



# International Charter Space and Major Disasters

## Activity Summary and Cooperation with Sentinel Asia

Executive Secretariat of JAXA

1<sup>st</sup> Joint Project Team Meeting for Sentinel Asia  
Step3 (JPTM2013) in Bangkok, Thailand

27 November 2013

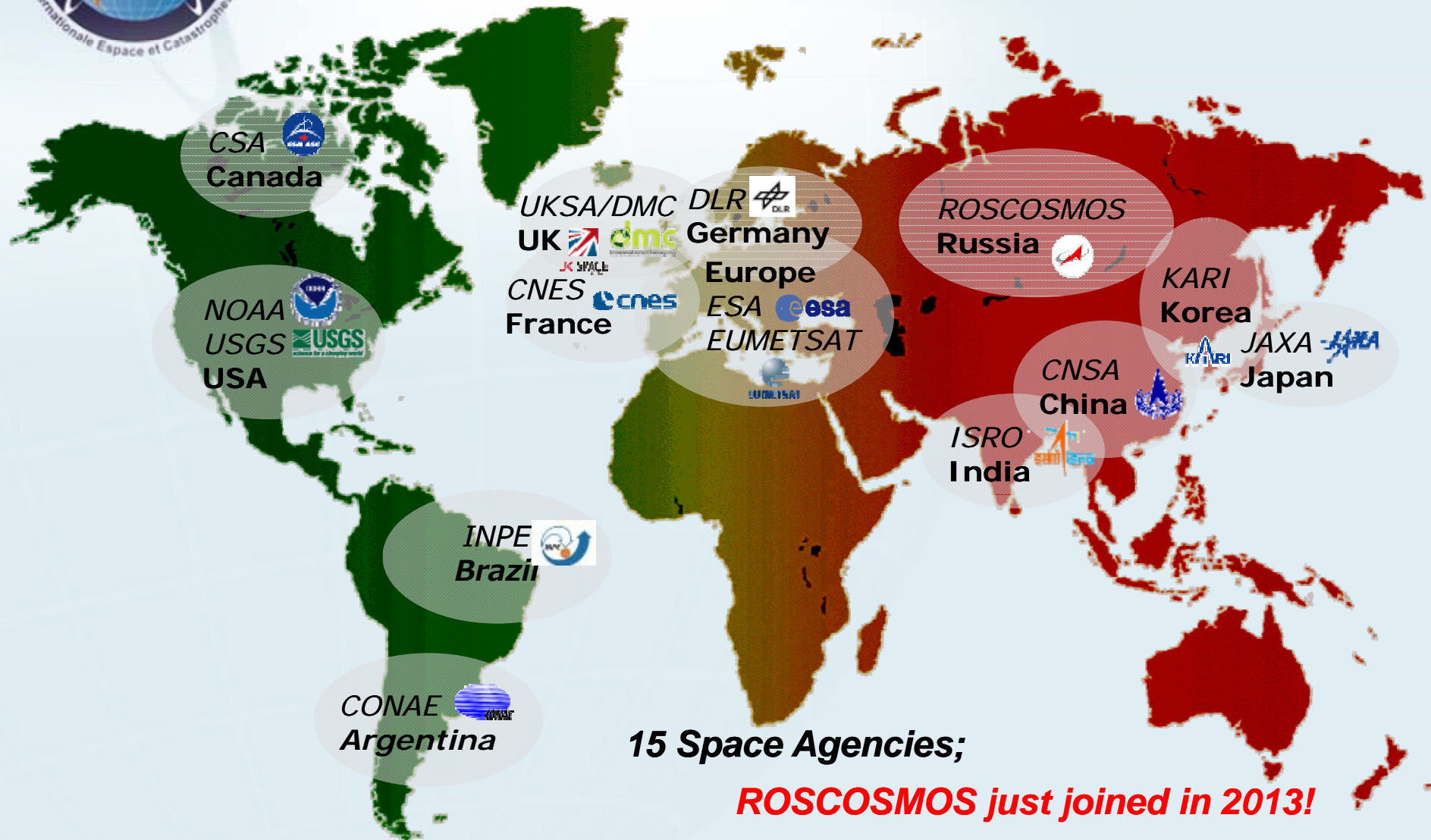


# Purpose of the Disaster Charter

- An International agreement among Space Agencies to support with space-based data and information relief efforts in the event of emergencies caused by major disasters.
  - **Disaster response**
  - **Multi-satellite data acquisition planning**
    - Fast data turn-around – priority acquisition
  - **Archive retrievals and spacecraft tasking**
  - **Data processing at pre-determined level**
  - **Space Agency contribution in image/data**
  - **Space Agency initiative for value-added-data fusion**



# Charter Members

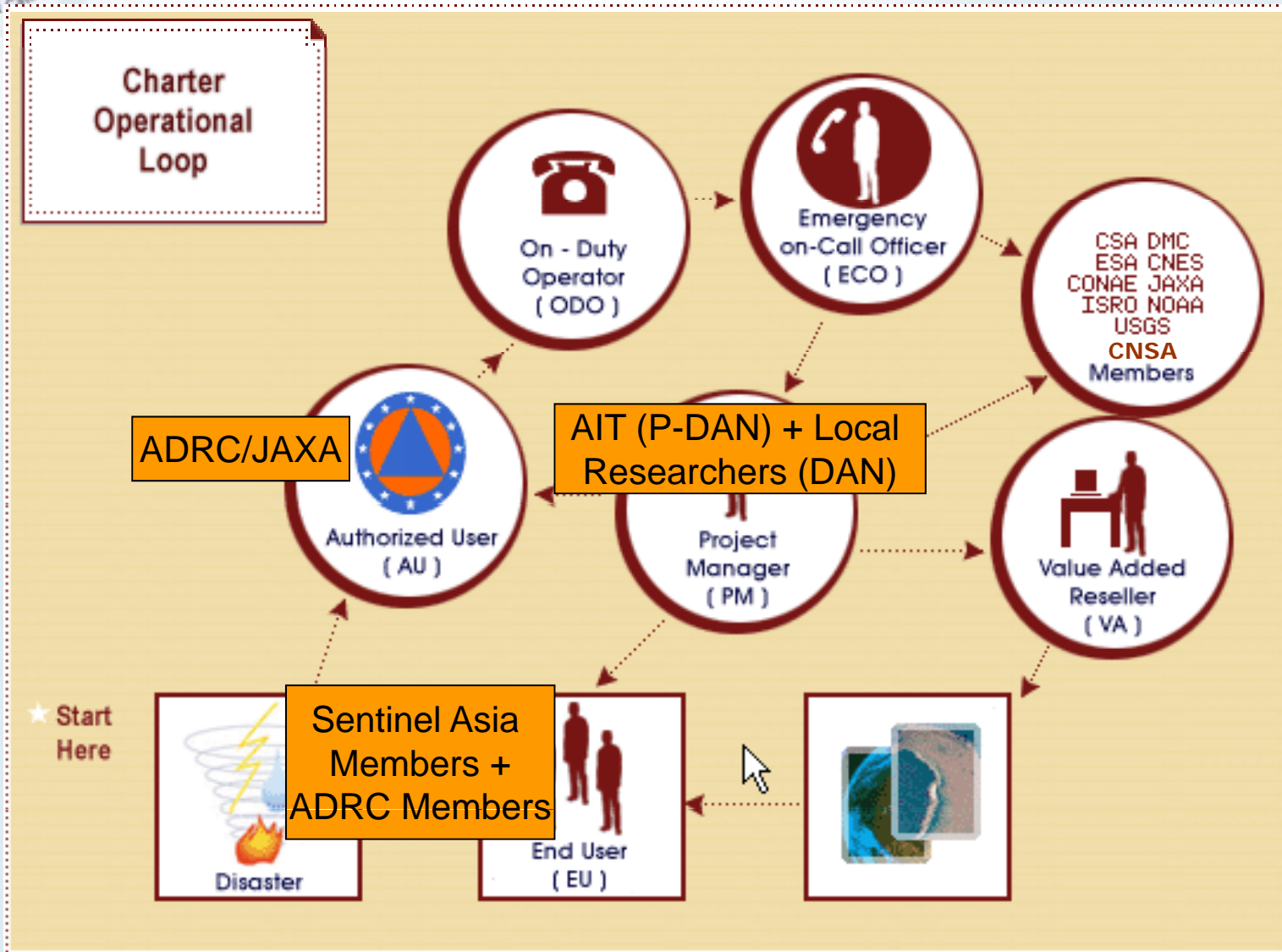


**15 Space Agencies;**

**ROSCOSMOS just joined in 2013!**



# Activation Sequence of Events





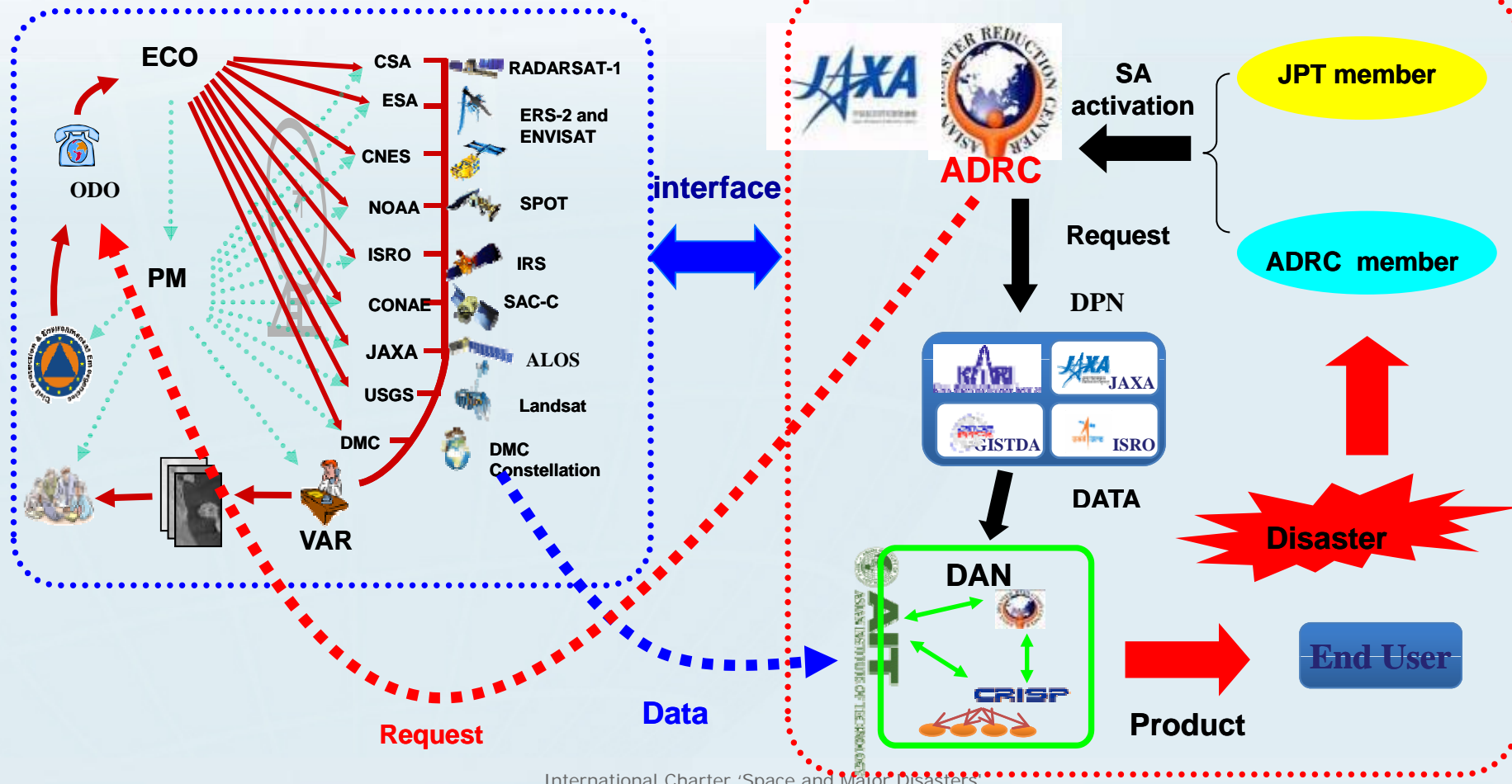
# Interface between the Charter and Sentinel Asia



**International Disaster Charter**



**Sentinel Asia**





421	358	UK	Flood	27-Nov-12	DMCii
422	359	Palau	Typhoon Bopha	3-Dec-12	CNES/PDC
423 + 424	360	Philippines	Typhoon Bopha	5-Dec-12	JAXA/AIT
425	361	Samoa	Cyclone Evan	15-Dec-12	ESA/ESRIN
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431	367	Indonesia	Flood	30-Jan-13	USGS/BPPT
432	368	Seychelles	Flood	1-Feb-13	ESA
434	369	Madagascar	Cyclone Haruna	23-Feb-13	CNES/SERTIT
435	370	China	Earthquake	20-Apr-13	CNSA/NDRC
436	371	Bangladesh	Cyclone Mahasen	15-May-13	DLR/UNITAR
437	372	Chile	Volcano	27-May-13	CONAE
438	373	Germany	Flood	2-Jun-13	DLR
			Flood	19-Jun-13	ISRO/NRSC
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			Fire	8-Jul-13	CSA
			Earthquake	22-Jul-13	CNSA/NDRC
			Flood	25-Jul-13	JAXA/AIT
			Flood	29-Jul-13	JAXA/AIT
445	380	Myanmar	Flood	2-Aug-13	DLR/UNITAR
446	381	Sudan	Flood	6-Aug-13	DLR/UNITAR
447	382	China	Flood	16-Aug-13	CNSA/NSMC
448	383	Philippines	Flood	19-Aug-13	JAXA/PHIVOLCS
449	384	Russia	Flood	19-Aug-13	ROSCOSMOS/NTSOMZ
451	385	Pakistan	Flood	22-Aug-13	DLR/UNITAR
452	386	Senegal	Flood	25-Aug-13	CNES/SERTIT
454	387	Argentina	Fire	10-Sep-13	CONAE
455	388	USA	Flood	13-Sep-13	USGS
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462	395	Vietnam	Typhoon Nari	18-Oct-13	JAXA/AIT
464	396	Cambodia	Flood	21-Oct-13	CONAE/UNITAR
465	397	Indonesia	Volcano	5-Nov-13	USGS
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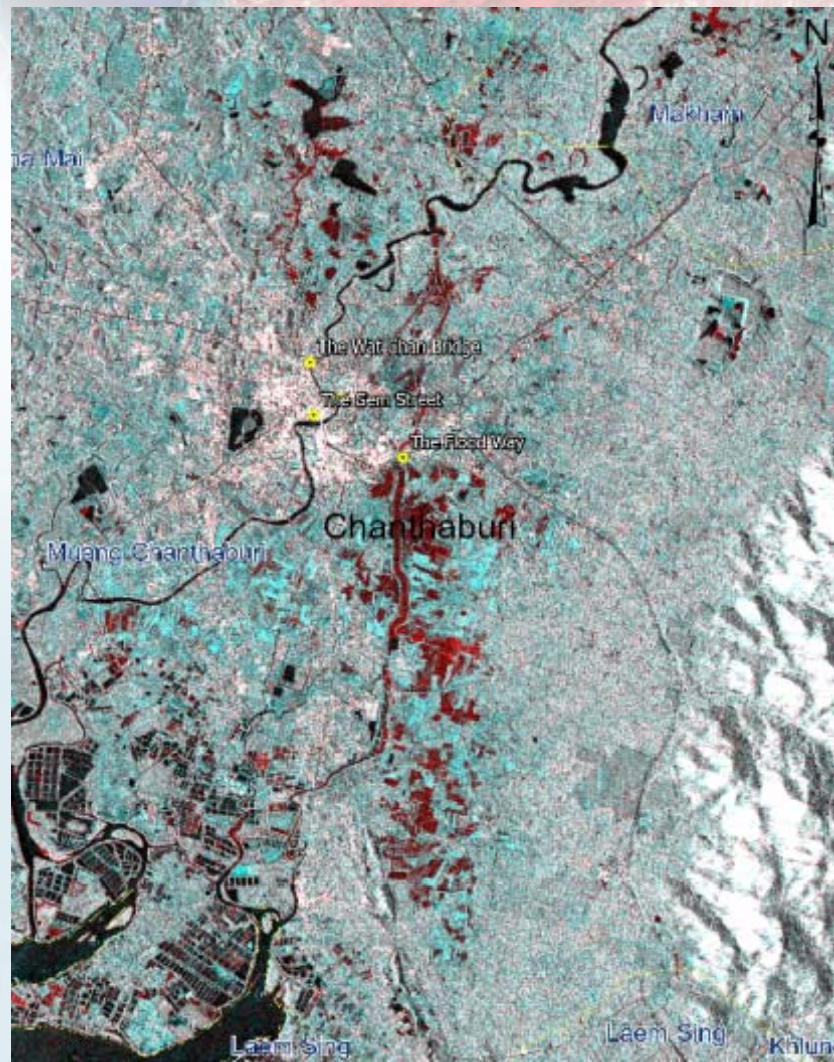
**After the last JPTM (15Nov2012), the Charter operates 42 activation, incl 7 escalations from Sentinel Asia.**



# Activation #378 Flood in Thailand

25 July 2013

- **Caller:** Sentinel Asia, on behalf of GISTDA (Thailand)
- **ECO:** DLR
- **PM:** AIT (Asian Institute of Technology), Sentinel Asia
- **VA:** AIT, GISTDA
- **End User:** AIT, GISTDA



- **Description of the Event:** Heavy rains, which began on 21 July 2013, have resulted in flooding across Chanthaburi Province, Thailand. Two people have been reported killed in the flooding, and it is estimated that more than 10,000 people have been affected.
- **Data:** Pleiades, TerraSAR-X, DMC, Cartosat-1



# Activation #379 Flood in Japan

29 July 2013

- **Caller:** Sentinel Asia, on behalf of Hiroshima Institute of Technology (Japan)
- **ECO:** DLR
- **PM:** Asian Institute of Technology (AIT)
- **VA:** AIT, Hiroshima Institute of Techn., Yamaguchi University.
- **End User:** JAXA, AIT, Hiroshima Institute of Technology, Yamaguchi University.
- **Description of the Event:** Record levels of rainfall over the weekend have caused floods in the Yamaguchi and Shimane Prefectures of Japan. At least one person has been reported killed, so far, and a number of other people are missing. The River Abu burst its banks in the city of Hagi, Yamaguchi Prefecture, on Sunday afternoon, flooding nearby communities. The rainfall has also caused mudslides which have destroyed several homes.
- **Data:** SPOT-5, RADARSAT-2, TerraSAR-X, DMC, Cartosat-1, ALOS (PALSAR), LANDSAT-7







# Activation #383

## Flood, Landslide & Storm damage in Manila/ Philippines

19 August 2013

- Caller: Asia Disaster Reduction Center (ADRC) on behalf of Manila Observatory
- ECO: CNES
- PM: PHIVOLCS
- VA: several VA providers
- End User:
- Description of the Event: The capital city of the Philippines, Manila, has been flooded by monsoon rains caused by Tropical Storm Trami (known locally as Maring). 5000 people have been evacuated from Metro Manila, where water levels have reached knee height in some areas. At least three people have been reported killed so far and several are missing.



\* No further details (PM report not yet available)



# Activation #392

## Earthquake in Philippines

15 October 2013

- Caller: ADRC on behalf of PHIVOLCS
  - ECO: KARI
  - PM: PHIVOLCS
  - VA:
  - End User:
- **Description of the Event:** A 7.2 magnitude earthquake struck the central Philippine island of Bohol. The epicenter was measured about 50 kilometers beneath Carmen City causing widespread damage to its buildings. The local Government has declared a state of Calamity for the provinces of Bohol and Cebu. The death toll is reported to be 93 with over 260 people injured. Many more people have been displaced and there are reports of an unknown amount of people trapped in a damaged hospital. A number of roads and bridges were also damaged with the densely populated Cebu City being particularly badly damaged. Windy weather, damaged infrastructure and power cuts have made rescue operations difficult. Local authorities are setting up tents to provide shelter for the tens of thousands of people displaced by the earthquake.

\* No further details (PM report not yet available)



# Activation #393 Landslide in Japan

16 October 2013

- **Caller:** Japan Aerospace Exploration Agency (JAXA) on behalf of Ministry of Land and Transportation
- **ECO:** KARI
- **PM:** Asian Institute of Technology (AIT)
- **VA:** JAXA
- **End User:**
- **Description of the Event:** Typhoon Wipha has passed over the island of Izu Oshima, south of Tokyo, bringing strong winds and 80cm of rain in 24 hours. 14 people have been reported killed in the resulting landslides, so far, as houses were buried or destroyed and many more are currently unaccounted for. The Japan Meteorological Agency have reported the storm as the most powerful in ten years to pass through the area and the amount of rain has surpassed their records, which dates back to 1991. 20,000 people were ordered to evacuate as the typhoon approached Japan and the storm moved northwards over the mainland of Japan after passing Izu Oshima. Due to the landslides, rescue efforts are being hampered on Izu Oshima; as affected areas are proving difficult to reach and search. Almost 300 homes have been destroyed on the island and the full extent of the damage is still being assessed.



**\* No further details (PM report not yet available)**



# Universal Access

- **Universal Access** will allow national users from other countries to directly submit Emergency requests as Authorized Users (AU).
- **Geoscience Australia** has been adopted as the AU. **Tanzania** and **Namibia** are now in under-process.
- **SUPARCO** of Pakistan, **NAMRIA** of Philippine sent interest of Universal Access to the Charter.



# Universal Access Criteria

The following **criteria** must be met by an entity requesting to **become a new Authorized User**:

- The entity must be a **national disaster management authority** or its delegated agency in that country.
- The entity must have the **capacity to download and utilize maps\***.
- The entity must be able to **submit and pursue its activation requests in English\*\***.

\* *Typically Charter products are either remotely sensed imagery or crisis or damage assessment maps (Value Added products).*

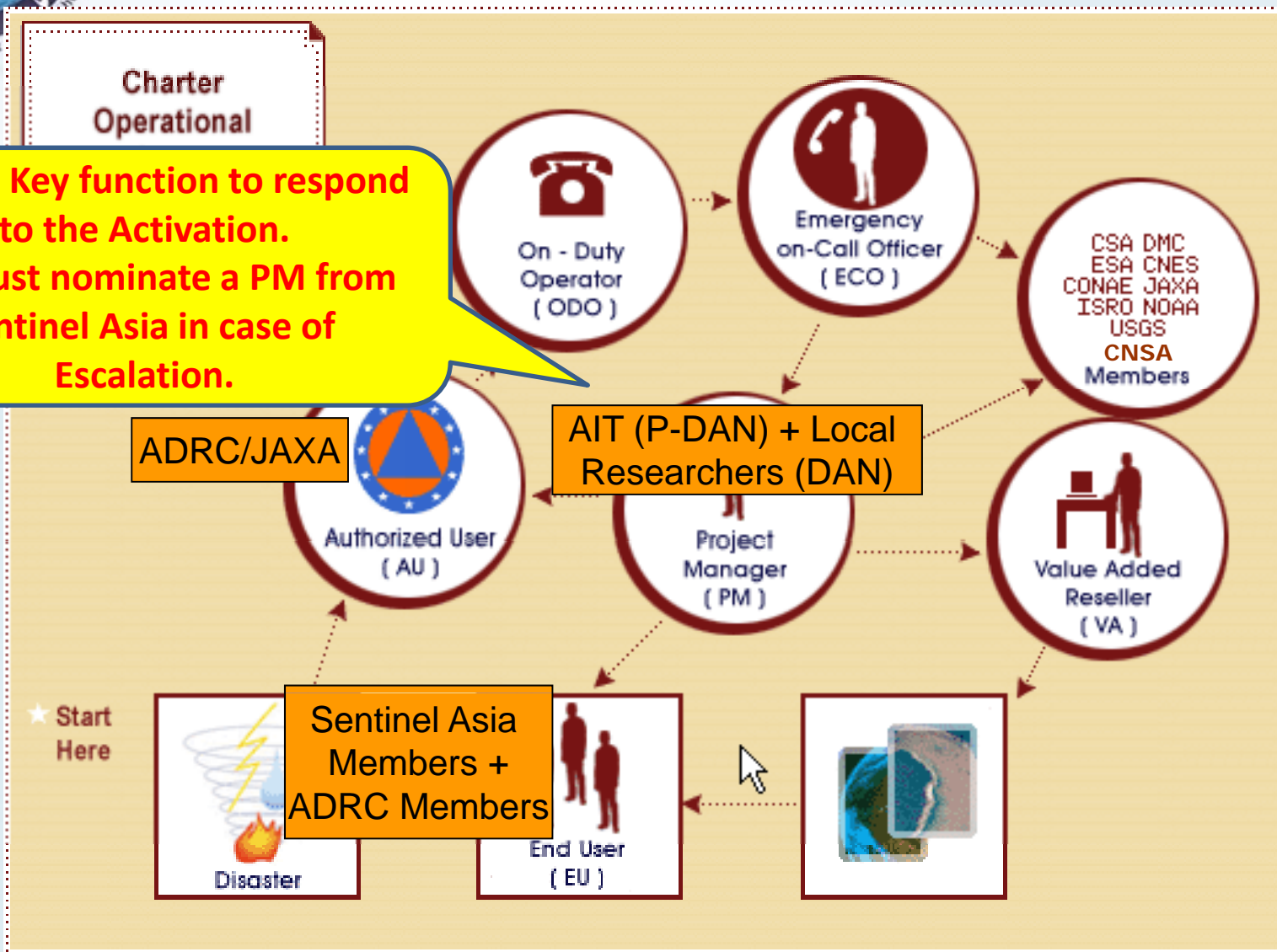
\*\* *The request indicates the date/time of disaster occurrence, the affected area with geographic coordinates (Latitude/Longitude), the type of hazard, and the name of the contact person for any communication with the Charter.*



# PM activity and PM training

Charter  
Operational

**PM is a Key function to respond to the Activation.  
We must nominate a PM from Sentinel Asia in case of Escalation.**





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**7 PM (5 AIT, 2 PHIVOLCS)  
for 7 escalation by Sentinel Asia!**

**1 PM (LAPAN) for activation  
by UNOSAT**



# PM activity and PM training

- PM training in June in Manila



hosted by PAGASA

PAGASA, PHIVOLCS, Manila Observatory and LAPAN joined.

-> 5 PM resources are registered.

2 PM (PHIVOLCS and LAPAN) have already worked actively!

- PM training in November in Bangkok
  - GISTDA, AIT and Manila Observatory joined.

We hope their successful works at PM.

We also welcome any Agency to host the PM training!