



History of Emergency Observation Request in the past decade

- Sentinel Asia 10 years Anniversary -

Joint Project Team Meeting (JPTM) in Hanoi, Vietnam

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Sentinel Asia is...



- Sentinel Asia is a voluntary initiative between **space agencies** and **disaster management agencies** to apply **Remote Sensing** and **Web-GIS** technologies to assist disaster management in the Asia-Pacific region.
- Sentinel Asia aims to:
 - ✓ Improve safety in society by ICT and space technology
 - ✓ Improve speed and accuracy of disaster preparedness and early warning
 - ✓ Minimize the number of victims and social/economic losses.

Emergency Observation is...

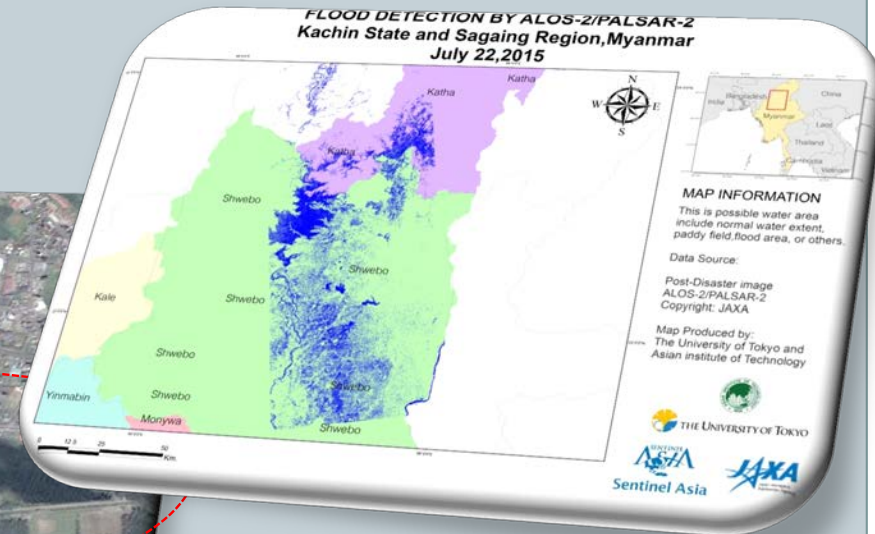
- When disaster happened, Sentinel Asia can accept Emergency Observation Request from JPT and ADRC member. Sentinel Asia provides satellite image data and product for requestor.



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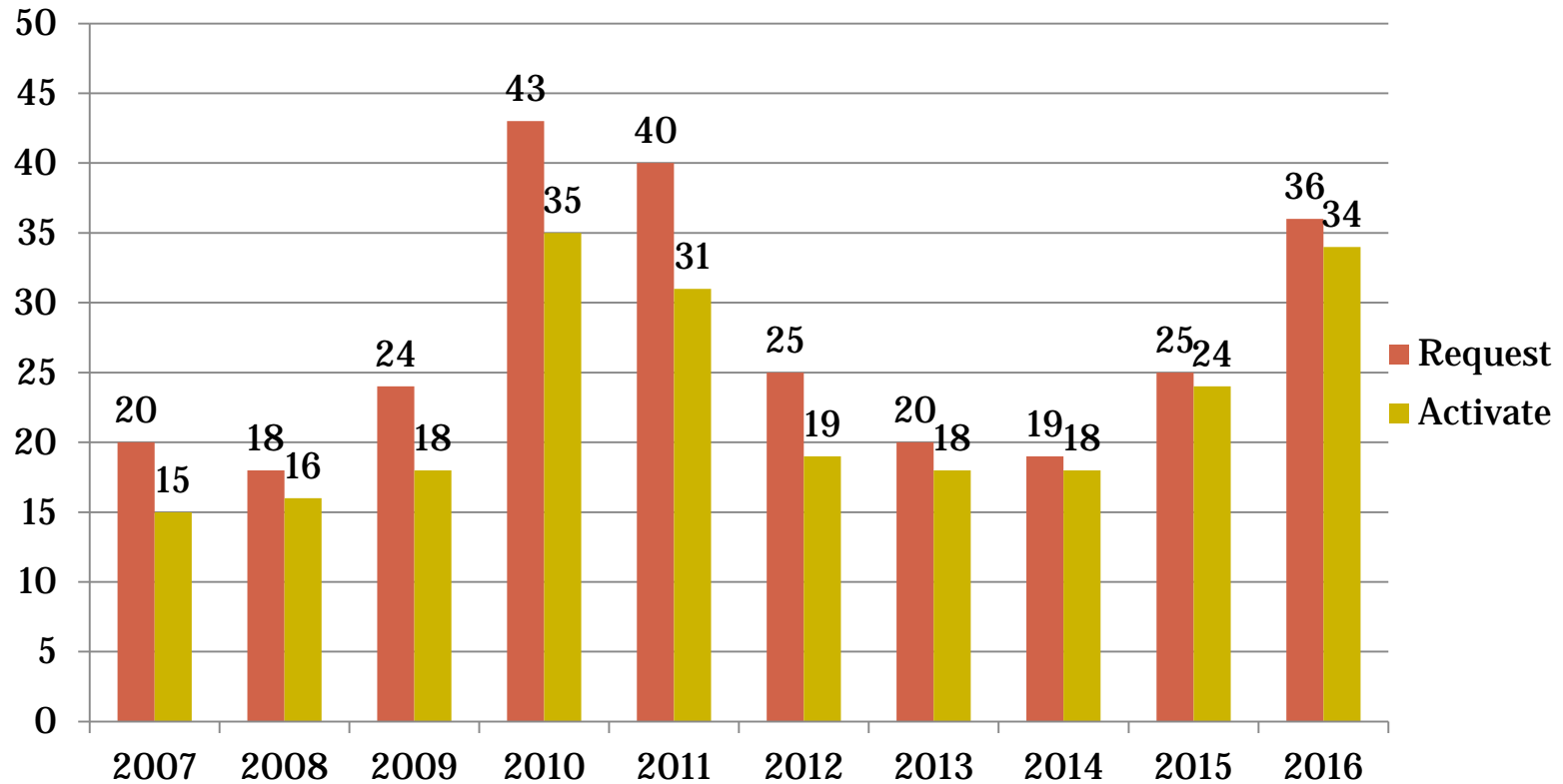


TREND of EOR

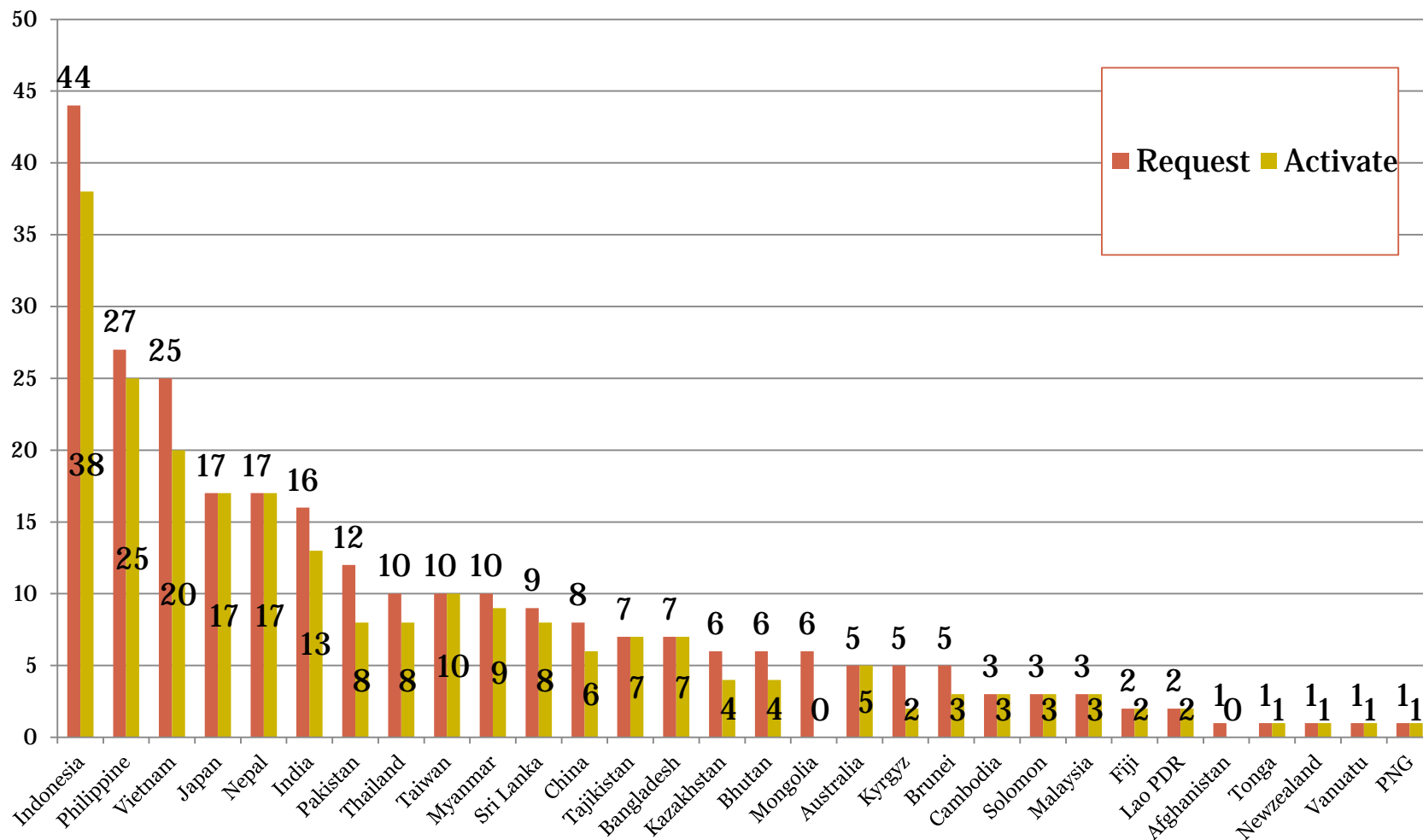
Number of EOR in the past decade



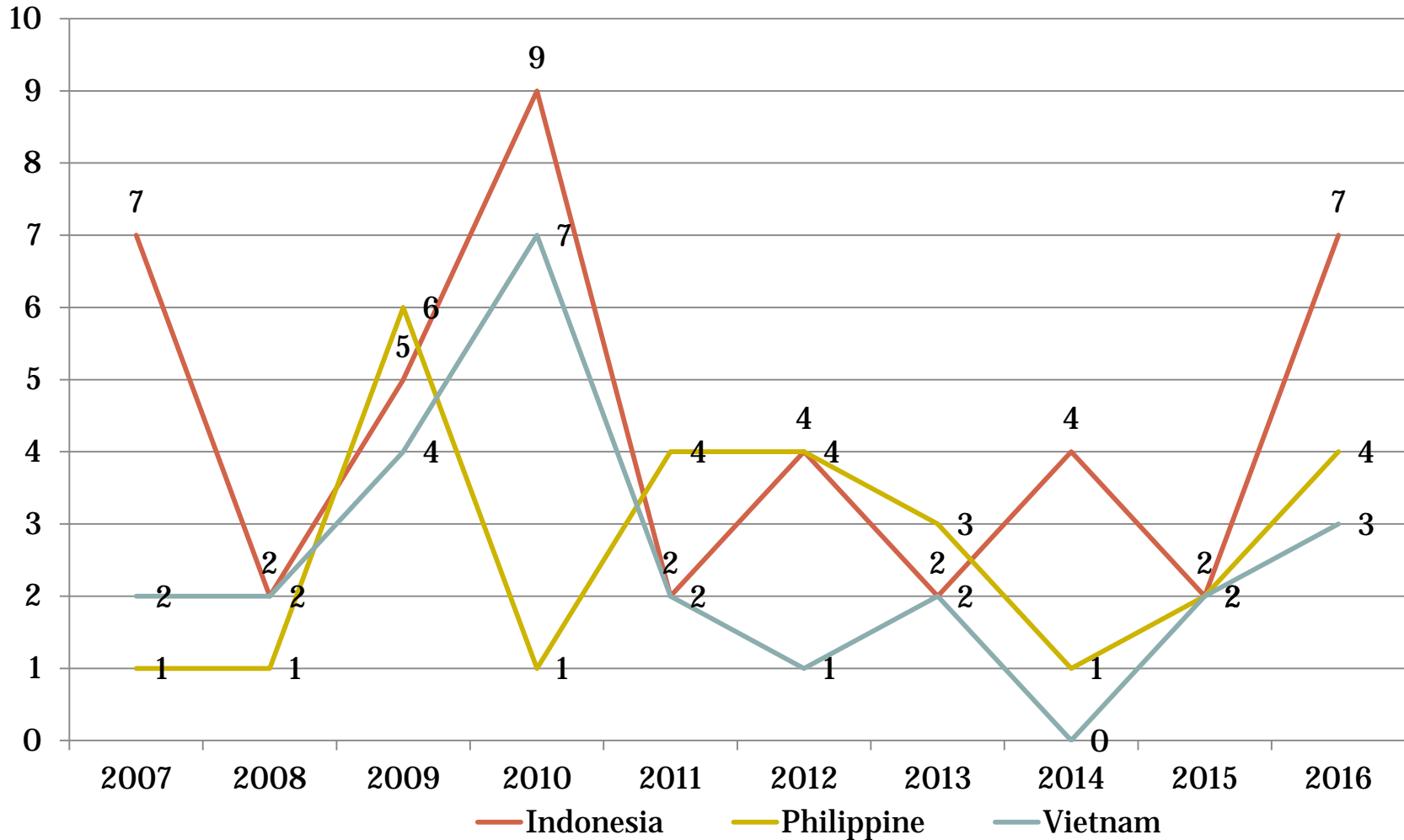
Sentinel Asia accepted 270 requests, 228 were activated.



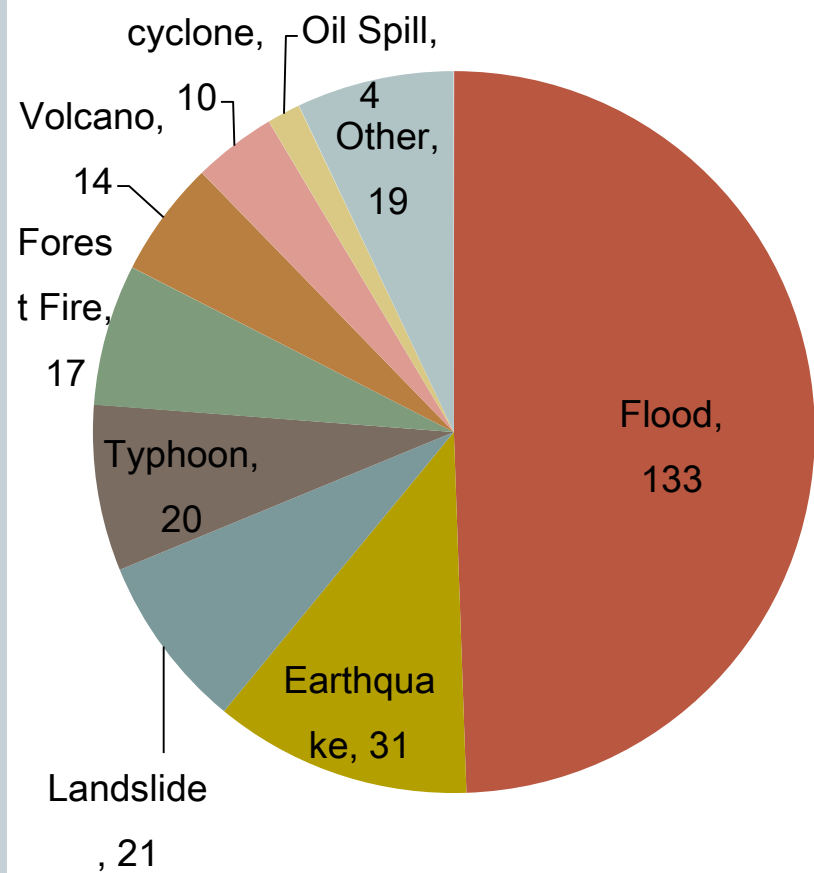
The status of implementation for each country/region (2007-2016)



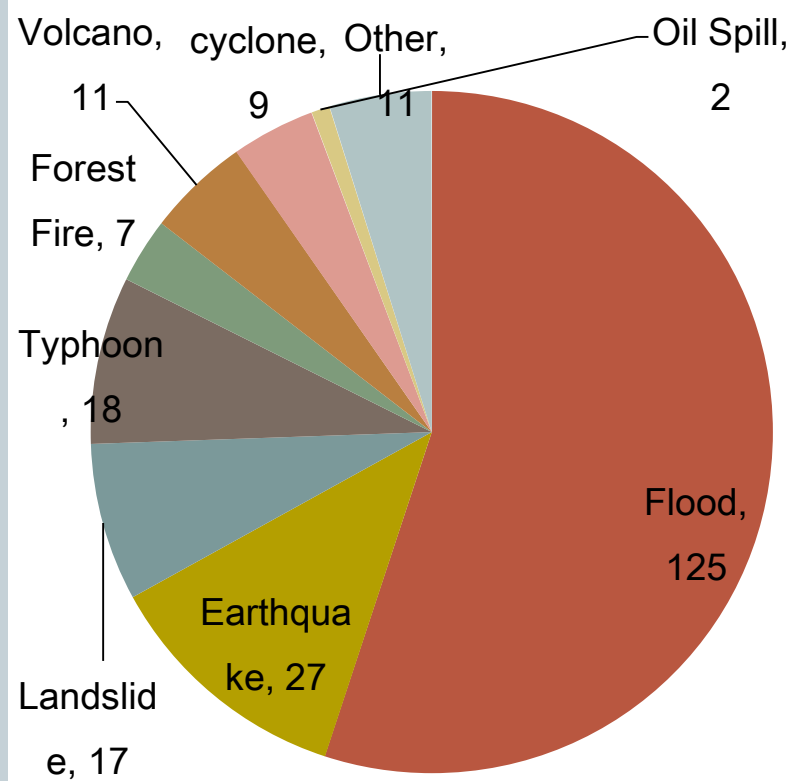
Comparison of number EOR in top 3 countries (2007-2016)



Type of Disaster (2007-2016)



Request



Activate



REQUIRED DAYS for REQUEST and ACTIVATE

Average days for Request and Activate after disaster occurrence in 2011-2016



		2011-2016	
		Occurance → Request	Request → Activate
TOTAL	N	140	143
	average days	2.3	0.8
Flood	N	74	76
	average days	2.4	0.6
Earthquake	N	17	17
	average days	1.6	0.2
Landslide	N	12	12
	average days	2.8	1.4
Typhoon	N	14	14
	average days	1.1	0.3
Forest Fire	N	3	4
	average days	1.8	1.2
Volcano	N	6	6
	average days	0.7	0.2
Cyclone	N	7	7
	average days	1.9	0.5
Oil Spill	N	2	2
	average days	3.7	0.5
Other	N	5	5
	average days	1.3	0.4

Quick Response for Activate after Request

It needs much time for request after disaster occurrence.

Quick Response of request after disaster occurrence.



REQUIRED DAYS for PROVIDING DATA

Average days for providing images and product in 2011-2016



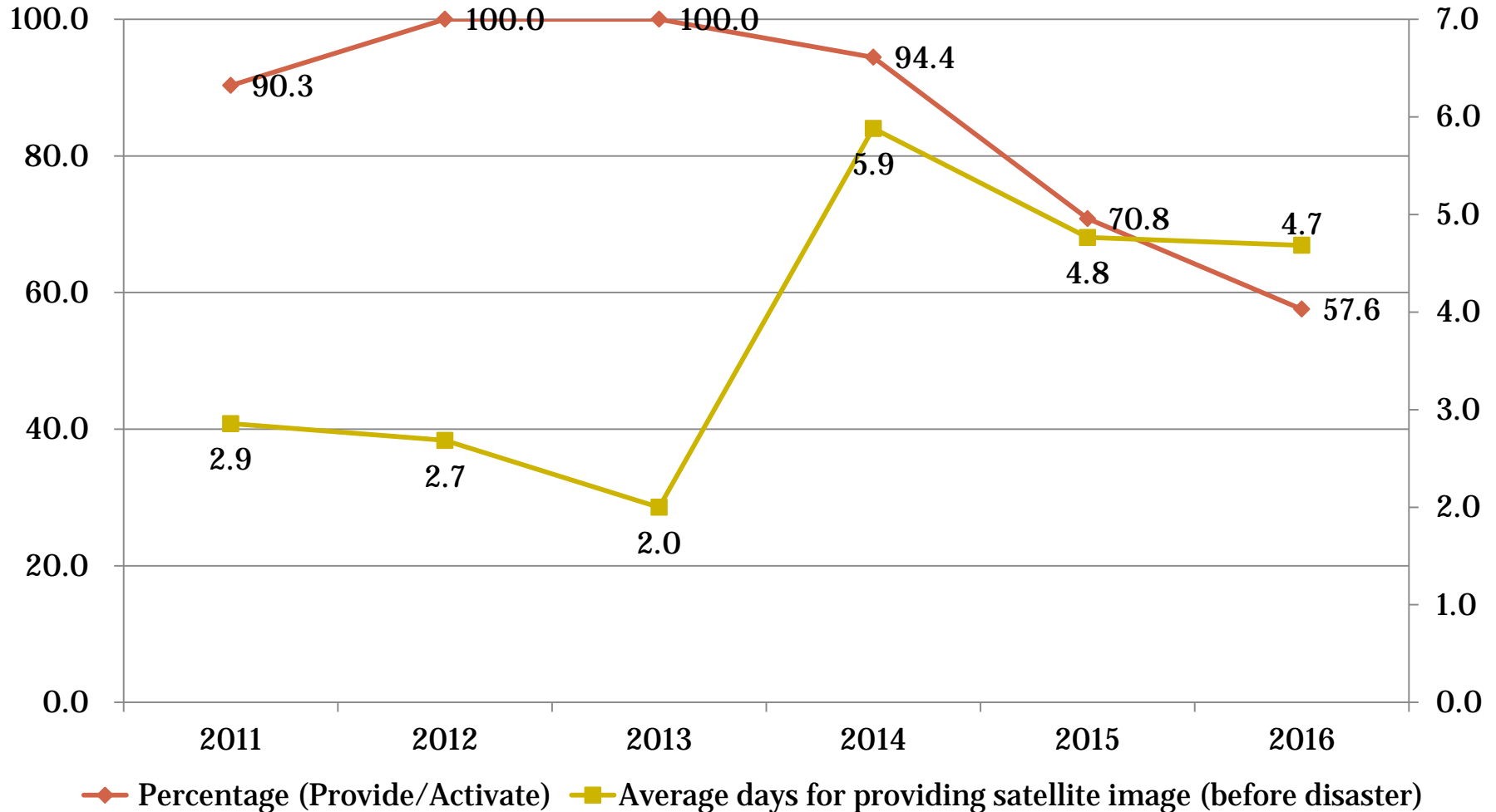
12

	Satellite Image (before disaster)	Satellite Image (after disaster)	Product
Number of Activate	143	143	143
Number of Provide	118	120	90
Percentage (Provide/Activate)	82.5	83.9	62.9
Average days for provide data	3.7	5.5	13.7

Average days for providing satellite images in 2011-2016 (archive data)



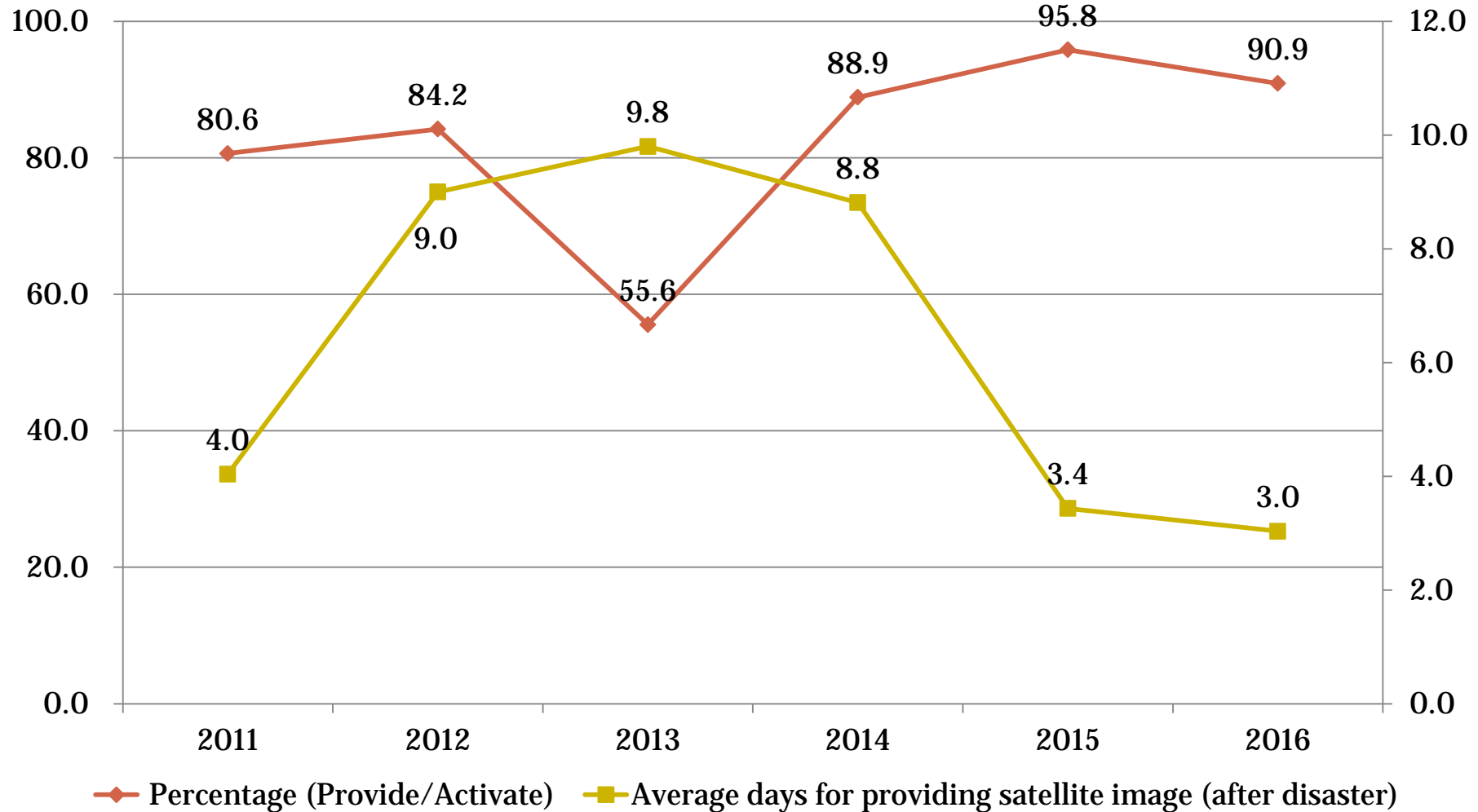
13



Average days for providing satellite images in 2011-2016 (after disaster data)



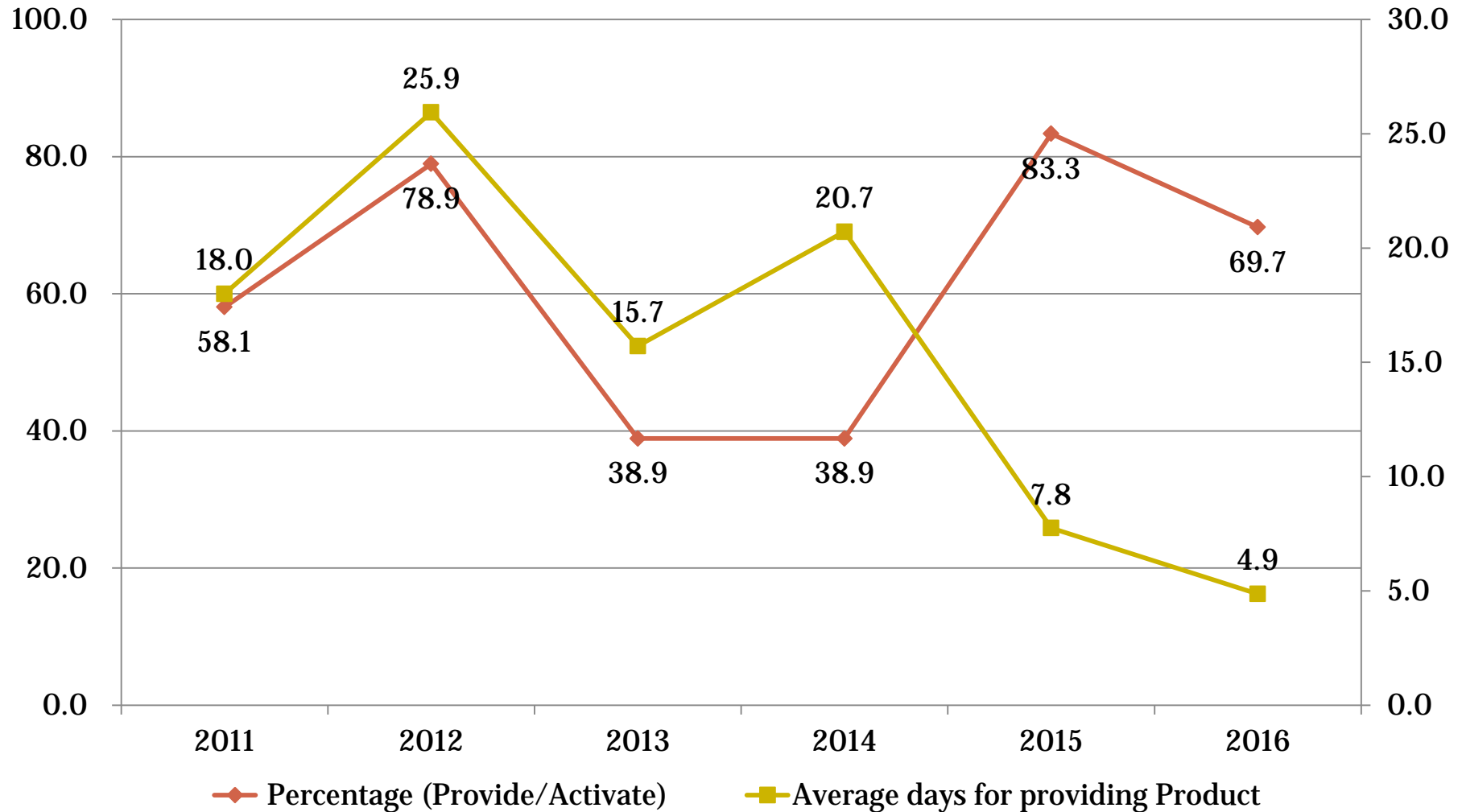
14



Average days for providing product in 2011-2016



15



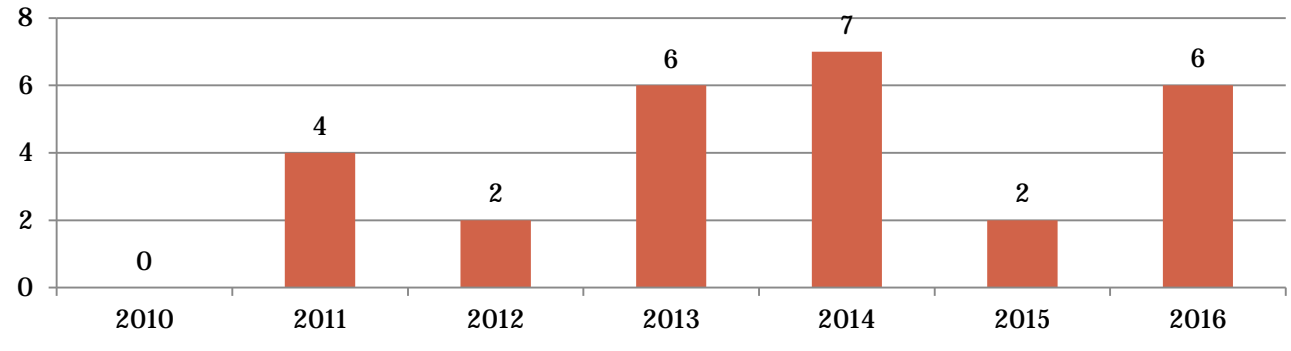


INTERNATIONAL CHARTER

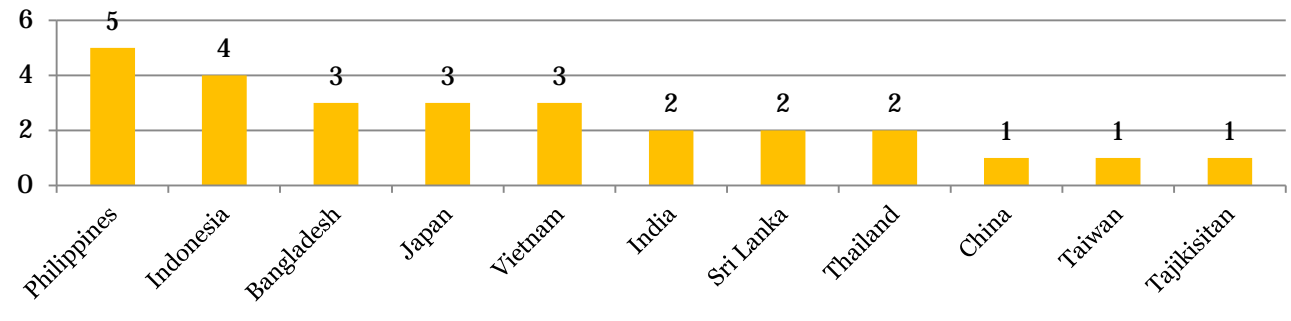
Elevation for IDC from Sentinel Asia (2010-2016)



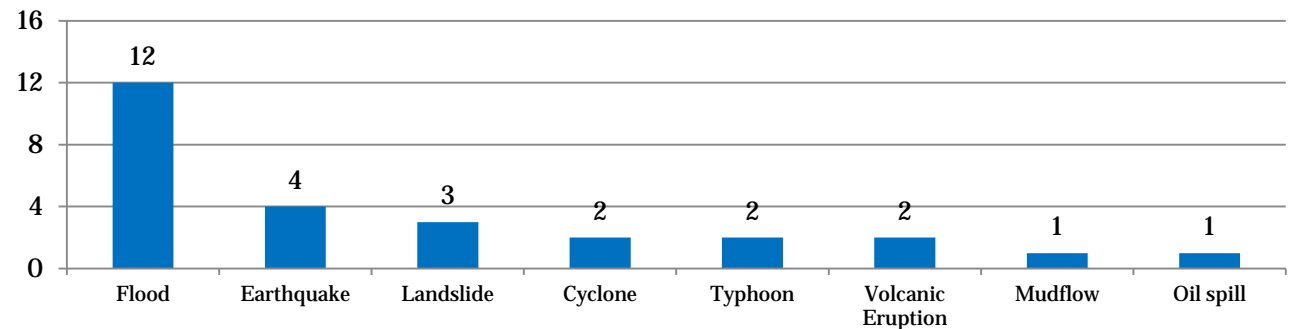
Number of Elevation for IDC



Number of Elevation for IDC (by country/region)



Number of Elevation for IDC (by type of disaster)





CASE STUDY in VIETNAM

Flood in July-Aug 2015, Vietnam



19

Between 26 July and 03 August 2015, heavy rainfall occurred in the most of Northern Region of Vietnam including Quảng Ninh, Điện Biên, Lạng Sơn and Sơn La provinces. The rain-fall led to serious flooding in Northern Coastal areas, while flash floods and landslides affected the mountainous regions.

33 people were reportedly killed, 3 were missing and 48 were injured.

Approximately 8,000 houses, 18 schools, 15,414 ha agricultural areas and 55,877 m irrigation system were damaged

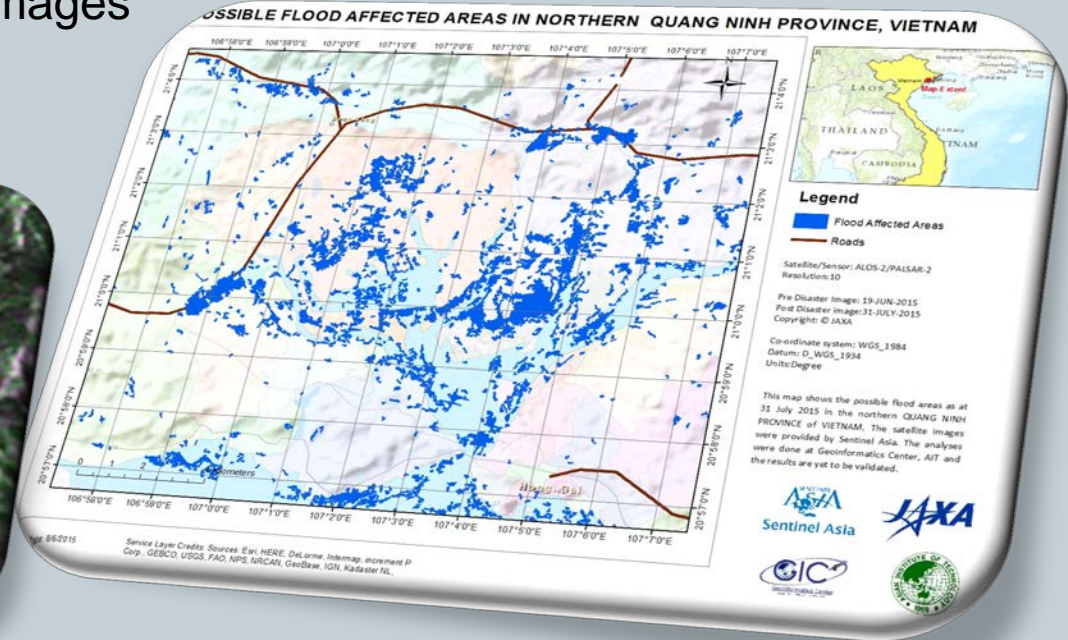
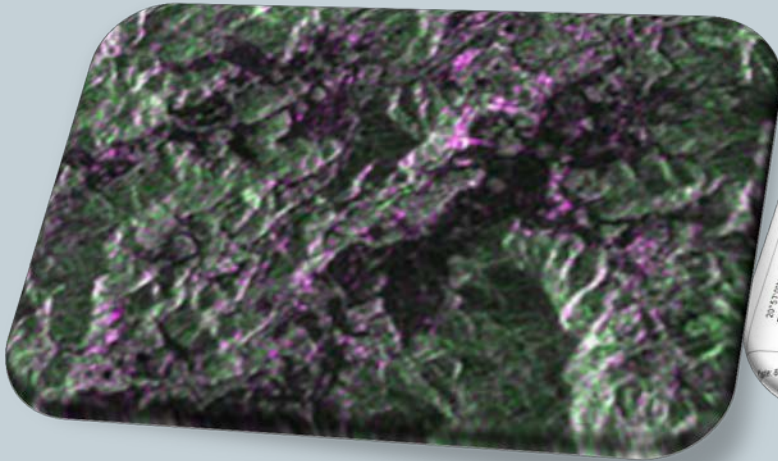


Utilization provided data in Vietnam



20

Sentinel Asia provides satellite images and products for this flooding



(Comment from VAST)

The map products and satellite images from Sentinel Asia (SA) have been one of the reference/data sources for us when a disaster takes place in Vietnam.

(Comment from MARD)

Satellite images and map products provided by Sentinel Asia (SA) after the July 2015 floods were very useful to us. Those data and maps were passed to central and provincial governments, and utilized during field and rapid assessment surveys.

ADRC promotes disaster risk reduction through multi-national/multi-stakeholder/multi-lateral cooperation in the Asian region.



<http://www.adrc.asia>

Thank you very much