

Session 2 : “International mechanisms for rapid response mapping”

ICube-SERTIT's International Charter and Copernicus EMS experience and the role of the IWG-SEM

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8th Annual UN-SPIDER Conference in Beijing

"Enhancing Disaster Preparedness for Effective Emergency Response"

Special thanks to: Organized by the United Nations Office for Outer Space Affairs and the Ministry of Emergency Management of the People's Republic of China



Rapid mapping - First prequel

SERTIT, pioneer in rapid mapping

1st rapid mapping demonstrator

Gandia Flooding **1996**, Spain

Request of European Council

An illustration, not a full map



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SERTIT's Rapid Mapping Service

A 24/7/365
operational service

ISO 9001 certified

A small but efficient
team

Helped by
our IT
expert



Rapid mapping ... what is it for us?

When

Natural, human or industrial disasters

Where

Worldwide

Why

Support disaster & risk managers:

Civil protection services

Humanitarian Institutions, NGOs

Prevention and forecasting services

Insurance, agro-forestry defense





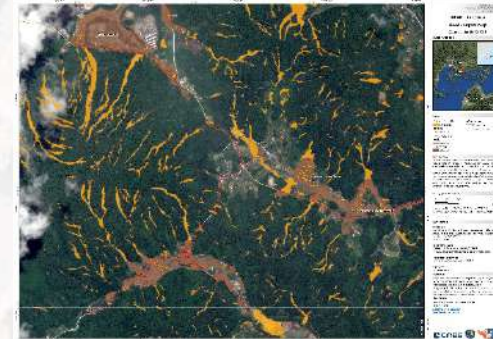
Rapid Mapping The Original



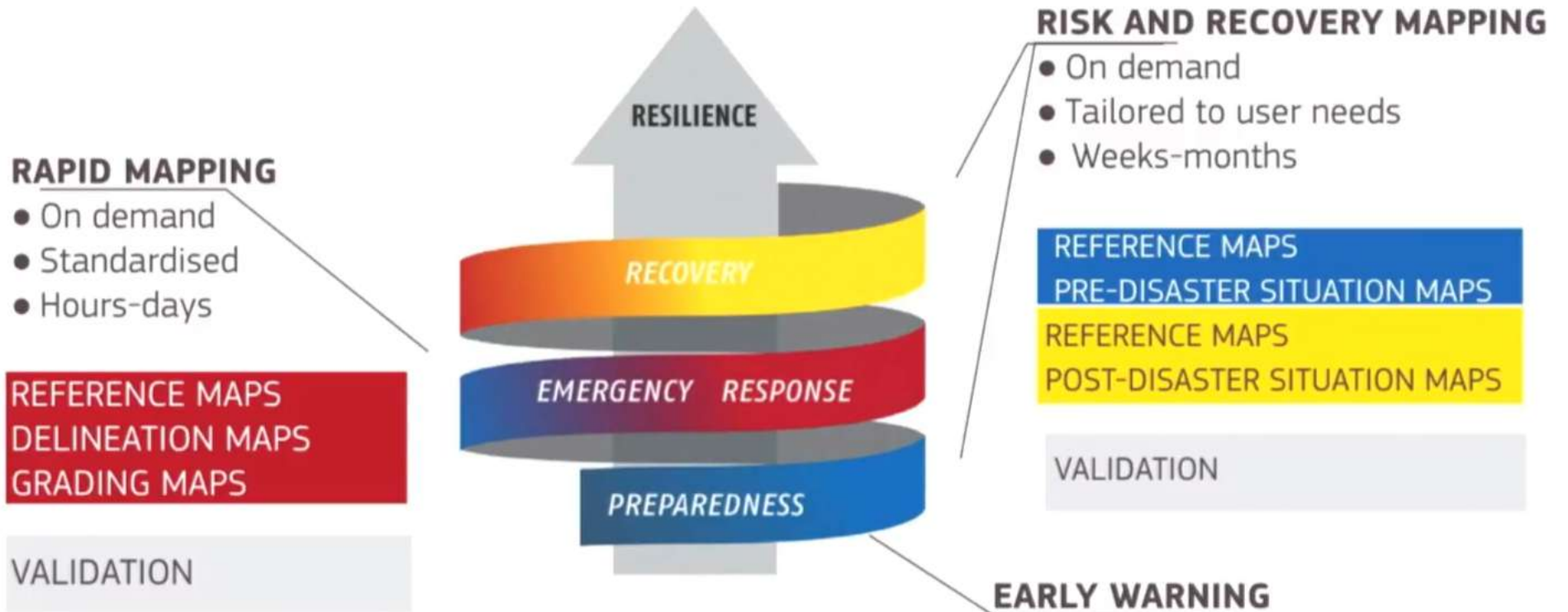
Provides satellite Earth Observation resources since November, 2000.

Data provided by member agencies on a best effort basis

- 589 Activations
- 125 countries
- 17 Charter Member Agencies and many partners
- 34 Contributing Satellites



Copernicus EMS - Components



Multilingual support is available, translate relevant cartographic elements of the maps in official EU languages



COPERNICUS

Emergency Management Service



Rapid Mapping

European Commission

Copernicus EMS - Copernicus Emergency Management Service

Home | What is Copernicus | EMS - Mapping | EMS - Early Warning System | News

LATEST NEWS - 2017-03-07 | [EMSR197] Tropical Cyclone ENAWO-17 in Madagascar

EMS - MAPPING

- Service Overview
- Who can use the service
- How to use the service
- Products: Rapid Mapping
- Products: Risk and Recovery
- Quality control / Feedback
- User Guide

RAPID MAPPING

- List of Activations
- Map of Activations
- GeoRSS Feed

RISK AND RECOVERY

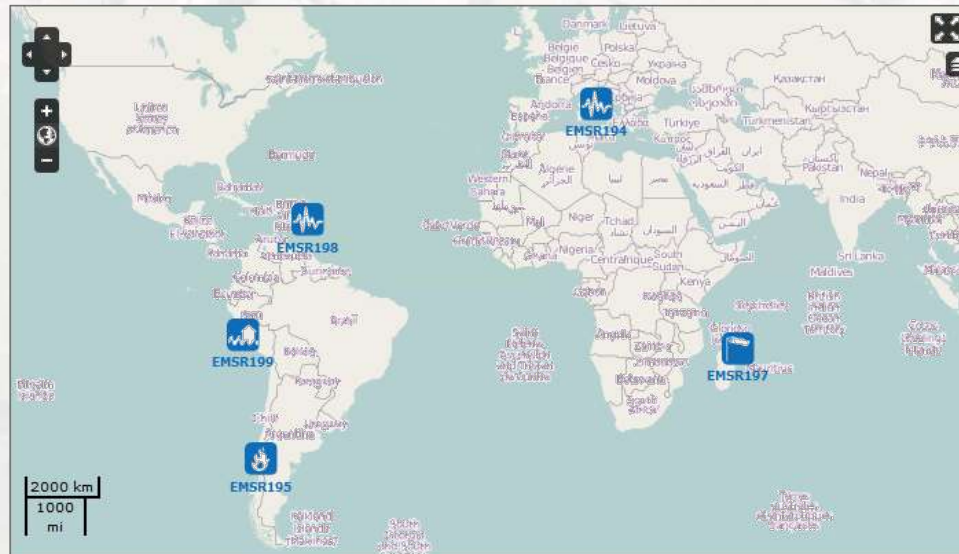
- List of Activations
- Map of Activations
- GeoRSS Feed

OTHER

- Map of Activations of Other Organizations
- Map Coverage Planner
- Meetings, Workshops
- Citation Guidelines
- Citations
- Calls for Tender

Copernicus Emergency Management Service - Mapping

A service in support of European emergency response



Map above displays only latest Copernicus EMS - Mapping Activations. To see a Map of All Activations, go to section Map of Activations in Rapid Mapping or in Risk and Recovery Mapping sub-menus respectively.

Latest Copernicus EMS - Mapping Activations

Act. Code	Title	Event Date	Type	Country/Terr.	Feed
EMSR199	Floods in Peru	2017-03-22	Flood	Peru	
EMSR198	EU RICHTER-CARAIBES 2017 Exercise	2017-03-21	Earthquake	Guadeloupe, Martinique	
EMSR197	Tropical Cyclone ENAWO-17 in Madagascar	2017-03-07	Wind storm	Madagascar	

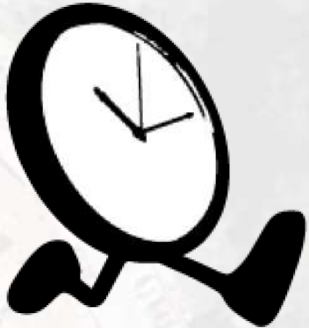
European Copernicus EMS RM Service

- Authorised Users
- 24/7 on-call
 - Satellite image provision
 - Rapid mapping team (OdO + PS)
- Standardisation is a hallmark
- Guaranteed Value Adding
- **Validation**, both formal and scientific

NEWS FLASH - 326th activation ! (63 already in 2018)



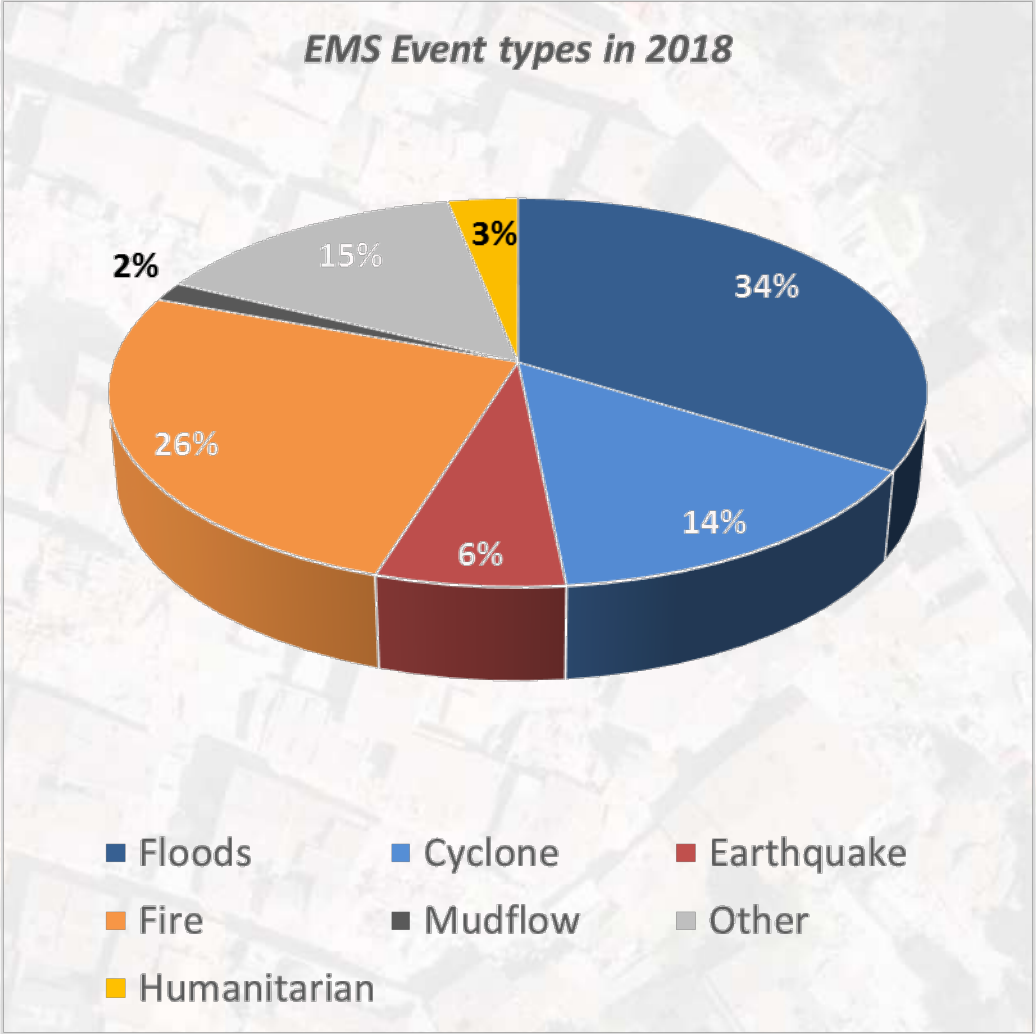
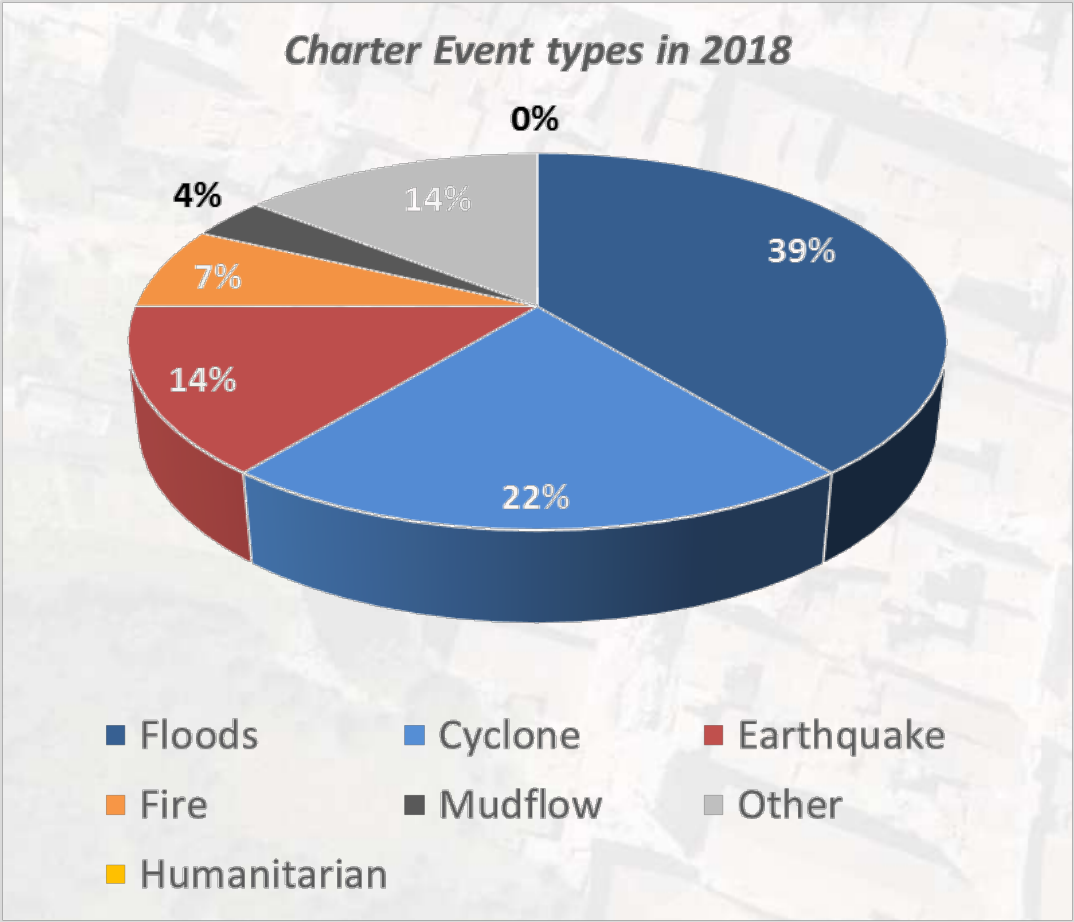
Rapid mapping products

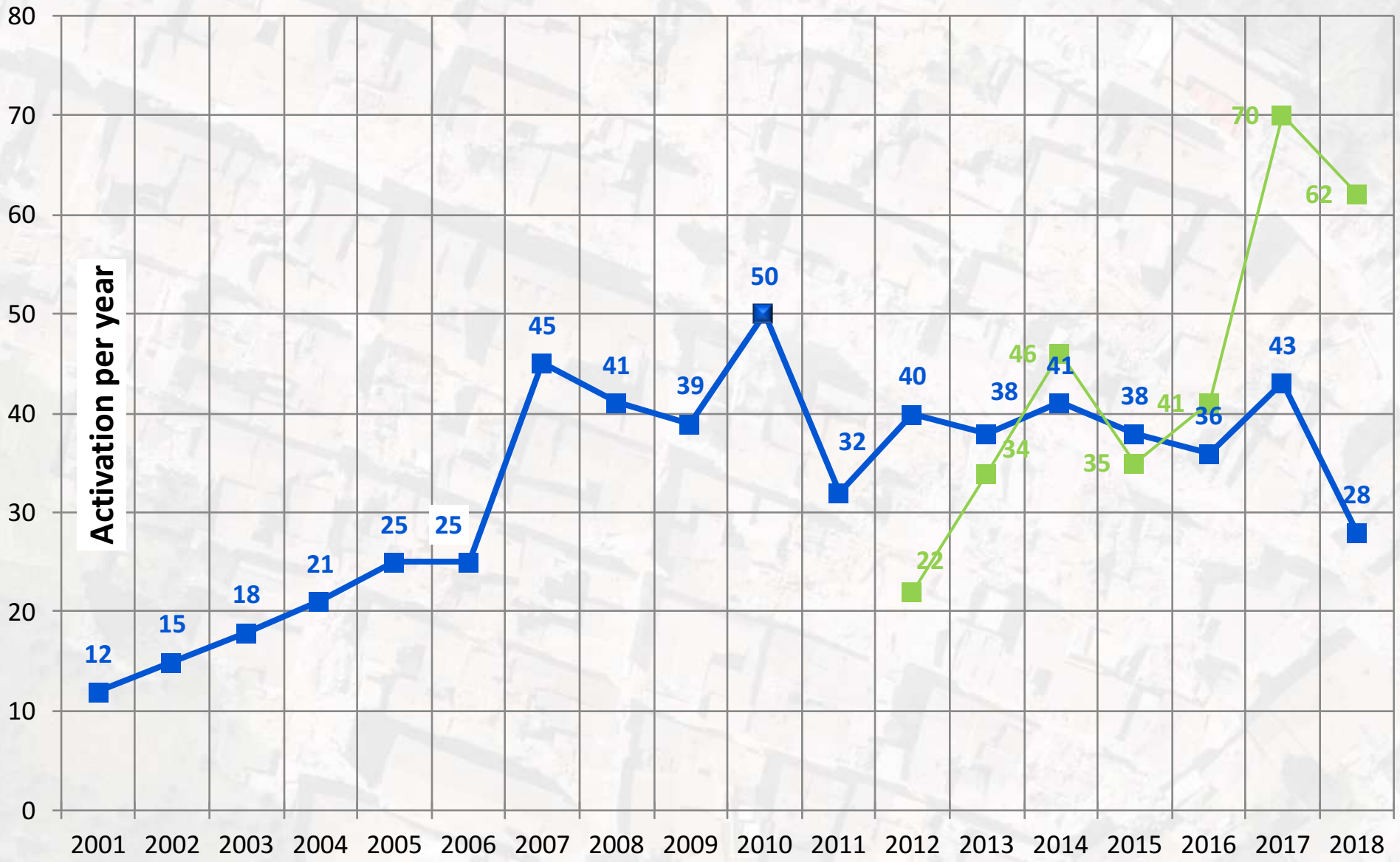


Product	First Map	Final Product
Reference		9 hours
Delineation	3 hours	6-12 hours
Grading	3 hours	6-12 hours



What type of disasters?

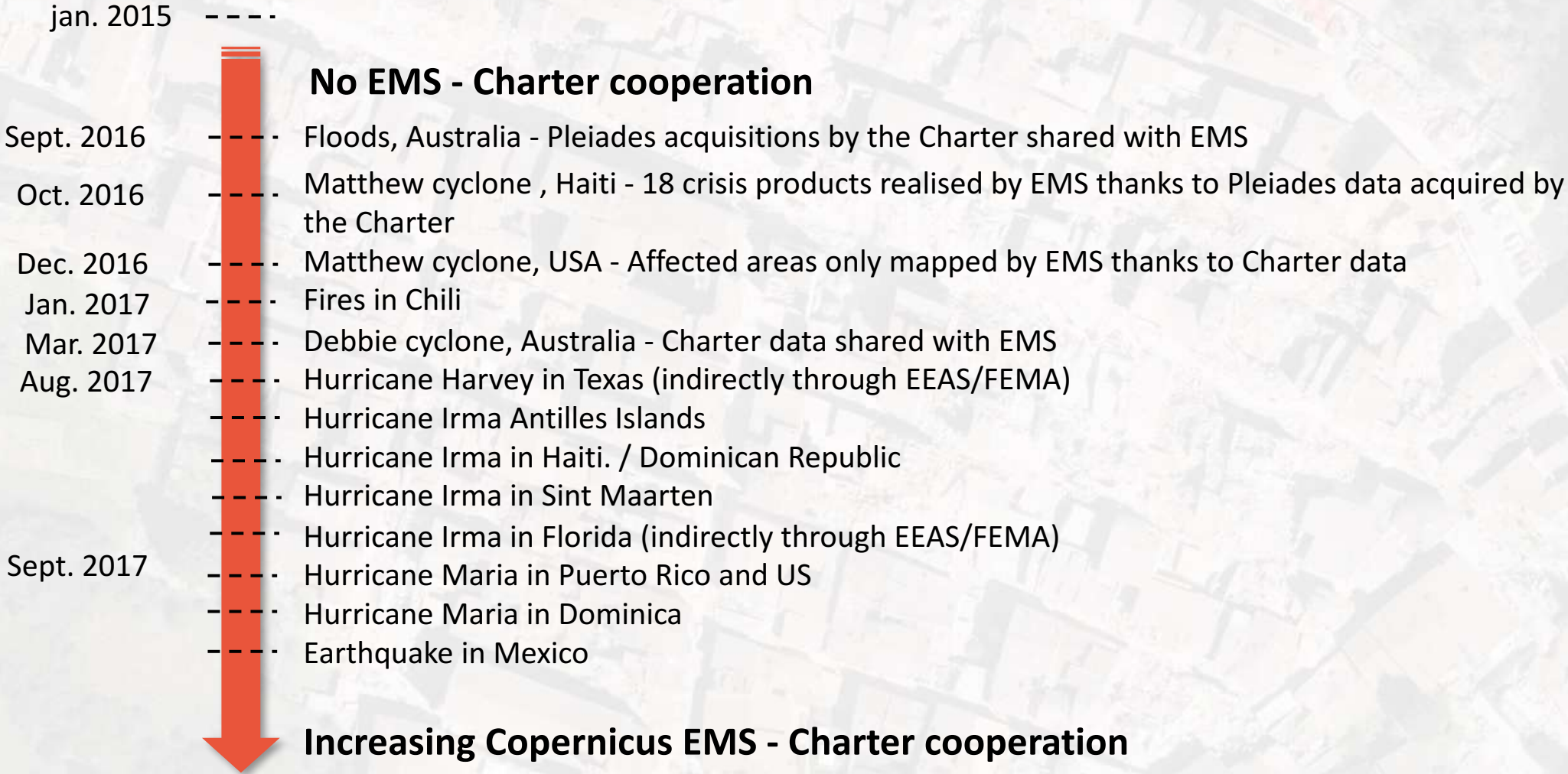




Copernicus EMS - Charter cooperation

The search for mutual benefit

AOI, data and products sharing



Charte Call ID # 627

Evènement Ouragan Irma

Localisation St-Martin , St-Barth

Date de l'évènement Septembre 2017

N° de produits 2



Forest fires in Chile
January 2017





Earthquake in Italy
2016



Fires in Attika, Greece
July 2018



The International Working Group on Satellite-based Emergency Mapping (IWG-SEM)



Supported by:



8th Annual UN-SPIDER Conference in Beijing

"Enhancing Disaster Preparedness for Effective Emergency Response"

IWG-SEM

- **Voluntary group** of organizations involved in satellite-based emergency mapping.
- Founded in April **2012**



UNITED NATIONS Office for Outer Space Affairs
UN-SPIDER KNOWLEDGE PORTAL
Space-based information for Disaster Management and Emergency Response

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Network

IWG-SEM

National Focal Points

Regional Support Offices

Global Earth Observation Partnership

International Working Group on Satellite based Emergency Mapping (IWG-SEM)



The International Working Group on Satellite-based Emergency Mapping (IWG-SEM) is a voluntary group of organizations involved in satellite-based emergency mapping. It was founded to improve cooperation, communication and professional standards among the global network of satellite-based emergency mapping providers. The chairperson of the group is nominated for a term of one year and is responsible for organizing the monthly telecons and bi-annual meetings. The current chair is from UNOOSA/ UN-SPIDER.

The group meets twice every year in person at venues arranged by meeting participants. These meetings are forums for reviewing what has been accomplished to date and to define the steps forward. The monthly regular teleconferences are held to monitor progress on actions and for discussions on particular matters of interest to the group.

Contact

For any inquiries to the chair, please contact czaran@unooosa.org.

To send inquiries to the entire group, please use the contact form.

IWG-SEM members

- ADPC
- AHA Center
- AIT
- AKDN-FOCUS
- CNES
- CU-Boulder
- DFO

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 - DFO
 - DLR
 - EC-ECHO
 - EC-GROW
 - EC-JRC
 - ESA
 - GEO
 - GWJ
 - HII-SP
 - HRW
 - ICIMOD
 - ITHACA
 - JAXA
 - MoT/HydrMet
 - NASA
 - NASRDA
 - NDRCC
 - PDC
 - RCMRD/SERVIR
 - RECTAS
 - RIT
 - SERTIT
 - SaBCh
 - UMD
 - UN Cartographic Section
 - UNDSS
 - UNITAR/UNOSAT
 - UNOCHA
 - UNOOSA/UN-SPIDER
 - UNU-EHS
 - UN WFP
 - USGS/EROS
 - WB
- [Detailed list](#)

www.iwg-sem.org

IWG-SEM - Vision and Mission

VISION

“Supporting disaster response by improving international cooperation in satellite based emergency mapping”

MISSION

“To establish **best practices** between operational satellite-based emergency mapping programs to **stimulate communication and collaboration** to include definition of map product generation guidelines, coordination of expertise and capacities, building of training curriculum, participation in common exercises, and reviewing relevant **technical standards and protocols**. To work with the appropriate organizations to define professional standards for emergency mapping.”

IWG-SEM - Activities

- Emergency Mapping Guidelines
- White Paper on Early Warning and Rapid Mapping
- Operational tools / Standards
 - GeoRSS Feed to automatically broadcast information about SEM activations
- 1 physical meeting per year
- Regular telcos

www.iwg-sem.org
members@iwg-sem.org

IWG-SEM Fall Physical Meeting

Beijing, China

Friday the 26 October 2018

13:45 - 20:00 UTC + 8

05:45 – 12:00 UTC

Emergency Mapping Guidelines

Discussion on Early Warning Systems and rapid mapping text

Alerting and inter mechanism communication protocols

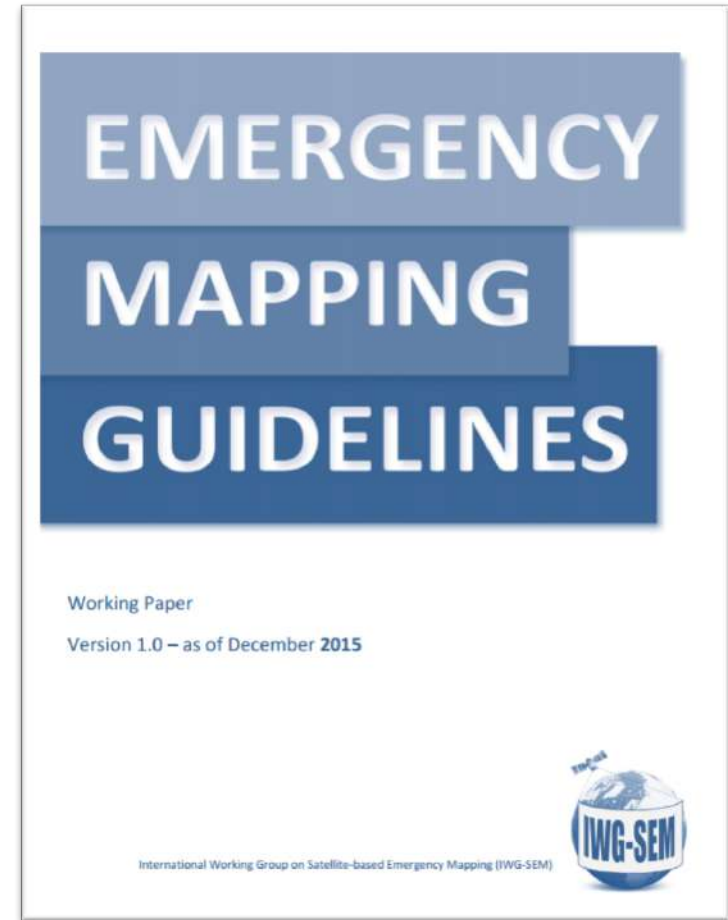
Social media - use very basic portfolio to create conversation

IWG-SEM Webpage – hosting/future

...

Emergency Mapping Guidelines

- [On-line Working Paper](#)
- Define fundamental principles
- **Establish a procedure for interactions and sharing of data, analysis and mapping results**
- Organize mapping products, templates and dissemination policies
- Commit to assurance of capacity and qualification
- Prepare a glossary for emergency mapping vocabulary
- Currently being reworked



Operational tools/standards

Example of GeoRSS Feed – Activation level

Aggregator of Emergency Mapping GeoRSS Feeds

Aggregator of Emergency Mapping GeoRSS Feeds

Source

- Copernicus EMS - Rapid Mapping Activations
- Copernicus EMS - Risk and Recovery Mapping Activations
- DLR - ZKI | Activations GeoRSS Feed
- Int. Charter on Space and Major Disasters
- SERTIT Activations

Ctrl/Cmd + mouse = multiple sources. Unselect all to reset filter.

Date of publication - from: 2017-03-13

Title contains:

to: 2018-03-14

YYYY-MM-DD, e.g. 2018-03-14

Description contains:

Location - proximity

100 Kilometers from

Enter (partial) address for geocoding.

Search Reset



Above is a map of locations and descriptions of activations of several Emergency Mapping organizations which publish GeoRSS feeds compliant with the **IWG-SEM** recommended technical specification for emergency activations meta-data exchange.

The map is updated autonomously by means of GeoRSS feeds aggregation.

Rapid Mapping Work in progress...

Integration of:

- Technological development (Reference Geo-Info Integration, Big data, Artificial Intelligence, Rapid 3D applications, Social Media Output as In Situ Data)
- Cooperation (International Rapid Mapping Initiatives, Crowd mapping / Collaborative work)
- Early Warning Systems (Floods, fires...)
- Risk & Recovery

With many partners

