International Charter
Space and Major Disasters

Monitoring and Management Support for Disaster Response

48th Scientific and Technological Subcommittee

UN Committee on the Peaceful Uses of Outer Space

Vienna, Austria

10 February 2011

USGS
science for a changing world

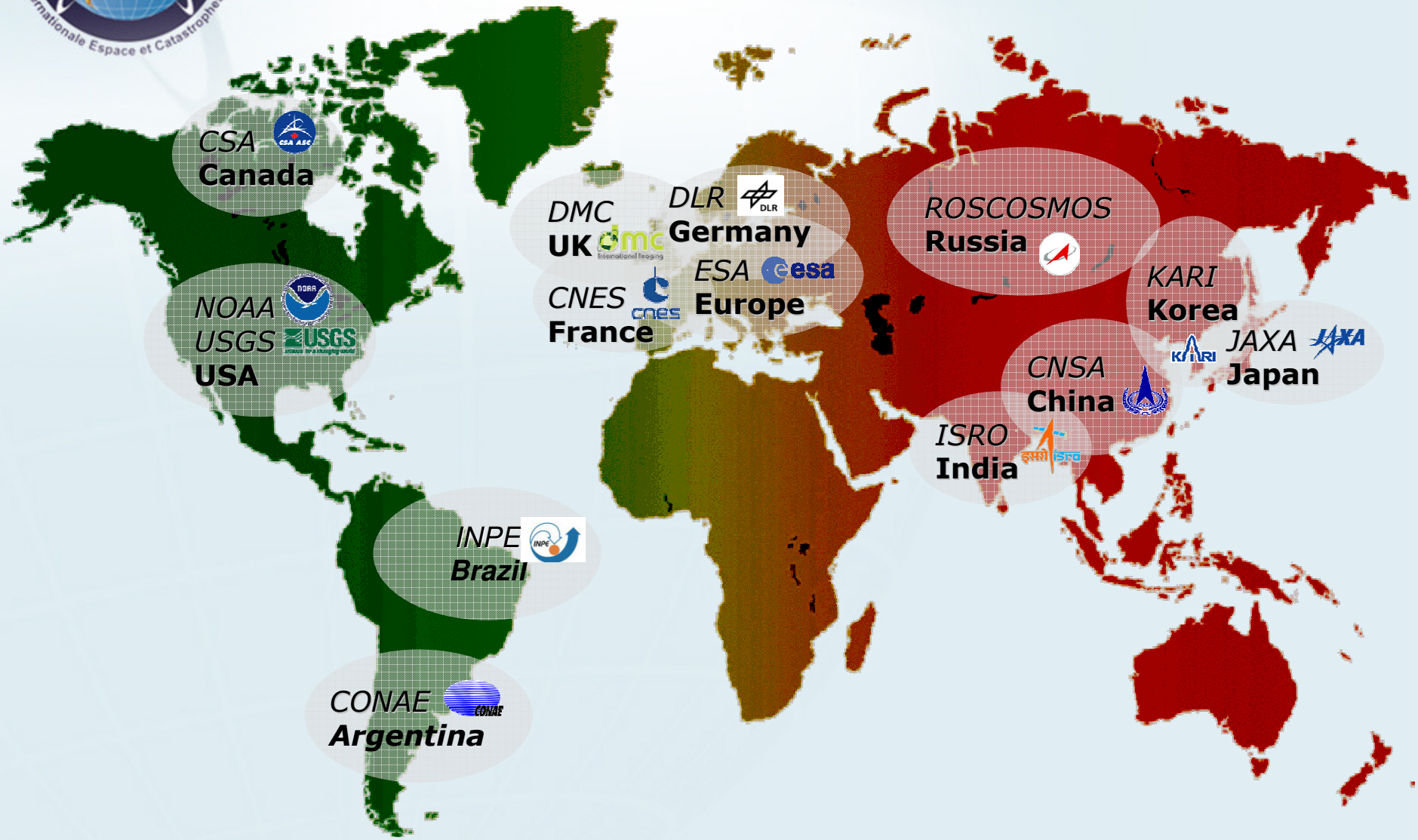
The Hyogo Framework for Action

1. Ensure that disaster risk reduction is a national and local priority
2. Identify, assess and monitor disaster risks and enhance early warning
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels
4. Reduce the underlying risk factors
5. Strengthen disaster preparedness for *effective response* at all levels

The Charter – Purpose

- An International agreement among Space Agencies to support 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

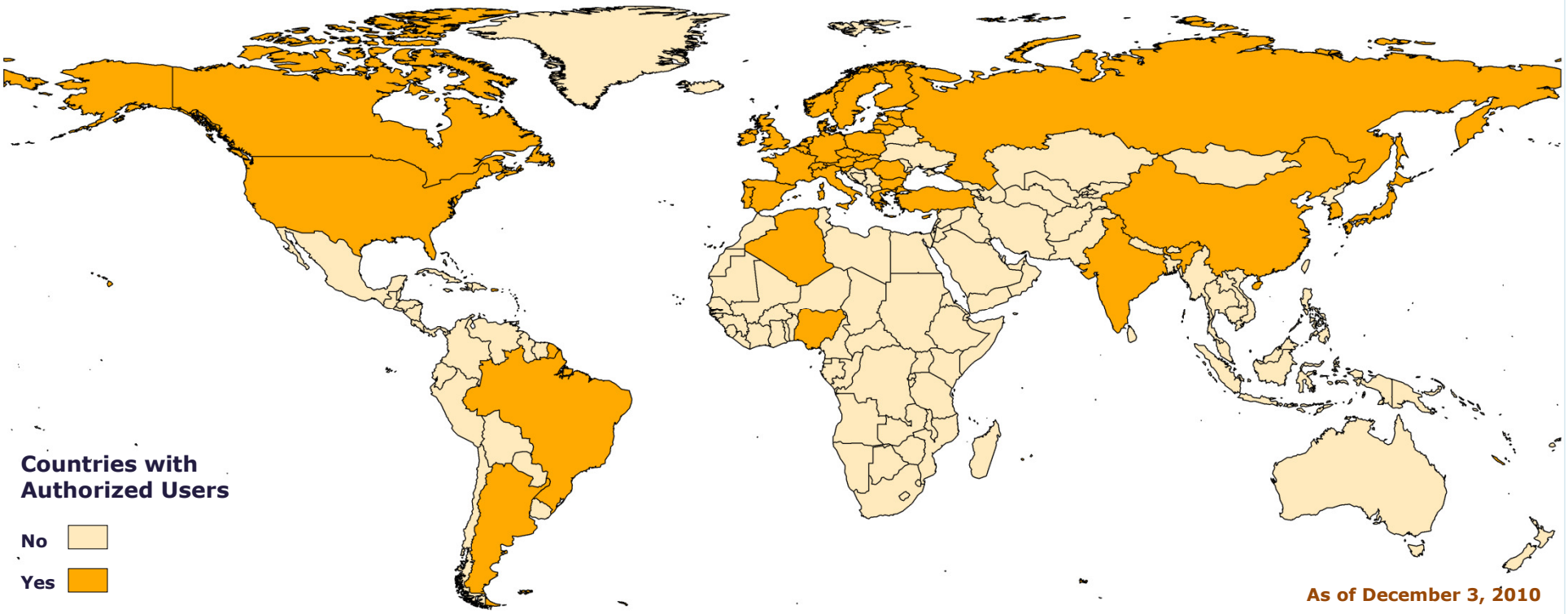


As of December 3, 2010

Activating the Charter

Authorized Users are:

- the entities authorized to request the services of the Charter, thus mobilizing the space and ground resources of Charter member agencies to obtain data and information on a disaster occurrence
- a civil protection, rescue, defense or security body from the country of a Charter member
- a pre-defined list of 40+ user organisations, corresponding to 39 countries.



Charter Operations

EMERGENCY ON-CALL OFFICER (ECO)

ON-DUTY OPERATOR (ODO)

MEMBERS

PROJECT MANAGER (PM)

AUTHORIZED USER (AU)

VALUE-ADDED PROVIDER (VAP)

END USER (EU)

DISASTER

- ESA
- CNES
- CSA
- USGS
- NOAA
- UKSA/DMC
- JAXA
- CNSA
- CONAE
- ISRO

Mechanisms to Activate the Charter

- Direct activation (in-country members)
- Activation via an AU on behalf of a user from a non-member country ("Sponsor AU")
- Activation via the UN for UN users
- Activation for Asia-Pacific Users
  - Sentinel Asia and the Asian Disaster Reduction Center





Charter Activation Cases
(disaster types)

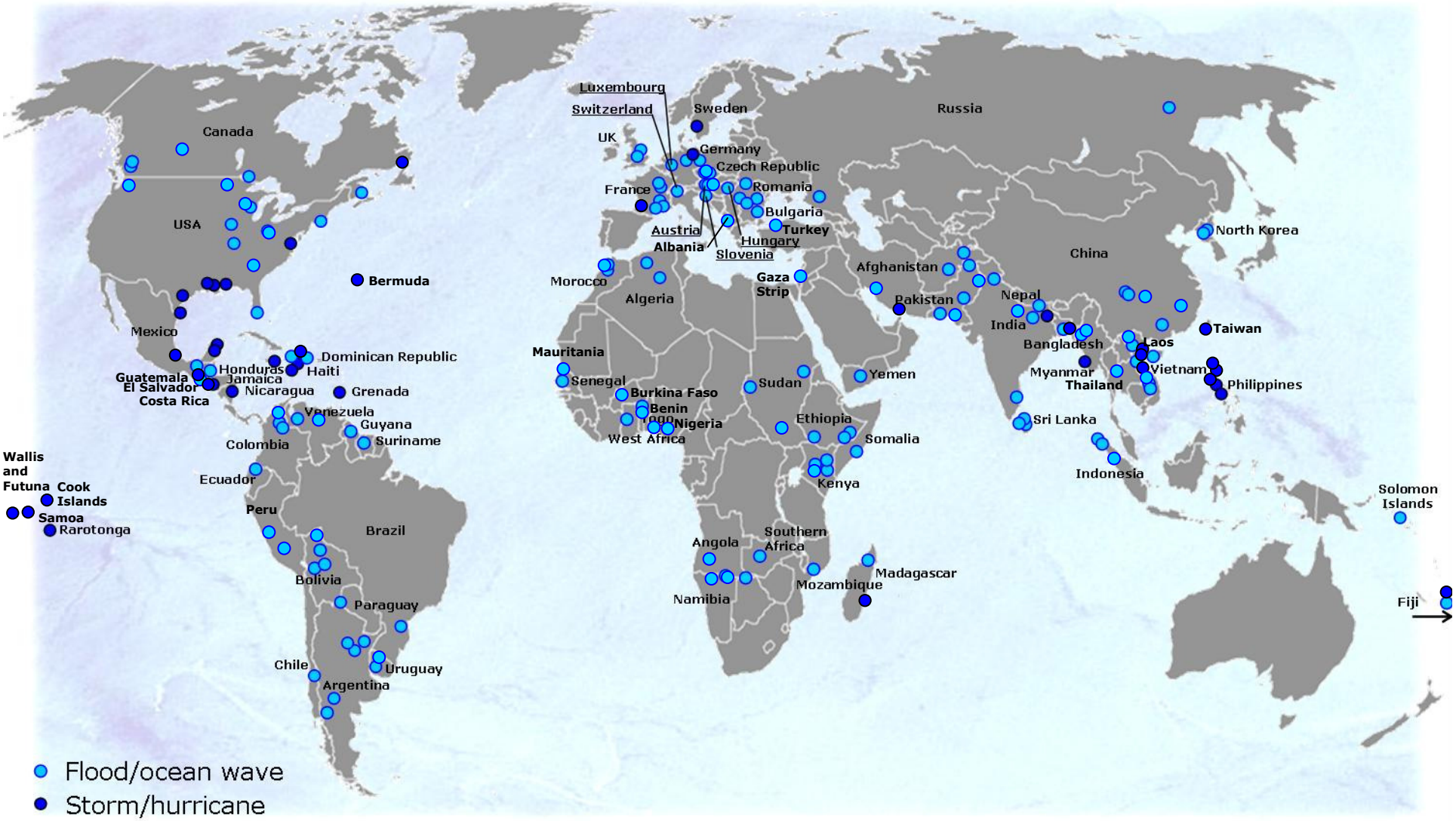
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Sub-totals		Total
Solid Earth	*Earthquake*		*3*	*1*	*3*	*5*	*3*	*2*	*5*	*4*	*3*	*5*		34	**65**	**293**
	Landslide	*1*	*1*	*2*	*2*			*1*			*4*	*2*		13		
	Volcano		*1*	*1*	*2*	*2*	*1*	*1*	*2*	*3*	*3*	*2*		18		
Weather / Atmospheric	*Storm/hurricane***			*1*	*2*	*3*	*6*	*1*	*8*	*8*	*8*	*11*		48	**211**	
	Ice/snow hazard								*1*			*1*		2		
	*Flood/ocean wave**		*3*	*8*	*4*	*9*	*13*	*16*	*22*	*23*	*18*	*25*	*1*	142		
	Fire				*5*	*1*	*2*		*4*	*2*	*4*	*1*		19		
Technological	*Oil spill*		*3*	*2*				*4*	*3*			*1*		13	**17**	
	Others					*1*						*3*		4		
	Total / year	**1**	**11**	**15**	**18**	**21**	**25**	**25**	**45**	**40**	**40**	**51**	**1**			

*includes solid earth related phenomenon of a tsunami

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

Activation Distribution

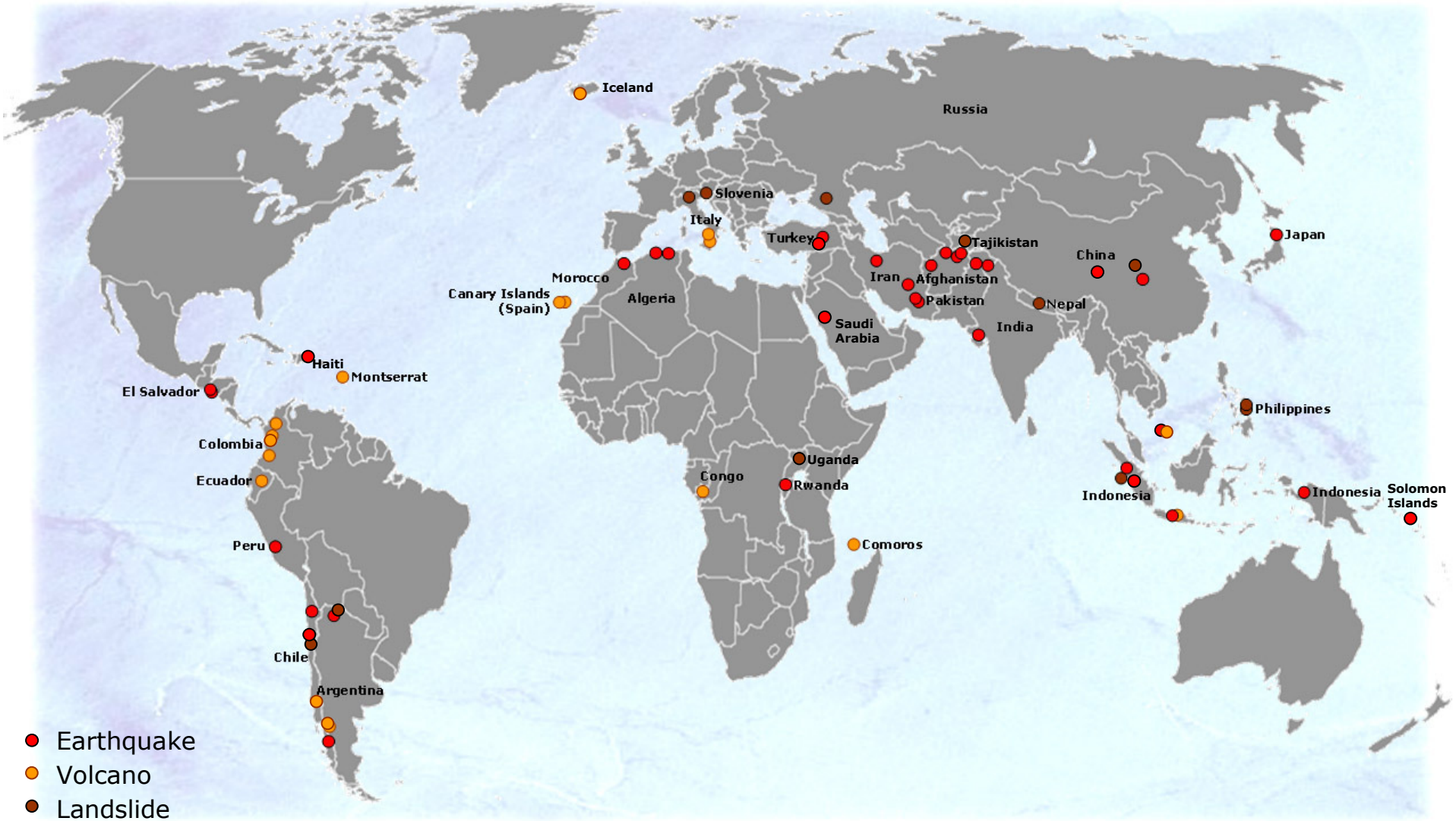
Floods and storms



As of December 3, 2010

Activation Distribution

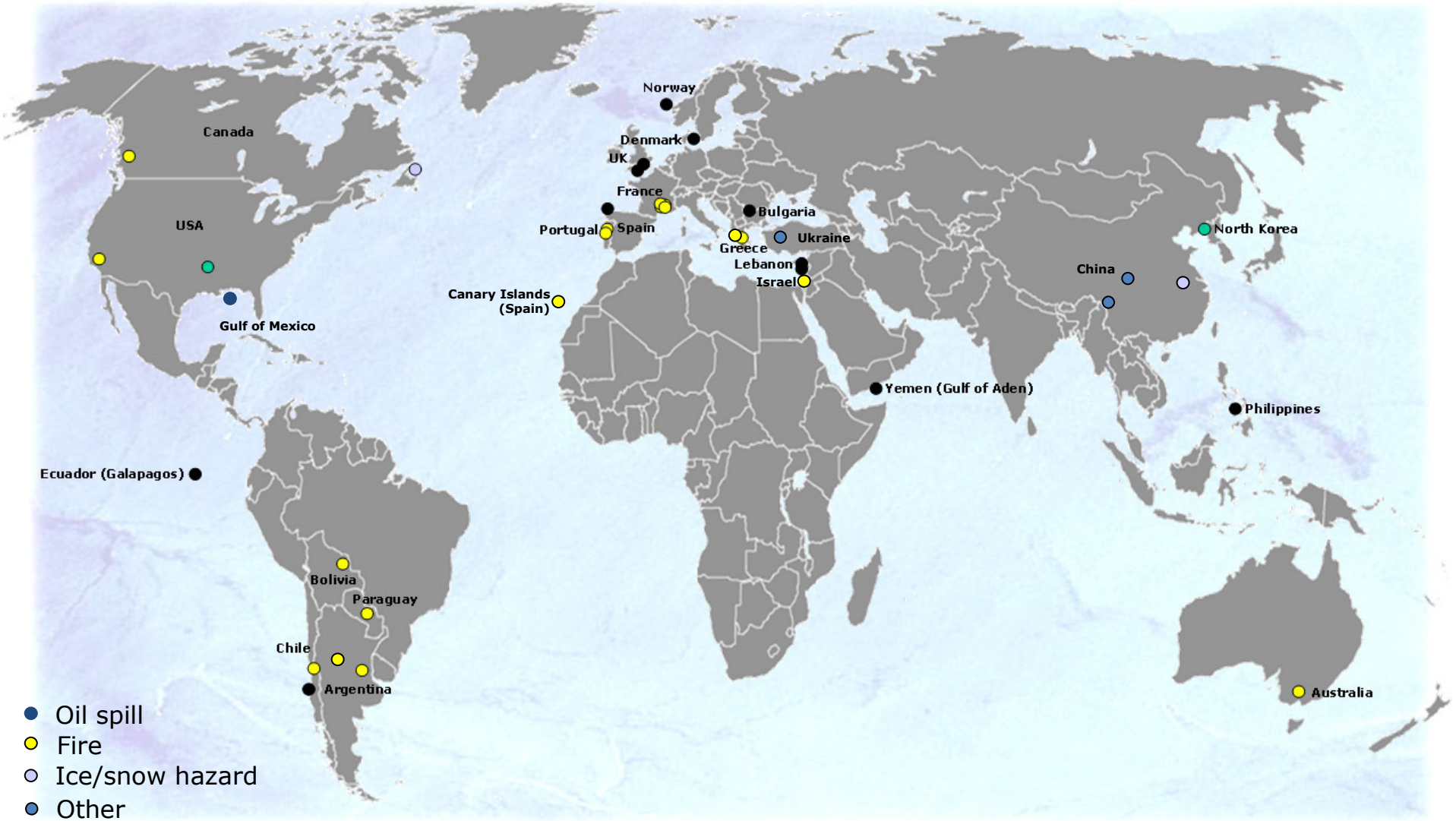
Earthquakes, volcanic eruptions and landslides



As of December 3, 2010

Activation Distribution

Oil spills, forest fires and other hazards



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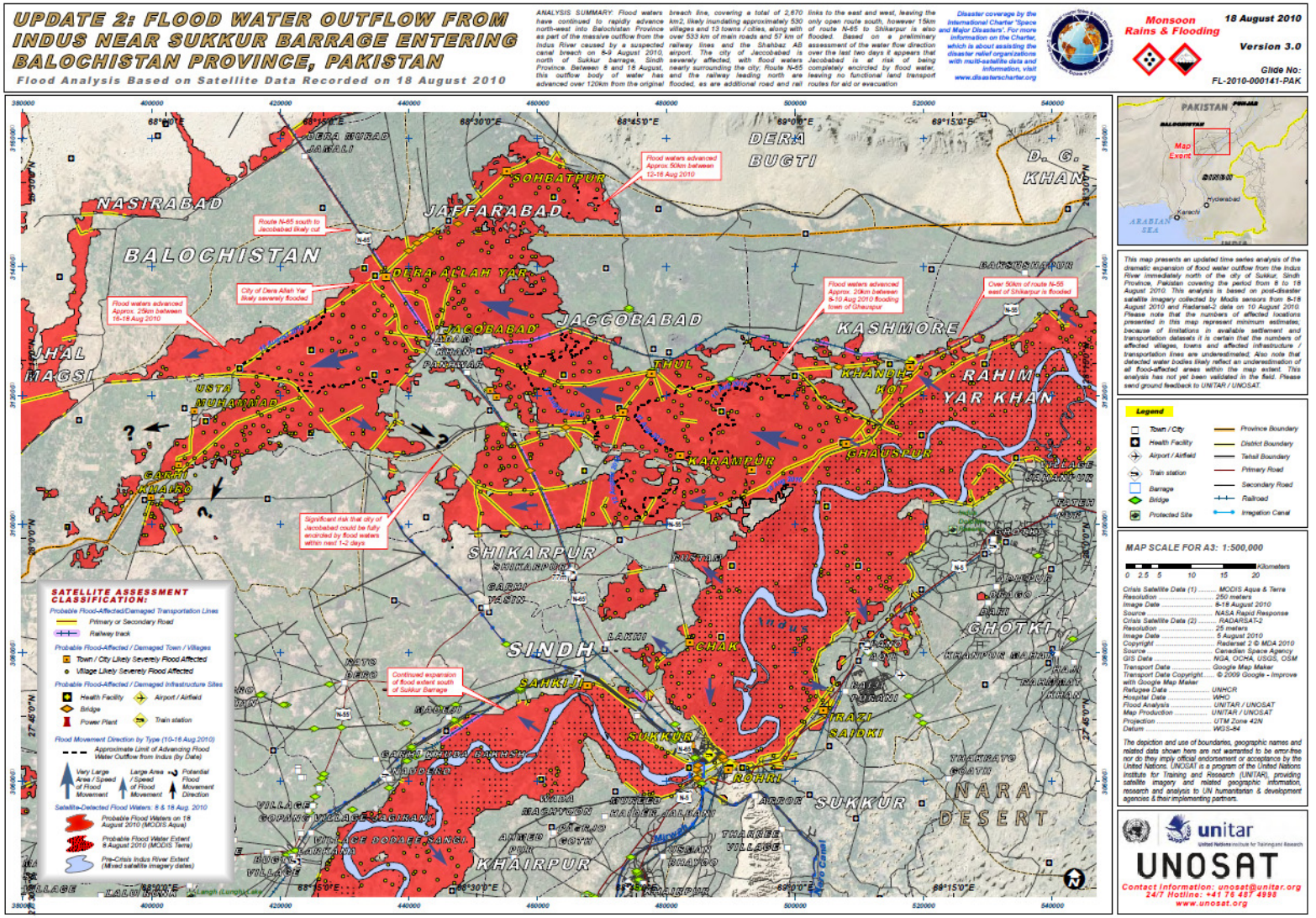
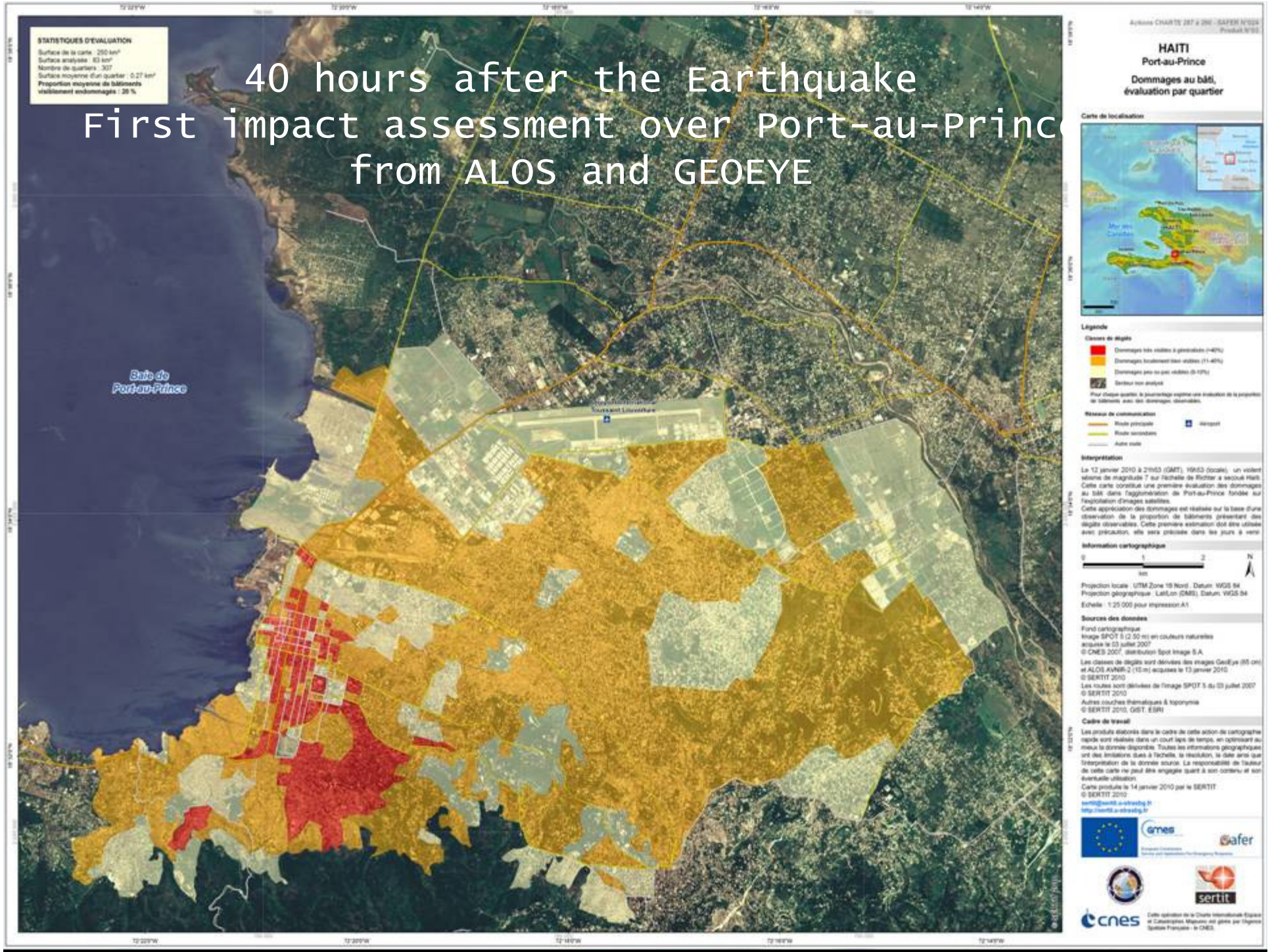
Support to Flood Response, Pakistan




40 hours after the Earthquake
First impact assessment over Port-au-Princ
from ALOS and GEOEYE
HAITI
Port-au-Prince
Dommages au bâti,
évaluation par quartier
Baie de
Port-au-Prince
Légende
Interprétation
Information cartographique
Sources des données
Cadre de travail
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Support to Tsunami Response, Indonesia

28 December 2004
Crisis Image

23 June 2004
Reference Image

Collaboration with the UN

- Authority to Request Charter Activations
  - UN OOSA
  - UNITAR/UNOSAT
  - 30-40% of Charter activations annually
- Support UN disaster response globally
- Service UN Programs
  - OCHA, WFP, UNICEF, others
- Training and Capacity Building
- Outreach

UNISPACE III Opening Session

photo by : fdcozentrum

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