



International Charter Space and Major Disasters

History, Operations, Access

Charter Executive Secretariat

March 7, 2016



Purpose

- 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**



Disasters Types Supported

The International Charter executes priority tasking of different EO missions in a rapid fashion; it is designed to address requests concerning major disasters caused by:

Natural events

- Earthquakes
- Fires
- Floods
- Ice jams
- Landslides
- Tsunamis
- Ocean storms
- Volcanic eruptions

Man-made events

- Oil spills
- Industrial accidents





Charter History

- Following UNISPACE III in Vienna in July 1999, **ESA** (European Space Agency) and **CNES** (Centre national d'études spatiales) initiated the International Charter in July 1999.
- **CSA** (Canadian Space Agency) signed the Charter on October 20, 2000.
- Charter declared operational as of **November 1, 2000** after formal rehearsals and qualification tests.
- **484** disasters covered to date in **118** countries worldwide.
- Now composed of **15 members**.



Charter History

- The US National Oceanic and Atmospheric Administration (**NOAA**), and the Indian Space Research Organization (**ISRO**) became members in September 2001.
- In July 2003, the Comision Nacional de Actividades Espaciales (**CONAE**) joined the Charter.
- In 2005, the Japanese Aerospace Exploration Agency (**JAXA**) joined the Charter in February, the United States Geological Survey (**USGS**) in April as part of the US membership, and the UK space agency (**UKSA/DMCii**) in November.
- The China National Space Administration (**CNSA**) joined in May 2007.
- The German Aerospace Center (**DLR**) joined the Charter in October 2010.
- The Korea Aerospace Research Institute (**KARI**), the Brazilian Instituto Nacional de Pesquisas Espaciais (**INPE**) joined the Charter in 2011.
- **EUMETSAT** joined the Charter in 2012.
- The Russian Federal Space Agency (**ROSCOSMOS**) joined the Charter in 2013.



Charter Members

CSA
Canada

NOAA
USGS
USA

CONAE
Argentina

INPE
Brazil

UKSA/DMC
UK

CNES
France

DLR
Germany
ESA
Europe

ROSCOSMOS
Russia

ISRO
India

CNSA
China

KARI
Korea

JAXA
Japan



Mechanisms to Activate the Charter

- **Direct activation:** The only bodies authorized to directly request the Charter to be activated for a disaster occurring in their country are the 'Authorized Users' (AUs). They are typically civil protection agencies, governmental relief organizations, or other authorities with a mandate related to disaster management.
- **Activation via an Authorized User on behalf of a user from another country without AU:** Authorized Users can access the Charter to request support for a disaster in another country with which they cooperate for relief purposes.
- **Activation via the UN for UN users:** The Charter has an agreement with UN OOSA (Vienna) and UNITAR/UNOSAT (Geneva) to provide support to UN agencies. UN OOSA and UNITAR/UNOSAT may submit requests on behalf of users from the United Nations.
- **Activation for Asia Pacific users via Sentinel Asia:** Sentinel Asia is a regional collaboration for satellite based emergency response in Asia Pacific. Since 2009 the Charter has granted the Asian Disaster Reduction Centre the right to submit activation requests on behalf of national users of Sentinel Asia.

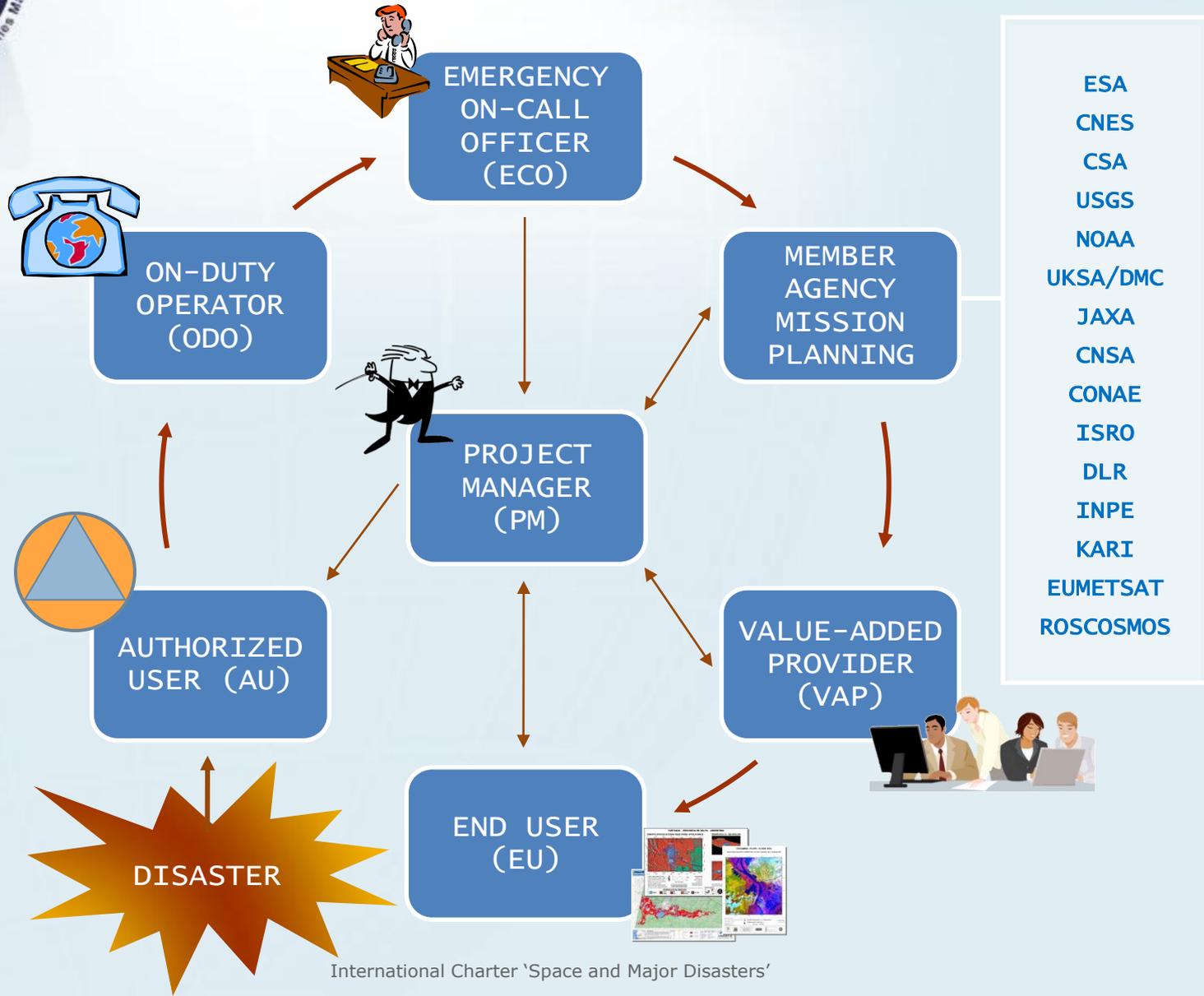


Charter Functional Units

- Authorized Users (AUs)
- On-Duty Operator (ODO)
- Emergency on-Call Officer (ECO)
- Project Manager (PM)
- Data processing and distribution facilities
- Value-Added Providers (VAPs)



Charter Operational Loop





Authorized User (AU) Interfaces

- AU – On-Duty Operator (ODO)
 - AU submits the User Request Form (URF)
 - ODO checks the identity of the caller
 - ODO confirms the reception of the URF and its completeness



AU Interfaces

- AU/End User (EU) – Emergency on-Call Officer (ECO)
 - ECO calls the AU/EU for information on the Disaster
 - Geographical location of the affected area
 - Type of disaster
 - Extent of disaster
 - Type of data processing/product (if applicable)
 - Target delivery time
 - Delivery medium and address
 - Any additional information



AU Interfaces

- AU/EU – Project Manager (PM)
 - PM contacts directly the AU/EU if required
 - PM obtains further information on the requirement
 - PM appraises the AU/EU with regard to the data acquisition planning
 - PM solicits AU/EU's appraisal of the Charter activation



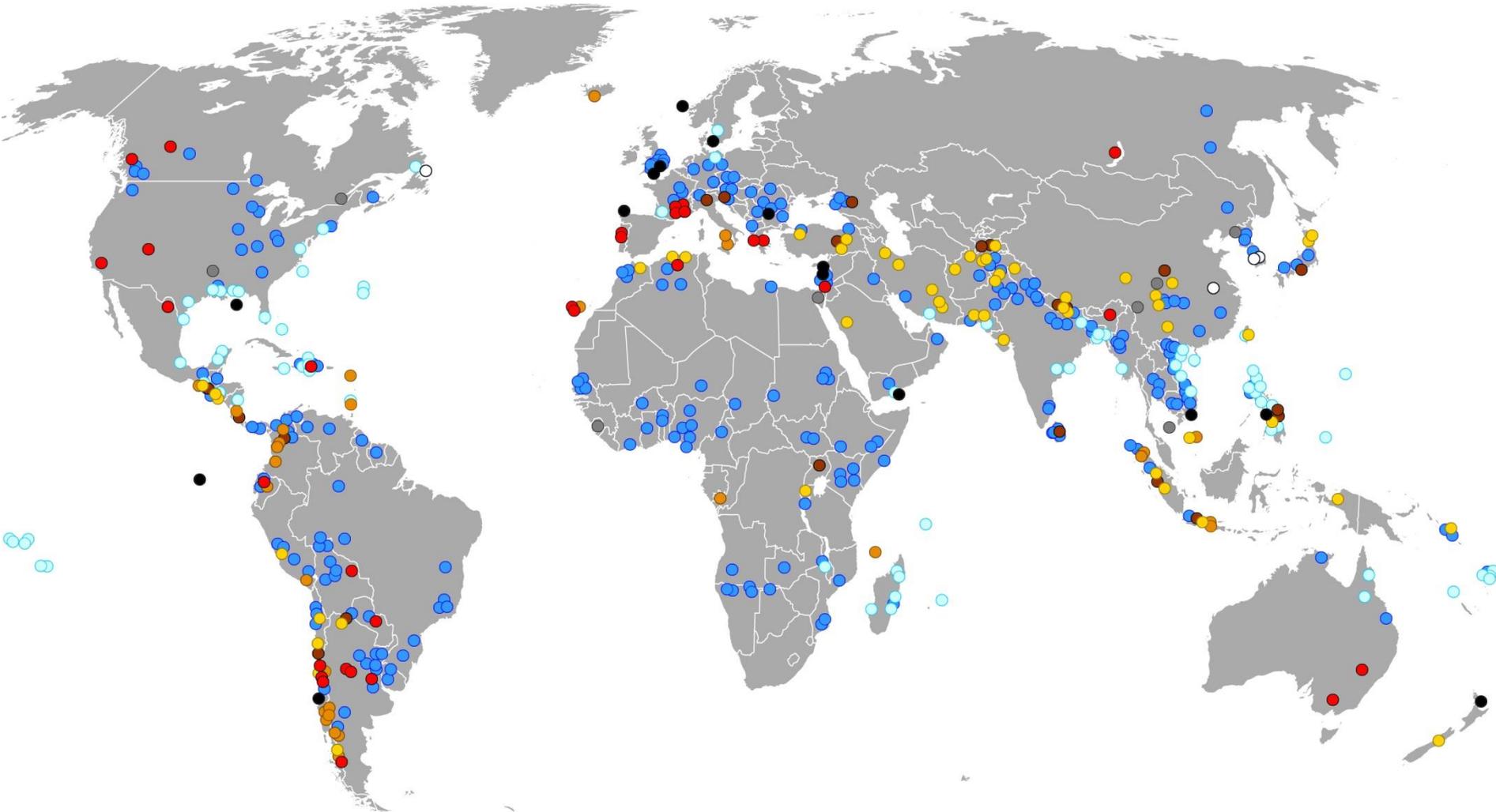
Charter Activations (disaster types)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Sub-totals	
<i>Solid Earth</i>																			
Earthquake		3	1	3	5	3	2	5	4	3	5	5	3	4	1	5	1	53	105
Landslide	1	1	2	2			1			4	2	2		1	4	2		22	
Volcano		1	1	2	2	1	1	2	3	3	2	2	1	3	2	4		30	
<i>Technological</i>																			
Oil spill		3	2				4	3			1	1				1		15	23
Others					1						3			1	2	1		8	
<i>Weather / Atmospheric</i>																			
Fire				5	1	2		4	2	4	1	3	2	2	3	2		31	356
Flood/Ocean wave*		3	8	4	9	13	16	22	23	19	25	16	25	21	22	18	1	245	
Ice/Snow hazard								1			1	1			1			4	
Storm/Hurricane**			1	2	3	6	1	8	8	7	11	2	9	6	6	5	1	76	
Total / year	1	11	15	18	21	25	25	45	40	40	51	32	40	38	41	38	3		
TOTAL																			484

*Includes solid earth related phenomenon of a tsunami.

**Includes all wind type storms (hurricane, cyclone, typhoon and tornado).

Activation Distribution

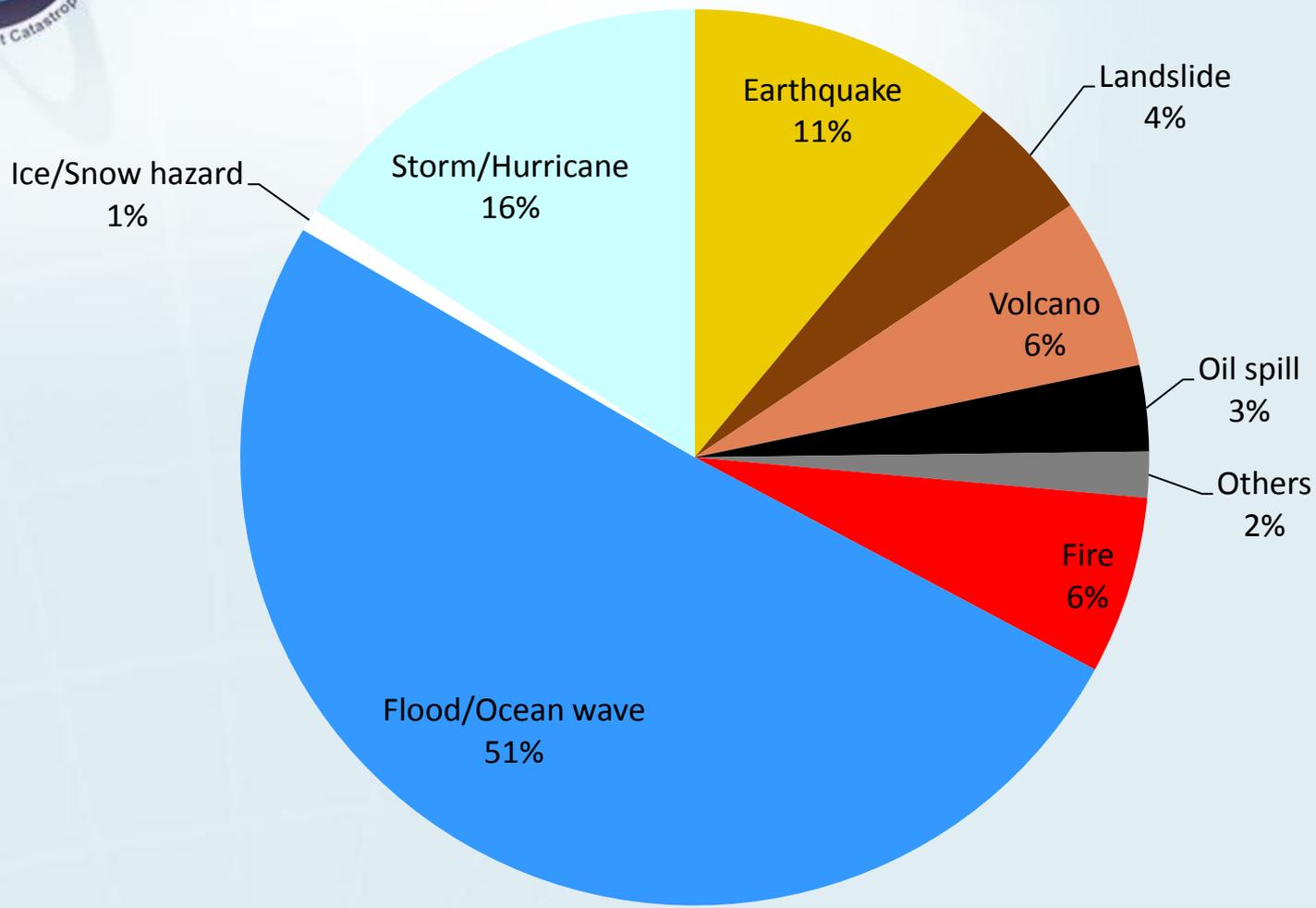


Legend: ● Earthquake ● Landslide ● Volcano ● Storm/hurricane ● Flood/ocean wave ○ Ice/snow hazard ● Fire ● Oil spill ● Other

As of March 7, 2016 – 484 Activations



Activations by Disaster Type

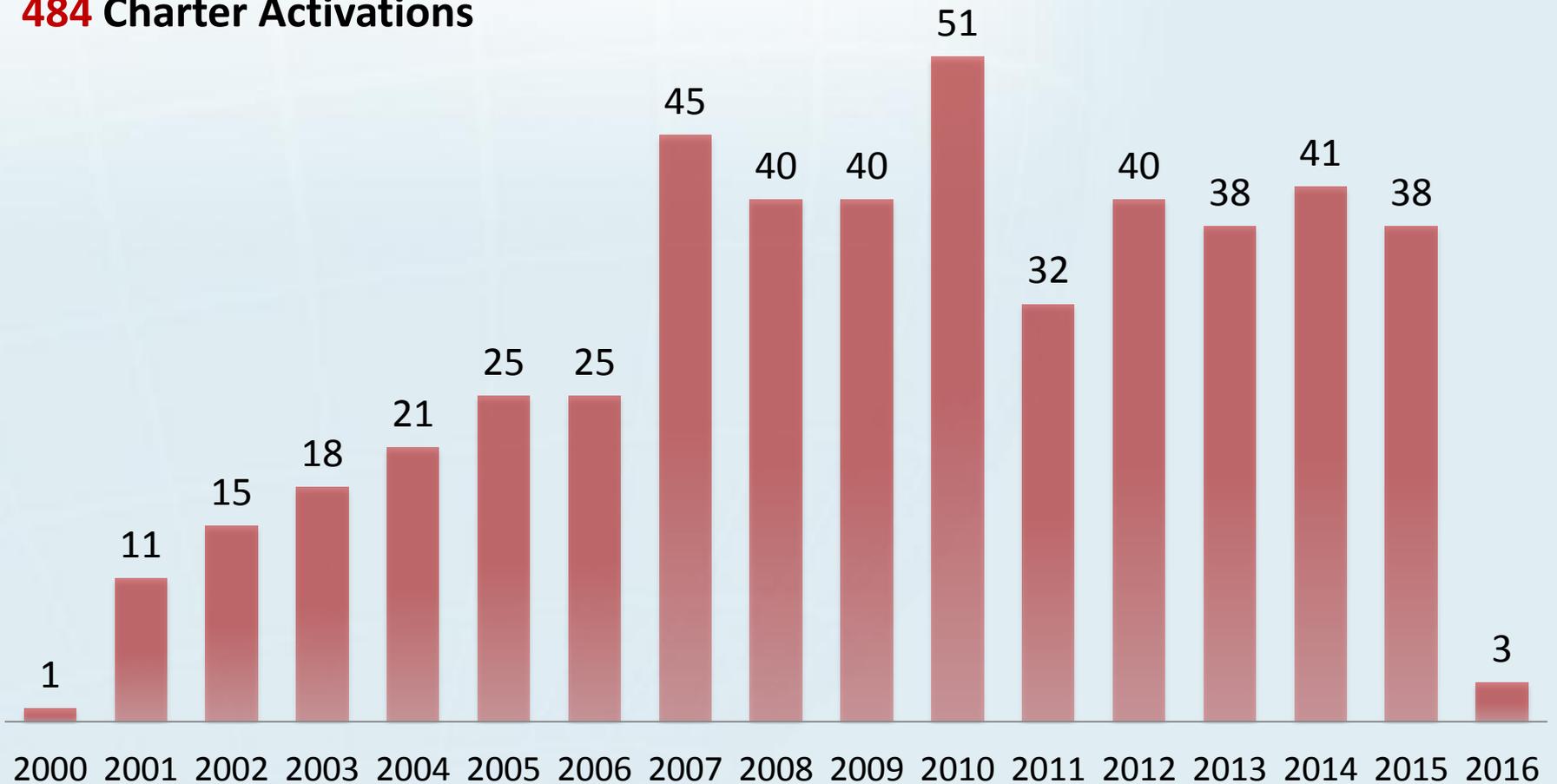




Number of Activations

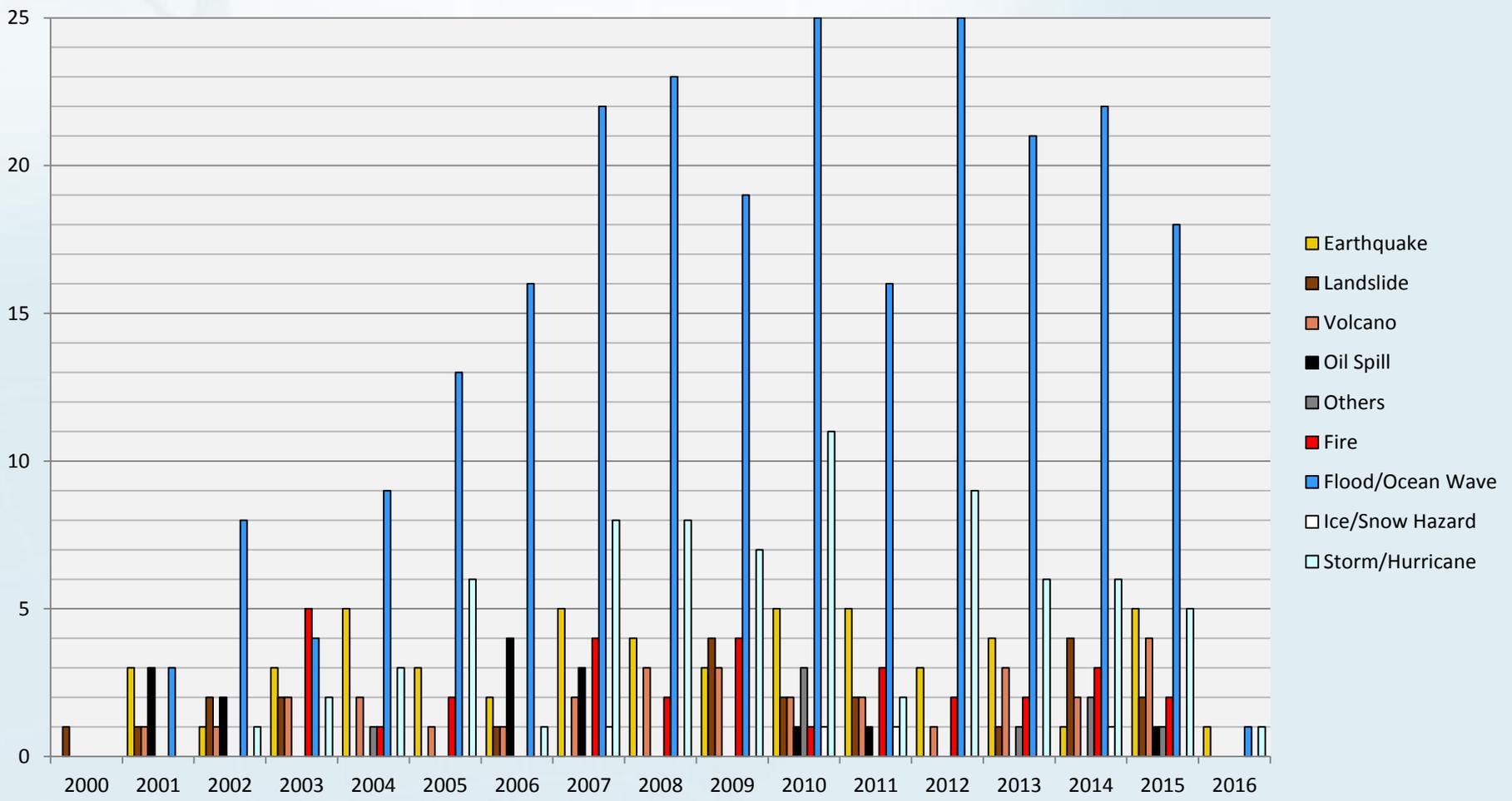
November 2000 to March 2016:

484 Charter Activations





2000-2016 Distribution of Activations by Hazard Type



Universal Access

Launched in September 2012

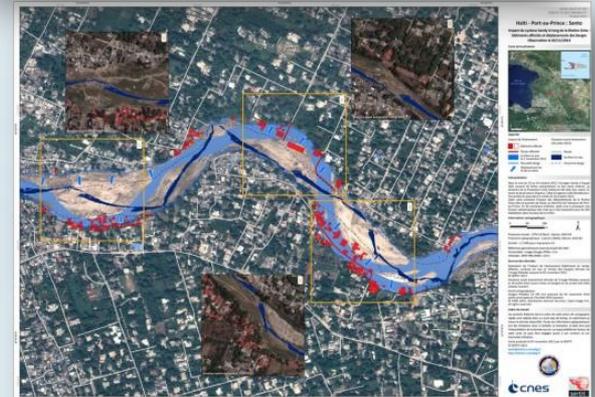
Any **national disaster
management authority**
can apply to become a
Charter Authorized User





Authorized Users

1. Must be a **national disaster management authority** or its delegated agency in that country
2. Must have the **capacity to download and use maps**
3. Must be able to **submit and pursue an activation request in English**





Registration

A registration form* is available for national authorities to express interest in becoming a Charter Authorized User.

1. The candidate fills in the questionnaire providing all required information.
2. The questionnaire, *with an official cover letter from the organisation*, must be sent to: ExecutiveSecretariat@disasterscharter.org
3. The request is assessed by the Charter members.

*The form **may be downloaded** together with the **UA Information brochure** from the Charter website:

www.disasterscharter.org/web/guest/activating-the-charter





▾ Activating the Charter

There are several [mechanisms to activate the Charter](#). It is based on a pre-defined list of appointed users, known as 'Authorized Users' (AUs). Until now AUs are typically disaster management authorities, from countries of Charter member agencies, able to request Charter support for emergencies in their own country, or in a country with which they cooperate for disaster relief.

Since its inception, the Charter has demonstrated a strong commitment to expanding its number of users. Initiatives include collaboration with UNITAR/UNOSAT and UN OOSA, active in many countries and who can submit requests to support in-country UN relief agencies, and Sentinel Asia, a regional network for Earth observation-based Emergency Response in 32 countries.

Universal Access

Building on a decade of success in making satellite data available for disaster response, the International Charter is now opening its doors even wider. The Charter Members have adopted the principle of Universal Access to further strengthen the Charter's contribution to disaster management worldwide. Any national disaster management authority will be able to submit requests to the Charter for emergency response. Proper procedures will have to be followed, but the affected country will not have to be a Charter member.

Universal Access benefits national disaster management authorities in countries beyond those of the Charter members, previously unable to make direct requests to the Charter.

A registration process is in place for national authorities interested in participating in the Charter as an "Authorized User". This process will validate the ability of national authorities to access and use Charter assets for disaster response, in accordance with Charter operational procedures. Steps and applicable conditions are explained in the Charter's [Universal Access Information Brochure](#) available together with its [Registration form](#).

Activating the Cha

[Activating the Charter Home](#)



Conclusion

- Space technologies can deliver key information that brings benefit to the definition, planning, implementation, monitoring & assessment of disaster relief operations.
- The Charter is focused on the immediate response phase and services of national disaster management centres and the International Humanitarian community (e.g. UN).
- It is growing: 484 disasters covered since 2000 in 118 countries worldwide.
- Building on a decade of success in making satellite data available to users for disaster response, the Charter is now opening its doors even wider with Universal Access.
- Universal Access benefits national users in countries beyond those of the Charter members, who were previously unable to make direct requests to the Charter during emergency situations.
- Currently 9 new AUs were nominated thanks to this process in the following countries: Australia, Malawi, Pakistan, Chile, Colombia, Bolivia, Dominican Republic, Belarus and Iraq and 3 applications are being processed at the beginning of 2016.



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International Charter Space and Major Disasters

www.disasterscharter.org

Emergency enquiries from users requiring direct access to Charter resources should be addressed to:

ExecutiveSecretariat@disasterscharter.org

General requests for information should be addressed to

webmaster@disasterscharter.org