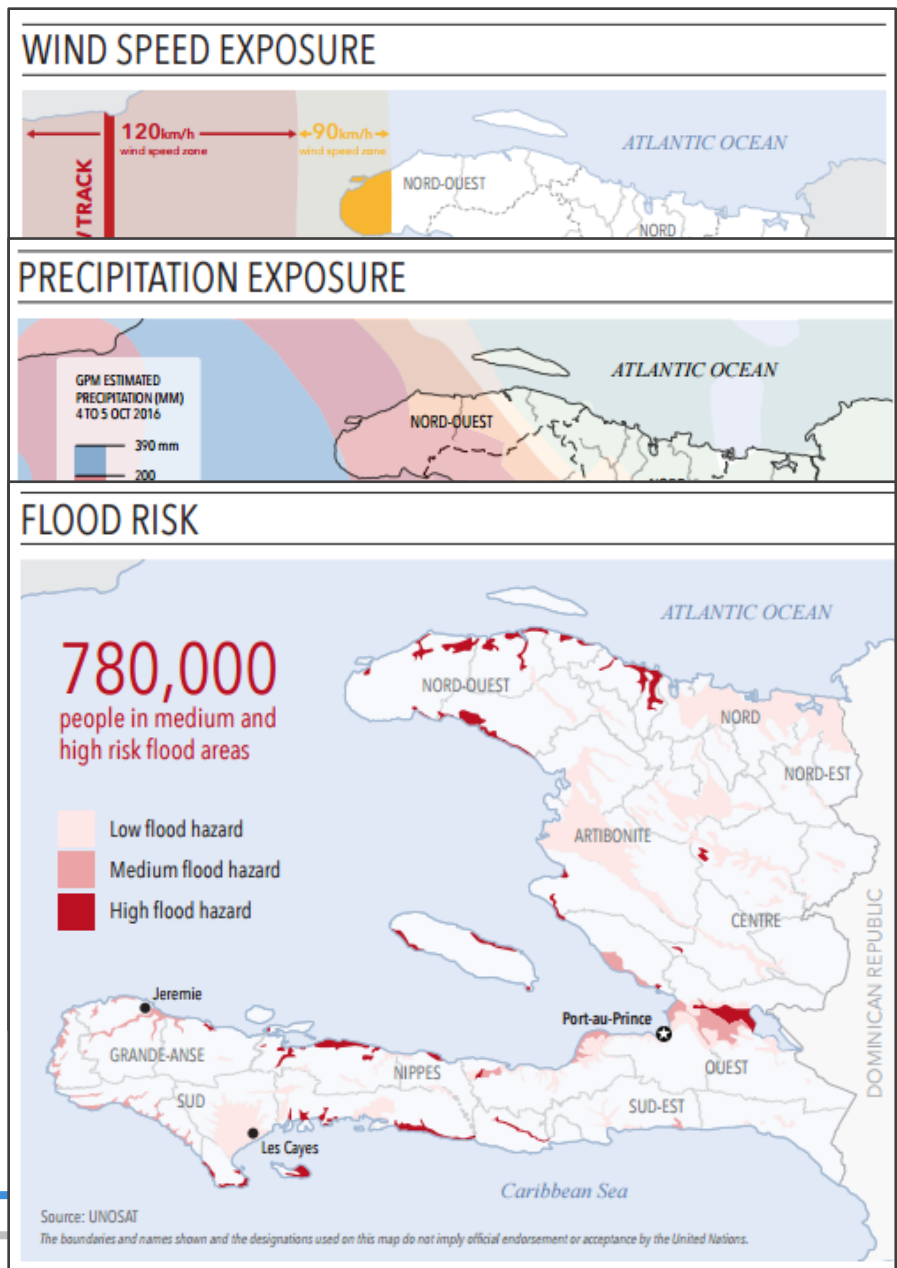
## 2016 FLASH APPEAL

OCTOBER



HAITI

**Huracán Matthew**, una tormenta de Categoría 4 con vientos sostenidos de 235 km/h, azotó violentamente el sur-oeste de Haití el 4 de octubre causando daños, inundaciones y desplazamientos extendidos.



# Haiti - Huracán Matthew 2016: Método geoespacial de estimar la población expuesta/ impacto y daños a infraestructura (Desastre natural)

Análisis de daños a edificios, incluso una evaluación de condiciones de la red de transporte y ubicaciones de sitios de reuniones de personas improvisados.

## Analysis Summary: Area 1, Area 2, Area 3 & Area 4



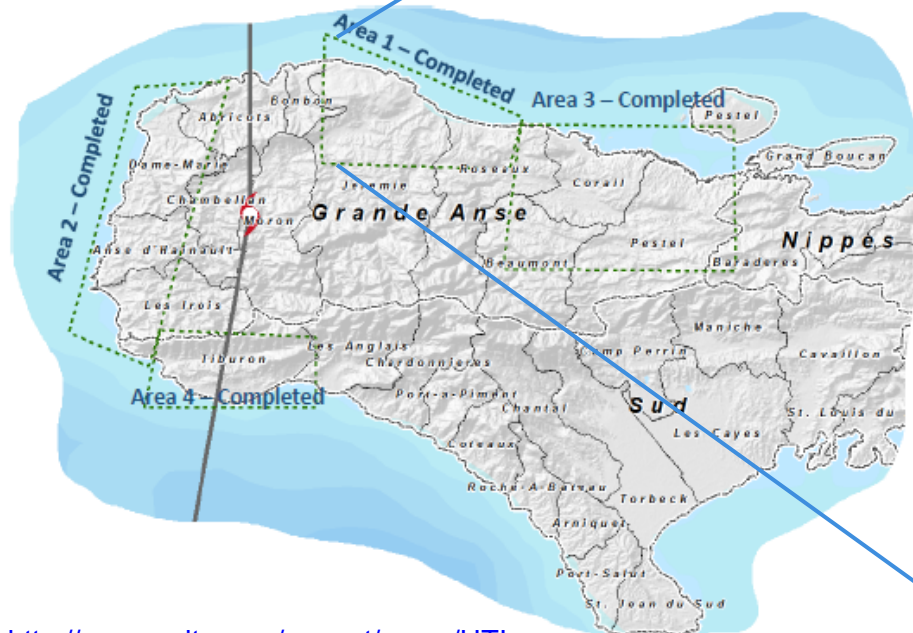
**40,696**  
Buildings/structures damages



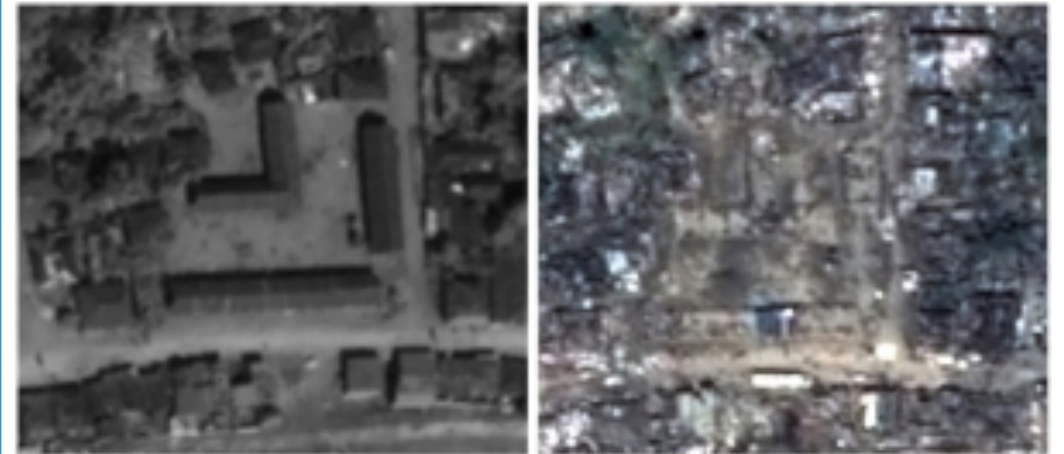
**1,497**  
People gathering sites



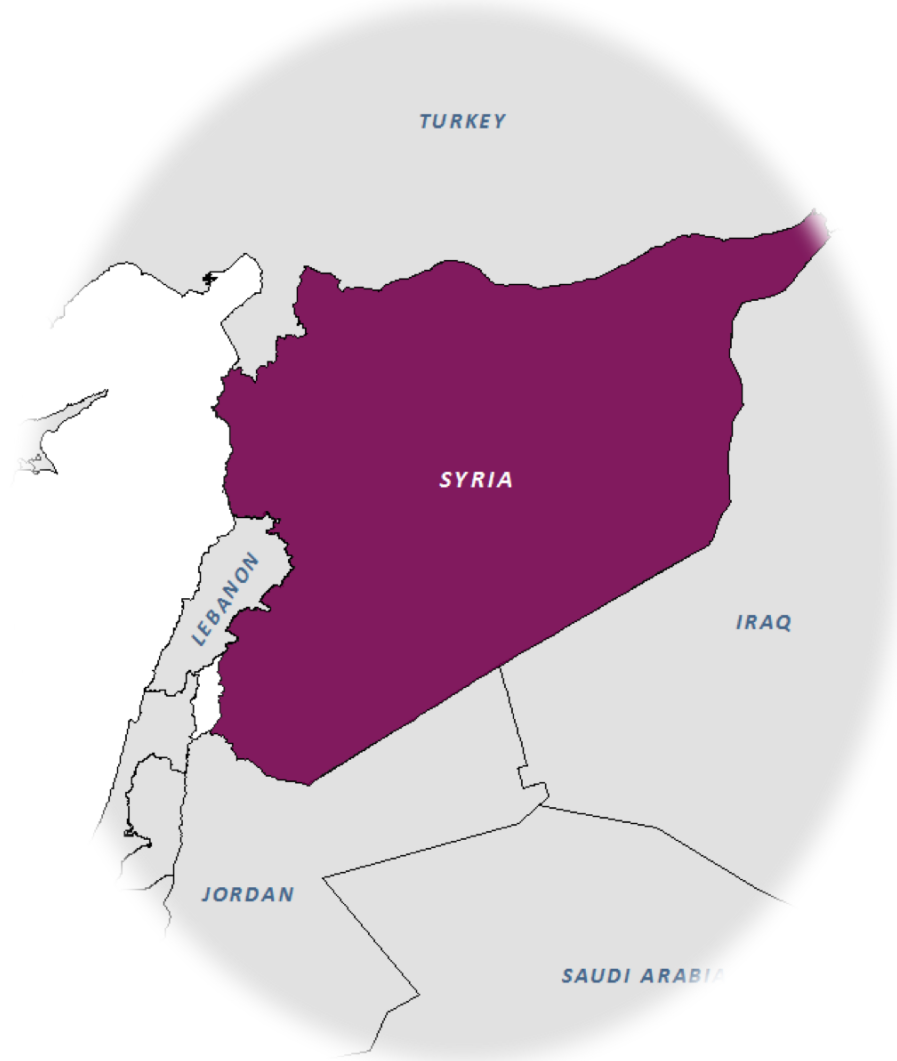
**508**  
Road obstacles



Edificios y/o estructuras dañados en Marfranc, sección comunal



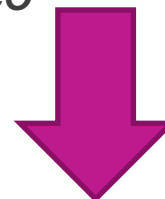
<http://www.unitar.org/unosat/maps/HTI>



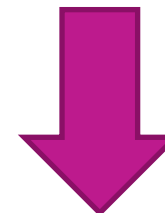
Desde que el conflicto en Siria comenzó en marzo de 2011, la comunidad humanitaria requiere información para planificar la entrega eficiente de ayuda humanitaria a la población afectada y a personas necesitadas.

Debido a las dificultades de accesibilidad en áreas de conflicto, **UNITAR-UNOSAT ha sido solicitado por diferentes actores humanitarios para monitorear la situación del conflicto usando imágenes satelitales y para brindar análisis basado en evidencia**

**ESTABLECER UN SISTEMA DE MONITOREO HUMANITARIO DINÁMICO**



**EVALUACIÓN DE DAÑOS EN CENTROS URBANOS**



**MAPEO DE REFUGIADOS, PERSONAS DESPLAZADAS Y MIGRANTES**

Presencia militar en las afueras de Jisr Al Shugar, Gobernación de Idlib

Monitoreo de centros críticos: Evaluación de daños a mercados

Oleoductos

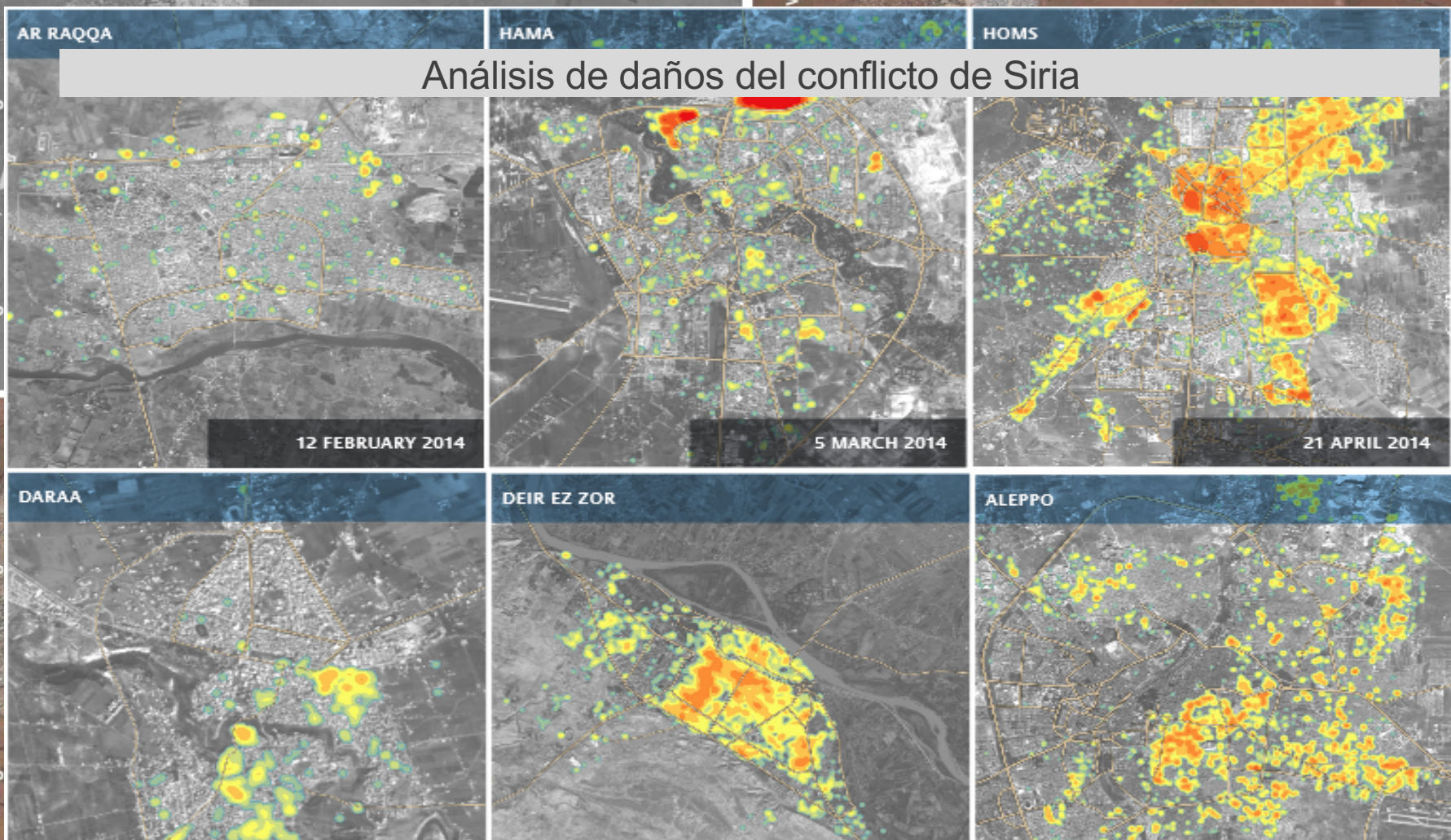
Población desplazada

Monitoreo de campamentos de refugiados

Análisis de daños del conflicto de Siria


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A satellite in space with solar panels, viewed from a distance. The satellite is positioned in the center of the frame, with several large solar panel arrays extending outwards. The background is a deep blue space with a thin layer of Earth's atmosphere visible at the bottom.

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Plataformas y herramientas del  
UNOSAT para el intercambio de datos y  
el Sistema de coordinación de mapeo  
satelital del GDACS

<https://gdacs-smcs.unosat.org/>


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El Sistema Mundial de Alerta y Coordinación de Desastres (**Global Disaster Alert and Coordination System o GDACS**) fue establecido en 2003 por las Naciones Unidas y la Comisión Europea para llenar la laguna de información inmediatamente después de desastres naturales repentinos..

- El GDACS está **diseñado para alertar a la comunidad internacional en caso de desastres repentinos** que posiblemente requieran ayuda internacional y para facilitar el intercambio de información internacional y la coordinación en la primera fase de un desastre.
- El GDACS anhela **apoyar a estados miembros y organizaciones de beneficencia en el proceso de toma de decisiones** por medio de varias herramientas y servicios ofrecidos en tiempo casi real a través de la plataforma en línea.
- Los servicios y herramientas ofrecidas por el GDACS son:
  - **Alertas de desastres automáticas**
  - **Estimaciones de impacto automáticas**
  - **Plataforma de coordinación en tiempo real para gestores de desastres**
  - **Sistema de coordinación de mapeo satelital (Satellite Mapping Coordination System o SMCS)**
  - **Una comunidad de práctica**

# Global Disaster Alert and Coordination System (GDACS)\*





GDACS is a cooperation framework between the UN managers worldwide to improve alerts, information major sudden-onset disasters.



GDACS is a cooperation framework between the United Nations, the European Commission and disaster managers worldwide to improve alerts, information exchange and coordination in the first phase after major sudden-onset disasters.

United Nations and the European Commission

Global Disaster Alert and Coordination System

HOME ALERTS VIRTUAL OSOCC **DATA, MAPS & SATELLITE IMAGERY**





Global Disaster Alert and Coordination System

HOME ALERTS VIRTUAL OSOCC **DATA, MAPS & SATELLITE IMAGERY** SCIENCE PORTAL ABOUT GDACS


Data, Maps and Sat GDACS Platform Satellite Maps IWG-SEM

**Latest disaster alerts**






**EARTHQUAKES**

-  Ecuador (5.5M) 31 Jan 14:22UTC
-  Vanuatu (5.9M) 30 Jan 23:35UTC
-  Southwest Indian Ridge (5.8M) 29 Jan 16:42UTC
-  Kermadec Islands, New Zealand (5.7M) 29 Jan 14:59UTC

**TROPICAL CYCLONES**

-  THREE-17 Australia (83.3km/h) 29 Jan 06:00UTC - GTS

**FLOODS**

-  Honduras 01 Feb 00:00UTC
-  Zimbabwe 01 Feb 00:00UTC
-  Peru 30 Jan 00:00UTC
-  Philippines 31 Jan 00:00UTC FL-2017-000010-PHL
-  Mozambique 30 Jan 00:00UTC FL-2017-000012-MOZ

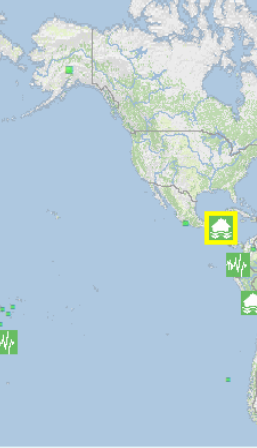
Disasters in past 4 days.

- [See smaller and archived alerts...](#)
- [Search alerts...](#)
- [About thresholds and models](#)
- [About earthquake selection](#)

**Virtual OSOCC**

RECENT AND OPEN EMERGENCIES

**Overview map of latest disaster alerts**



Map of disaster alerts in the past 4 days. Last updated: 01 Feb 2017 00:00 UTC. European Union, 2015. Map produced by EUMETSAT and the European Union.

**Data, Maps and Satellite Imagery**

**Event-based data and information**

Most information in GDACS is organized by event. GDACS collects and organizes several data types:

- **GIS data:** In-situ sensor data, model output data, priority areas, baseline data, satellite image derived data (examples: flood extent, earthquake damage assessment, landslide extent) and more.
- **Media information:** mass and social media, specifically related to events
- **Field data:** reports, photos/videos, GEO-PICTURES and more

**Maps**

GDACS offers automatic links to map products such as baseline maps, situation specific maps, damage assessments and web-maps. These maps are integrated by event in the [VirtualOSOCC](#).

**Satellite imagery**

Satellite imagery is served as web-services when copyright allows for it. Most of the time, satellite image derived products, such as PDF and online web-maps, as well as for example flood extents and earthquake damage assessments derived from satellite imagery are the most useful products for early responders. These products are also served as web-services for in-field or headquarter mapping by UN, NGOs and national entities, in VirtualOSOCC and/or directly from the producing entity.

VirtualOSOCC facilitates on-demand map requests that are handled by UNITAR/UNOSAT, who coordinates the map production and dissemination among map producers worldwide in the early disaster phase. VirtualOSOCC users can also request triggering of the [International Charter - Space and Major Disasters](#) through GDACS/VirtualOSOCC, which then goes for review by OCHA and UNOSAT for potential activation.

**GDACS Satellite Mapping Coordination System (SMCS)** is a tool to inform of on-going and past satellite imagery analyses for specific events. It allows users to see which events are analysed by whom. This contributes to a horizontal (as opposed to top-down) coordination and to reduce duplication of efforts. The SMCS can be seen as a discussion forum and operational coordination tool for satellite image analysis professionals. GDACS encourages all satellite imagery analysis entities to contribute to the SMCS. To contribute please contact [maps@gdacs.org](mailto:maps@gdacs.org)

UNITAR/UNOSAT leads the GDACS working group on maps and satellite imagery and encourages all relevant entities to participate in this work, ensuring a close link to the GDACS user community. The [GDACS Satellite Mapping Coordination System \(SMCS\)](#) is a tool for GIS-experts working with satellite imagery for specific events. It allows users to see which images are collected where and which entity is working on what type of analysis.

**Satellite Mapping Overview**

Title	Modified Date	Clicks
<a href="#">Satellite Mapping Overview</a>	1/31/2017	21
<a href="#">Satellite Mapping Overview</a>	1/24/2017	88
<a href="#">Satellite Mapping Overview</a>	1/17/2017	123
<a href="#">Satellite Mapping Overview</a>	1/10/2017	140
<a href="#">Satellite Mapping Overview</a>	12/19/2016	223
<a href="#">Satellite Mapping Overview</a>	12/6/2016	276
<a href="#">Satellite Mapping Overview</a>	11/29/2016	228
<a href="#">Satellite Mapping Overview</a>	11/4/2016	431
<a href="#">Satellite Mapping Overview</a>	10/25/2016	322
<a href="#">Satellite Mapping Overview</a>	10/20/2016	260
<a href="#">Satellite Mapping Overview</a>	10/13/2016	315
<a href="#">Satellite Mapping Overview</a>	10/13/2016	238
<a href="#">Satellite Mapping Overview</a>	9/27/2016	501
<a href="#">Satellite Mapping Overview</a>	9/23/2016	299
<a href="#">Satellite Mapping Overview</a>	9/14/2016	411
<a href="#">Satellite Mapping Overview</a>	7/12/2016	1026
<a href="#">Satellite Mapping Overview</a>	6/29/2016	514
<a href="#">Satellite Mapping Overview</a>	6/21/2016	505
<a href="#">Satellite Mapping Overview</a>	6/15/2016	491

\*Sistema Mundial de Alerta y Coordinación de Desastres



# GDACS - Satellite Mapping Coordination System (SMCS)\*

GDACS-SMCS Account Create Event View Event

Zoom to Area...

North Pacific North Atlantic North Atlantic South Pacific South Atlantic Indian Ocean

NORTH AMERICA SOUTH AMERICA AFRICA EUROPE ASIA AUSTRALIA

Satellite Mapping Coordination

Only Archived

Only Active

Show Both

Search SMCS Events...

Satellite Mapping Overview Reports

Live Maps

The GDACS Satellite Mapping and Coordination system provides a communication and coordination platform where organisations may monitor and inform stakeholders of their completed, current and future mapping activities for ongoing emergencies. There are three main parts of the GDACS-SMCS:

**Satellite mapping coordination**  
The GDACS Satellite Mapping and Coordination system provides a communication and coordination platform where organisations may monitor and inform stakeholders of their completed, current and future mapping activities for ongoing emergencies. Input from the field assessments is also made available to help prioritize areas needing further analysis and make available current information to help with decision making.

Request satellite analysis »

Upload field assessments »

Contribute mapping information »

**Satellite mapping overview reports**  
This service summarizes current satellite mapping activities of interest to GDACS stakeholders. It is issued weekly by UNOSAT and based on contributions from map-producing entities and GDACS partners.

View latest reports »

**Live maps**  
UNOSAT Live maps provide an up to date overview of an emergency, bringing together imagery, analysis from different organisations into a single place allowing for a more holistic view of an emergency event.

View Latest Maps »

OCHA Office for the Coordination of Humanitarian Affairs

European Commission

GDACS Global Disaster Alert and Coordination System

unitar United Nations Institute for Training and Research

## Sistema de coordinación de mapeo satelital (Satellite Mapping Coordination System o SMCS)

GDACS-SMCS es una plataforma para **coordinar el análisis y mapeo de imágenes satelitales** después de **eventos catastróficos** en beneficio a los **interesados del GDACS** y la comunidad humanitaria en general.

El SMCS es una herramienta utilizada por usuarios que trabajan con imágenes satelitales para eventos específicos que permite ver cuáles imágenes han sido recolectadas, su cobertura y cuál ente está trabajando en cuál tipo de análisis. Aparte de ser una herramienta de coordinación operativa para profesionales de análisis de imágenes satelitales, el SMCS también es un archivo de metadatos para eventos pasados y un foro de discusión.

1. Coordinación de mapeo satelital
2. Informes de mapeo resumidos
3. Mapas en vivo

<https://gdacs-smcs.unosat.org/>

\*Sistema Mundial de Alerta y Coordinación de Desastres

# Coordinación de mapeo satelital – Resumen 2016

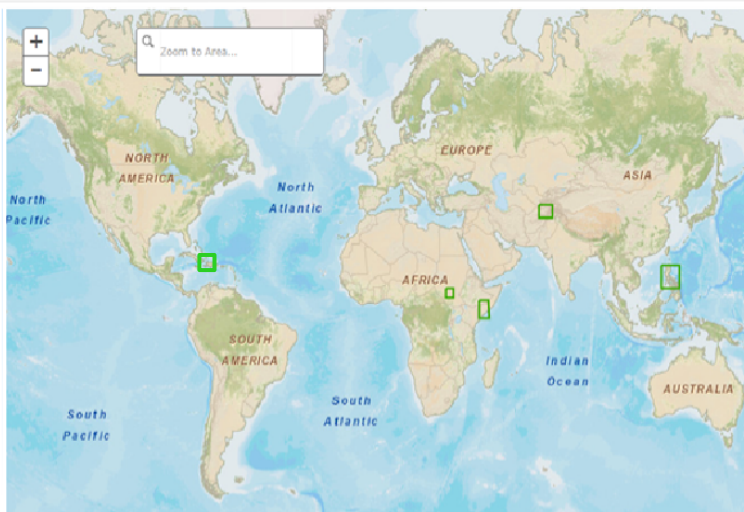
11 Emergencias  
1 Simulacro

6  5  1 

75% Solicitado  
por UNOCHA



GDACS-SMCS
Account
Create Event
View Event ▾



**Satellite Mapping Coordination**

Only Archived

Only Active

Show Both

Search SMCS Events...

**Satellite Mapping Overview Reports**

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OCHA  
Office for the  
Coordination of  
Humanitarian Affairs



European  
Commission



GDACS  
Global Disaster Alert and Coordination System



unitar  
United Nations Institute for Training and Research

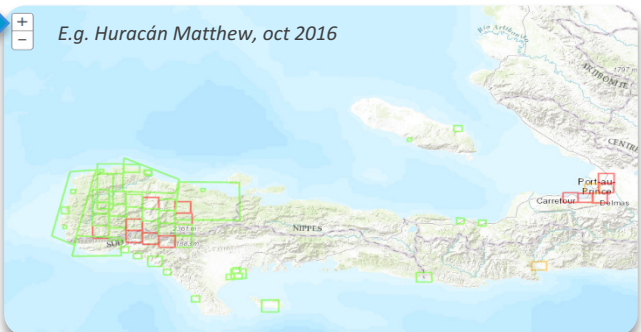
## Coordinación de mapeo satelital

- ¿Quién hace qué, dónde, en cuanto a análisis y mapeo satelital?

+

-

E.g. Huracán Matthew, oct 2016



Analysed by UNOSAT

**Current Status:** Completed

**Activity:** Satellite Detected Waters

**Sensor:**Radarsat-2

**Date :**08/10/2016

**Activity2:**Damage Assessment

**Sensor1:**Pleiades

**Date :**09/11/2016

**Sensor2:**Worldview-2

**Date:**14/10/2016

**Location:**Grande Anse

**Imagery Analysis status**

Planned

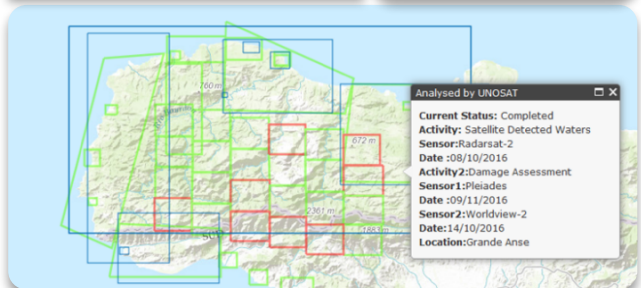
In Progress

Completed

All Activities

Published map products

UNITAR-UNOSAT Maps



Analysed by UNOSAT

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# GDACS - Informes de mapeo satelital resumidos

GDACS-SMCS Account Create Event View Event

Zoom to Asia...

**Satellite Mapping Coordination**

- Only Archived
- Only Active
- Show Both

Search SMCS Events...

**Satellite Mapping Overview Reports**

**Live Maps**

The GDACS Satellite Mapping and Coordination system provides a communication and coordination platform where organisations may monitor and inform stakeholders of their completed, current and future mapping activities for ongoing emergencies. There are three main parts of the GDACS-SMCS:

## Satellite mapping coordination

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Input from the field assessments is also made available to help prioritize areas needing further analysis and make available current information to help with decision making

- Request satellite analysis
- Upload field assessments
- Contribute mapping information

## Satellite mapping overview reports

This service summarizes current satellite mapping activities of interest to GDACS stakeholders. It is issued weekly by UNOSAT and based on contributions from map-producing entities and GDACS partners.

[View latest reports](#)

## Live maps

UNOSAT Live maps provide an up to date overview of an emergency, bringing together imagery, analysis from different organisations into a single place allowing for a more holistic view of an emergency event

[View Latest Maps](#)



## Informes de mapeo resumidos

- Resumen narrativo de emergencias actuales de mapeo satelital

*E.g. Huracán Matthew, oct 2016*

**GDACS Report for Haiti**

Title: Haiti tropical cyclone  
As of: 2016-10-24  
Glide: TC-2016-000106-HTI  
Text: Tropical cyclone Matthew made landfall over the west coast of Haiti on 04 October 2016. The International Charter on Space and Major Disasters was activated on 03 October 2016 by the USGS on behalf of the Pacific Disaster Center, UNITAR-UNOSAT and the Copernicus Emergency Management Service published new products related to the event. UNITAR-UNOSAT recently released an updated satellite based damage assessment report for the Grand South

[Zoom to](#)

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[Zoom to](#)

**Satellite mapping overview**  
As of 24 October 2016

Asia


Philippines tropical cyclone - GLIDE number: TC-2016-000118-PHI  
On 15 October 2016, tropical cyclone Haima struck the Philippines and impacted more than 100,000 people. The storm struck only four days after tropical cyclone Yaku made landfall over the country. The NASA Earth Observatory acquired 18 October 2016 satellite imagery of the situation in the region and created an overview map. All of the data frames was visible approaching the Philippines from the east as a category 4 storm, with maximum sustained winds of approximately 240 kilometers per hour. Almost the same time, tropical cyclone Yaku made its way tracking over China's Hainan Island, where it made landfall that day. After hitting the Philippines, Haima also tracked to the west where it ultimately affected the southern part of the country, particularly along Kong. This map product is available for online viewing or download in GeoTIFF and JPEG format on the NASA Earth Observatory website.  
Source: NASA Earth Observatory  
Link: <http://theearthobservatory.nasa.gov/submit/track/view.php?24-2016-000118-PHI>

Caribbean

Cuba tropical cyclone - GLIDE number: TC-2016-000106-CUB  
Cuba was hit with heavy rainfall and strong winds on 04 October 2016 as tropical cyclone Matthew struck the northeast coast of the country. The International Charter on Space and Major Disasters was activated on 03 October 2016 by UNOSAT/UNOSAT and project management was activated by the European Space Agency. UNITAR-UNOSAT published a preliminary satellite based damage assessment report of its findings in Guantánamo Province, as well as new maps of damage in the Barahona and Capahuaí areas. Using satellite imagery from 07, 10 and 11 October 2016, UNITAR-UNOSAT identified a total of 1437 damaged buildings in the Barahona, Capahuaí, Matiz and large areas of Guantánamo Province. New maps indicate 5,147 of these damaged structures were found in Barahona and 492 were observed in the Capahuaí area. Products are available for download in PDF and JPEG format on the International Charter on Space and Major Disasters and UNITAR-UNOSAT websites. Accompanying data is also available in GeoTIFF and 15M geotiff format on the UNITAR-UNOSAT website.  
Sources: International Charter on Space and Major Disasters, UNITAR-UNOSAT  
Link: <http://www.theearthobservatory.com/submit/track/view.php?24-2016-000106-CUB>

# GDACS – Mapas en vivo

GDACS-SMCS
Account
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View Event ▾



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Coordination of  
Humanitarian Affairs



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## Mapas en vivo

- **UNOSAT LIVE MAP** permite a los usuarios interactuar con el análisis de imágenes satelitales de manera intuitiva y llamativa, permitiendo la visualización fácil de las áreas afectadas y que los usuarios se enfoquen en lo que más les interese, dando un mejor entendimiento local de la situación. Estos mapas se actualizan según haya nuevos datos disponibles durante un evento.

*E.g. Huracán Matthew, oct 2016*



*Latest UNOSAT Live Maps*



Seasonal Floods in Mozambi...

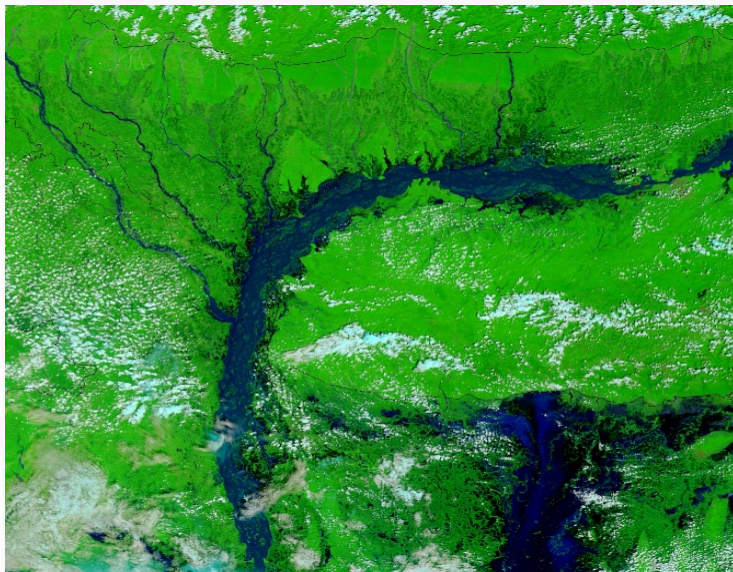


UNOSAT LIVE Map Vietnam ...



UNOSAT Live Map - Hurrican...

⏪ ⏩



UNITAR	<a href="https://www.youtube.com/watch?v=48bSEKW4W3w&amp;feature">https://www.youtube.com/watch?v=48bSEKW4W3w&amp;feature</a>
Mapeo rápido de UNOSAT	<a href="https://www.youtube.com/watch?v=FkR3N5ktt4U">https://www.youtube.com/watch?v=FkR3N5ktt4U</a>
Capacitación nivel maestro en la Universidad de Copenhague	<a href="https://www.youtube.com/watch?v=oXe4aACkvzk">https://www.youtube.com/watch?v=oXe4aACkvzk</a>
Sistemas aéreos no tripulados para el mapeo rápido	<a href="https://www.youtube.com/watch?v=3IU0-KqGqkg">https://www.youtube.com/watch?v=3IU0-KqGqkg</a>
Crecimiento del campamento de refugiados AlZaatari	<a href="https://www.youtube.com/watch?v=g2h-UEdgiQs">https://www.youtube.com/watch?v=g2h-UEdgiQs</a>
UNOSAT en TEDx: No hay nada sobre desastres naturales	<a href="https://www.youtube.com/watch?v=h7fbZxoWIY">https://www.youtube.com/watch?v=h7fbZxoWIY</a>
Introducción La Carta Internacional sobre el Espacio y los Grandes Desastres	<a href="https://www.youtube.com/watch?v=dRN1dkHqIPM">https://www.youtube.com/watch?v=dRN1dkHqIPM</a>
NASA Earth Observatory:	<a href="http://earthobservatory.nasa.gov/">http://earthobservatory.nasa.gov/</a>
Ventajas y retos de las respuestas basadas en satélites response:	<a href="http://www.sciencedirect.com/science/article/pii/S1877042814016449">http://www.sciencedirect.com/science/article/pii/S1877042814016449</a>



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# Preguntas

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Instituto de las Naciones Unidas para Formación Profesional e Investigaciones  
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Организации Объединенных Наций  
معهد الأمم المتحدة للتدريب والبحث  
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