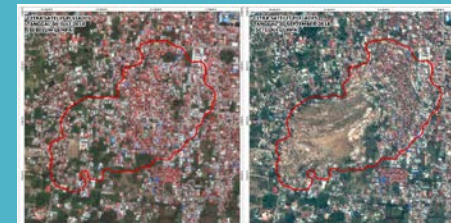


DISSEMINATION OF REMOTE SENSING FOR DISASTER EMERGENCY RESPONSE IN INDONESIA

United Nations International Conference on Space-based Technologies for Disaster Risk Reduction
Beijing, China, 11-12 September 2019



Outlines

01

Introduction

Background, Current monitoring system

02

Remote Sensing Activities for Disaster Emergency Response

03

Dissemination Information

04

Coordination and Distribution Information

01

Introduction

Background, Current monitoring system

Introduction

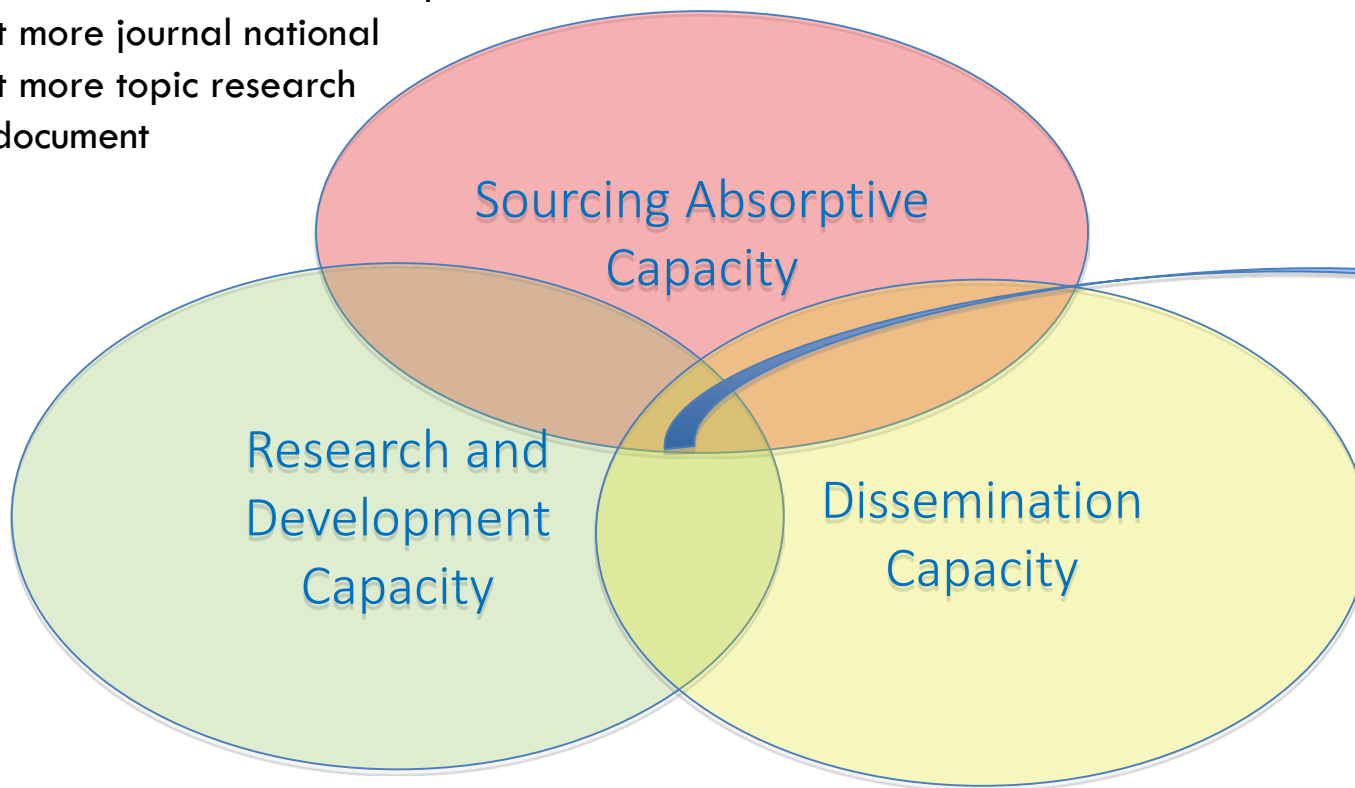
Background, Current monitoring system

R&D Capacity

- Upgrade and improvement product information
- More national and international publication
- Support more journal national
- Support more topic research
- Patent document

Sourcing Absorptive Capacity

- Upgrade human resources
- Certificate ISO 9001/2015
- International speakers publication
- International conference speakers



“Center of Excellence in Remote Sensing”

Dissemination Capacity

- Cooperation national and international
- More cooperation non research/research
- Research contract
- National appreciate
- National reference
- Socio-economic benefit

Role of LAPAN on Remote Sensing Activities in Indonesia (Act No. 21/2013)

Substances related to remote sensing activities, such as:

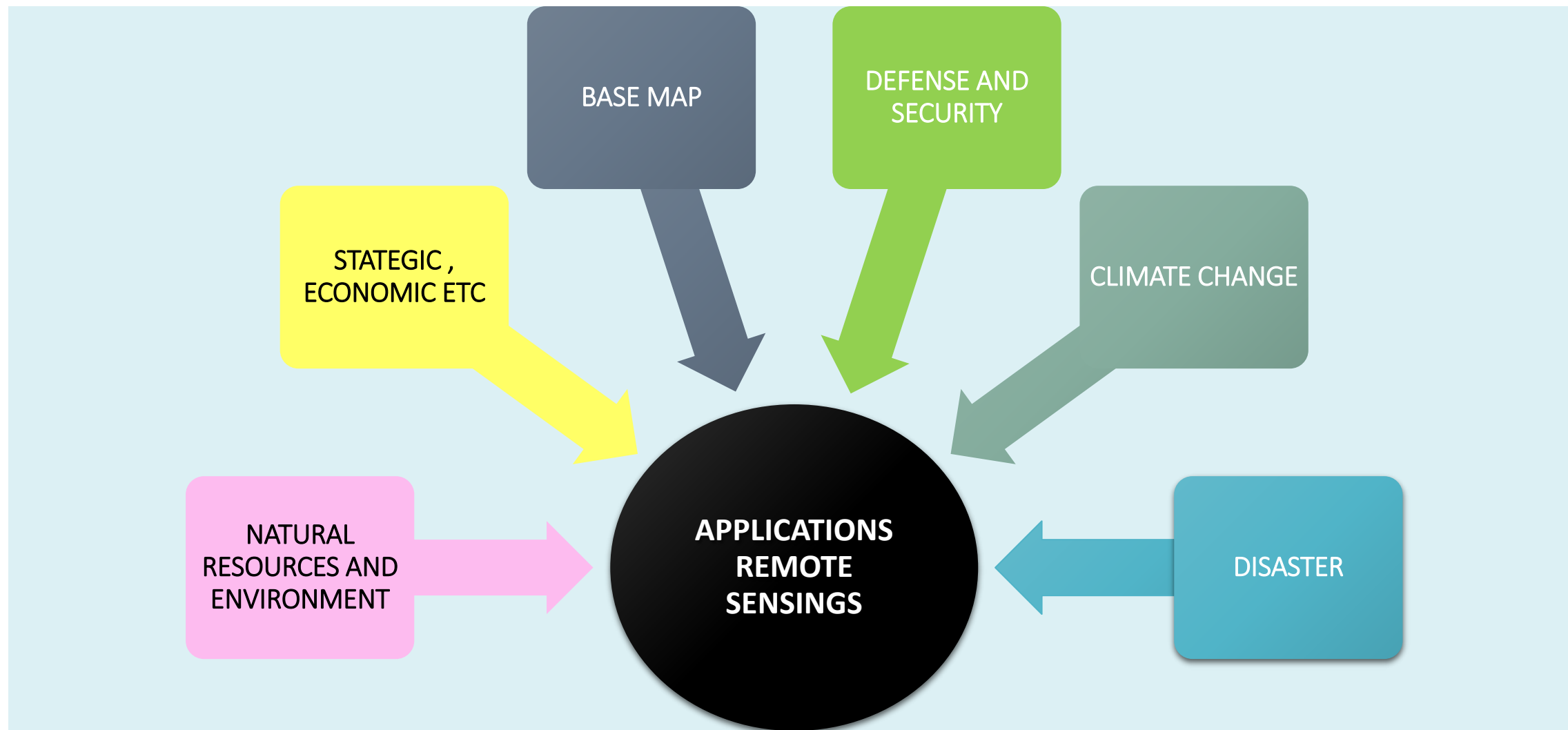
- Planning, developing and operating **satellites and remote sensing ground stations** (articles 16 and 17).
- **Procurement** of high-resolution remote sensing data (article 18).
- Preparation of **the standard methods** and **the data processing quality** (article 19).
- Organizing the storage and distribution of data through **the National Remote Sensing Data Bank** as a network node remote sensing data in the National Spatial Data Network System (article 20).
- Establish **guidelines for the use and dissemination of remote sensing information** (article 22).



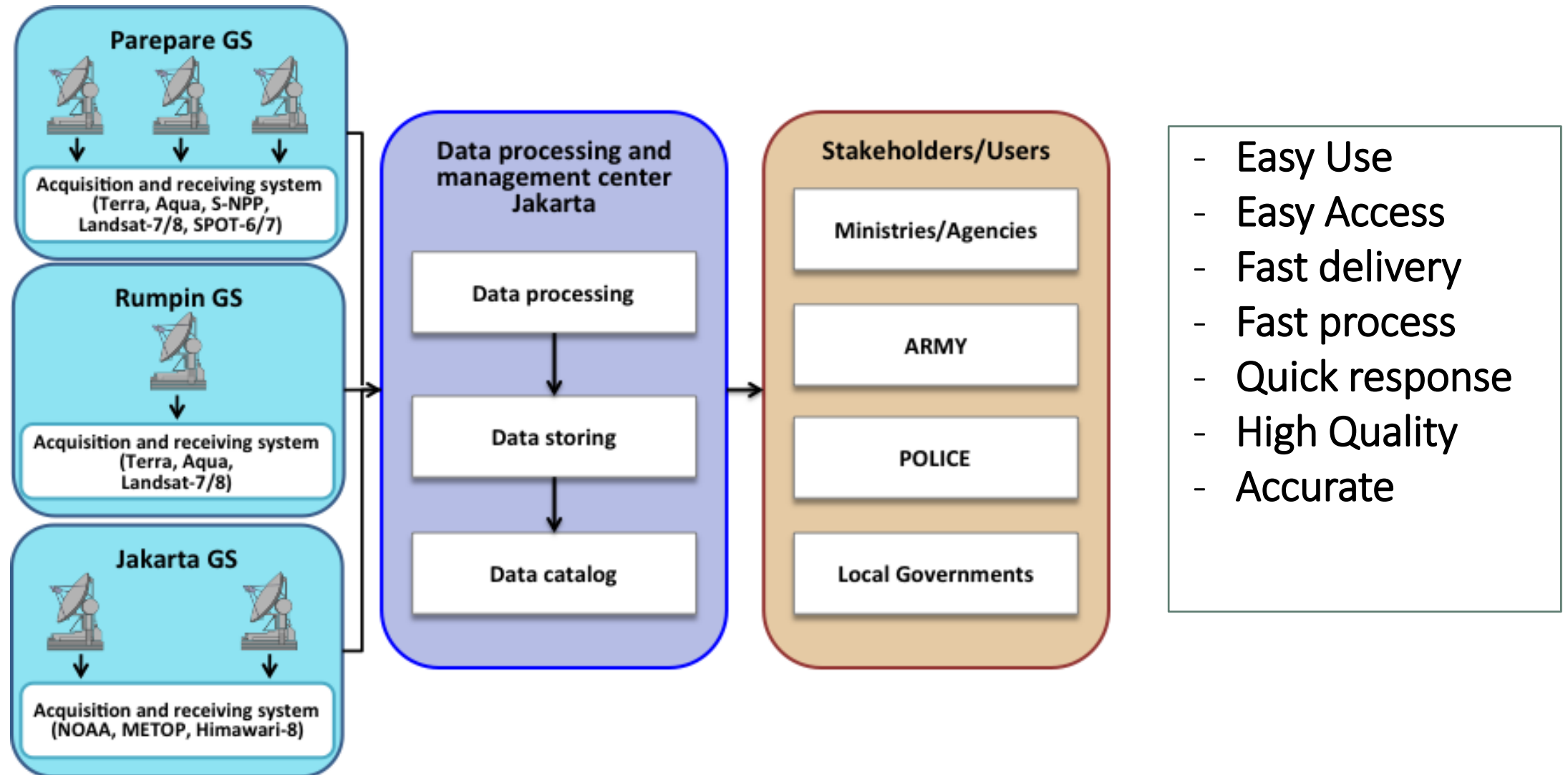
02

Remote Sensing Activities for Disaster Emergency Response

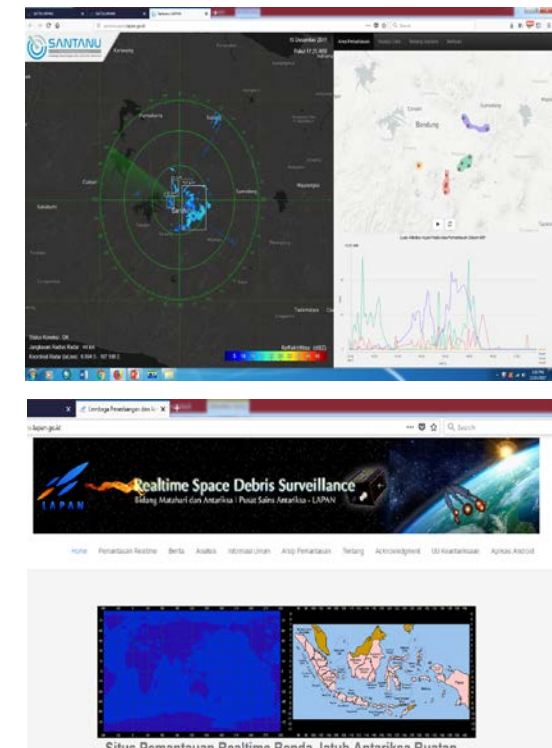
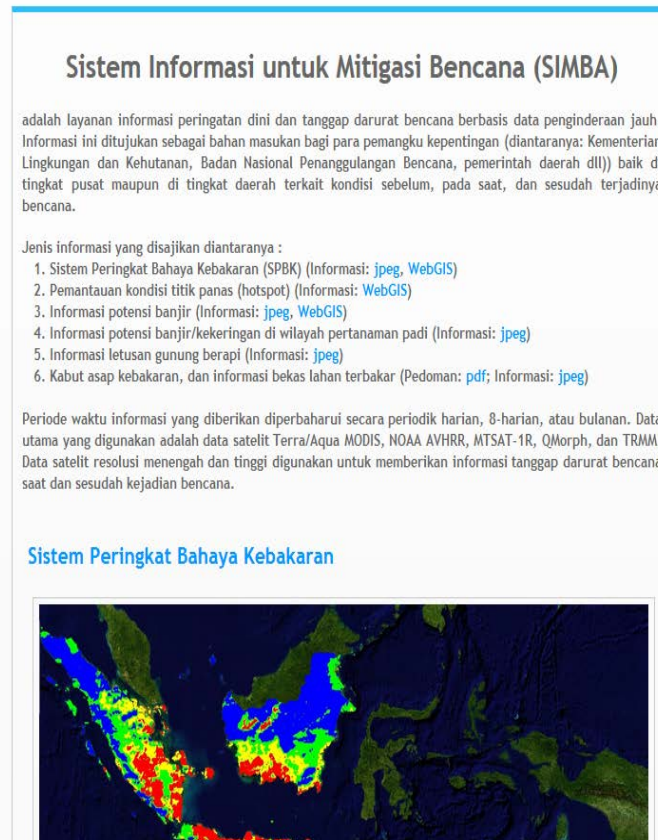
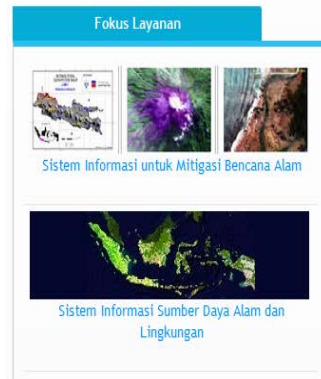
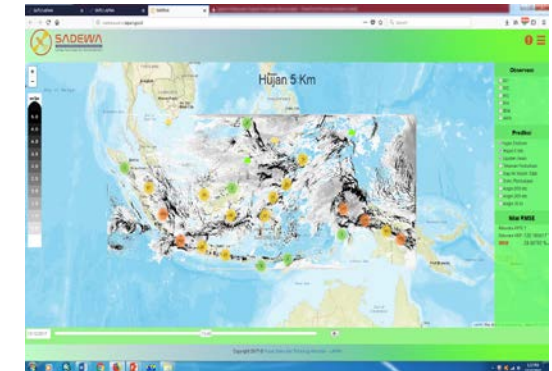
Remote Sensing Activities for Disaster Emergency Response

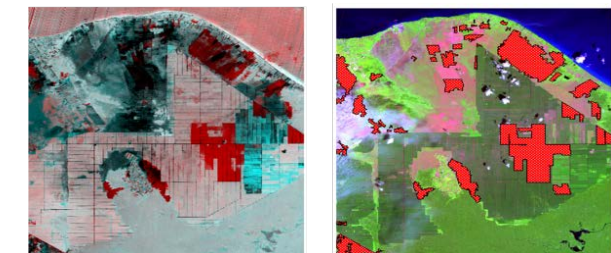


Remote Sensing Activities for Disaster Emergency Response



Available Systems at LAPAN for Disaster Emergency Response

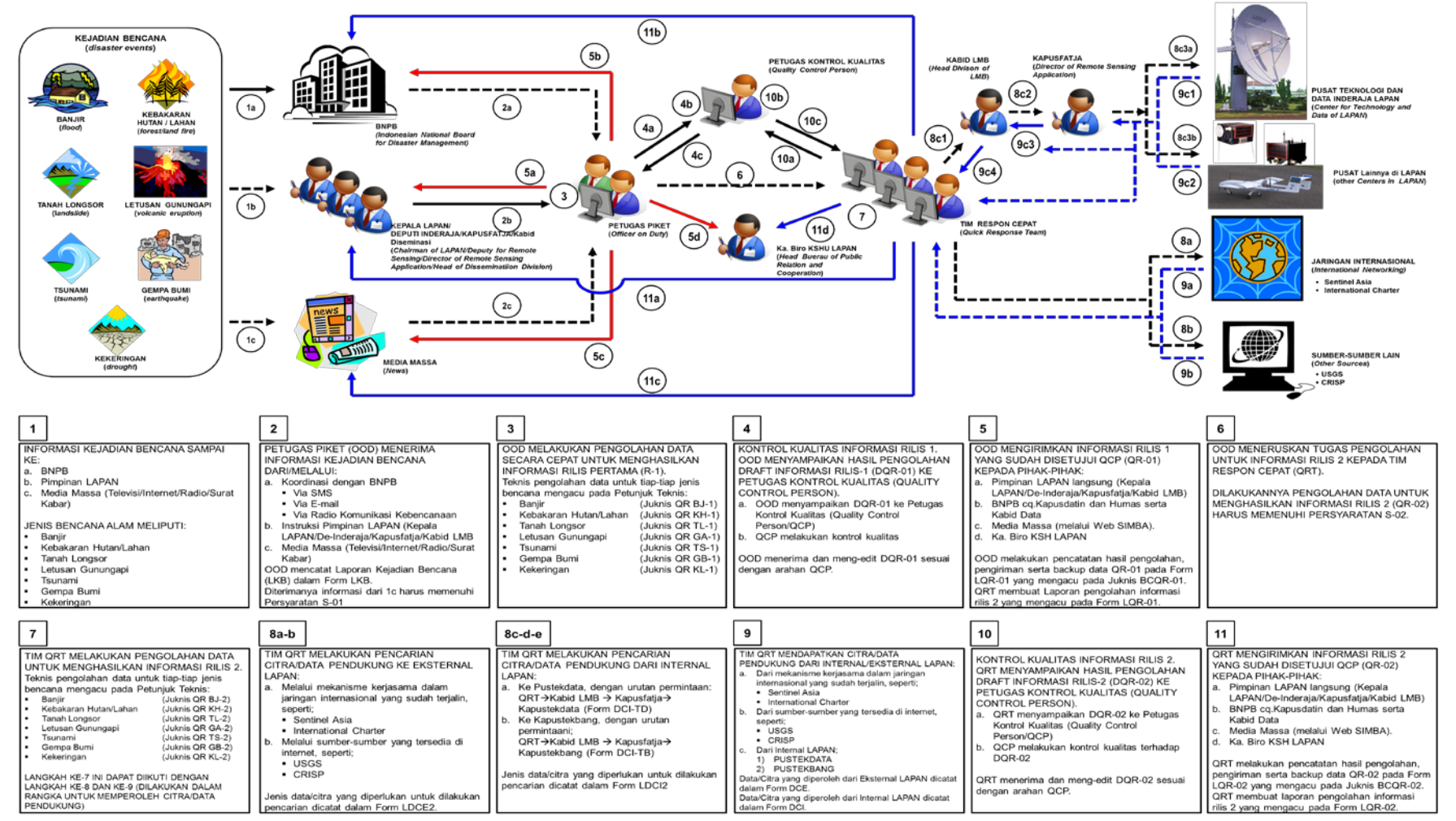




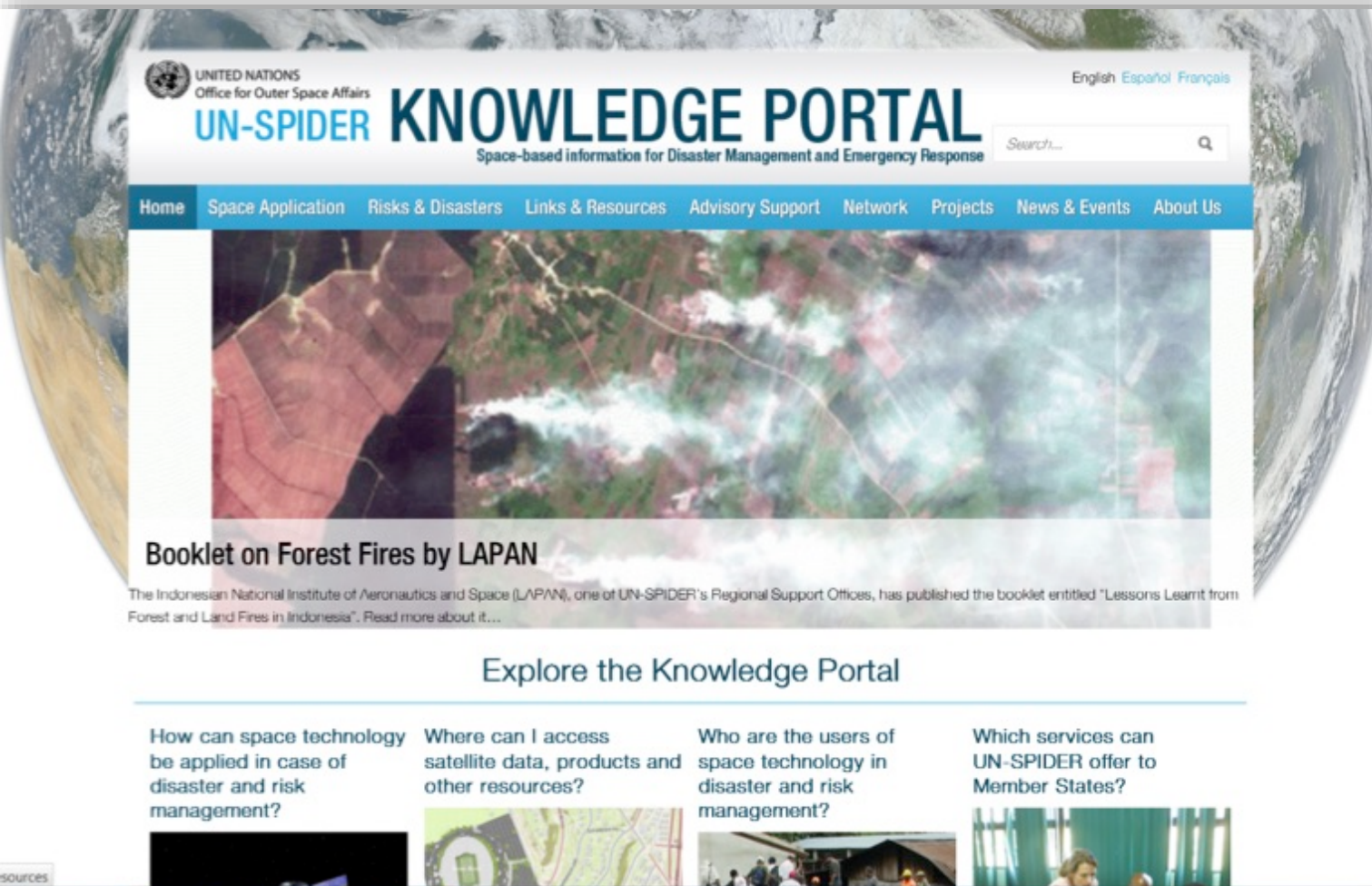
Remote Sensing Activities for Disaster Emergency Response

STANDAR OPERASIONAL PROSEDUR TANGGAP DARURAT BENCANA

STANDARD OPERATING PROCEDURES DISASTER EMERGENCY RESPONSE

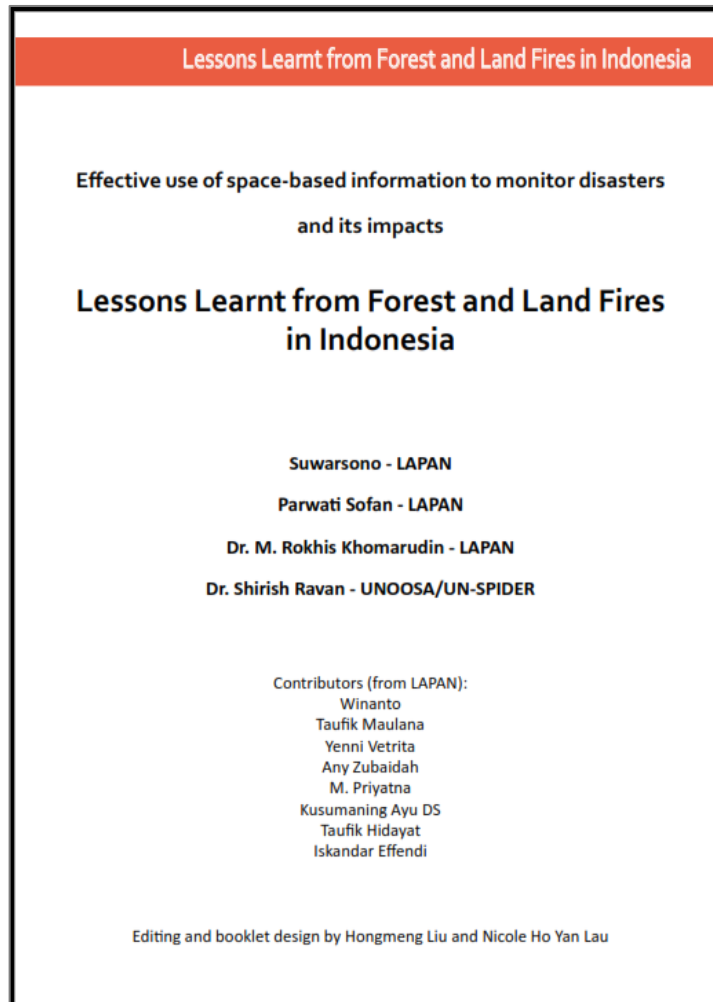


International collaboration



- Access to and develop the capacity to use all types of space-based information to support the full disaster management cycle
- Connect to the disaster management and space communities
- Capacity building and institutional strengthening

Agreement Regional Support Office



- Quick response team that responsible for providing disaster information
- Development of procedural guideline on emergency response in countries
- Development of booklet on lessons learned about the forest fires in Indonesia for the UN-SPIDER Knowledge Portal

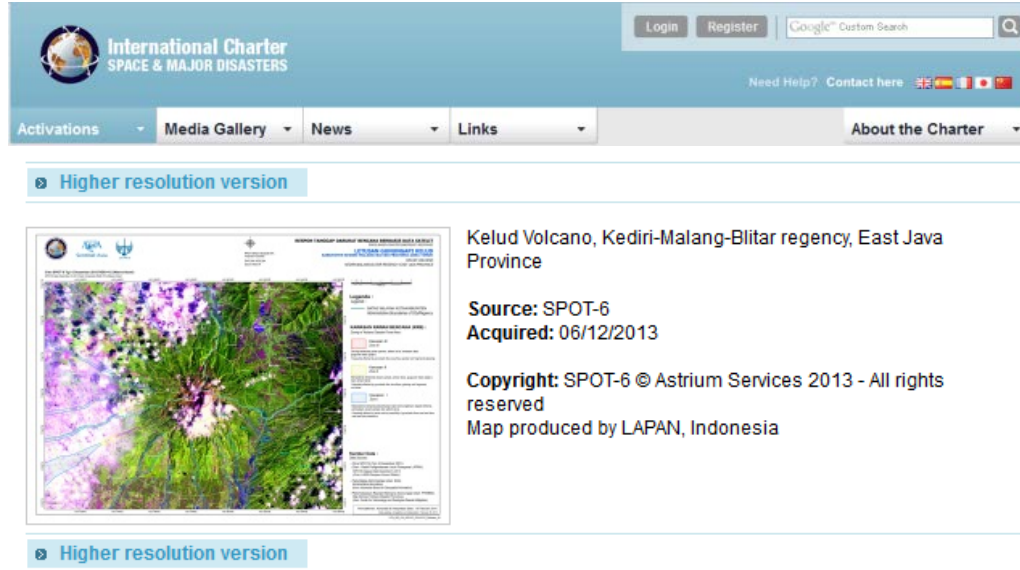
International Charter

- Active in Sentinel Asia and International Charter “Space Major Disaster” in the South East Asia region
- Acted as a data analysis node of Sentinel Asia
- Contributed to the International Charter as project manager as well as value-added providers

List on International Charter Activation

Date of activation	Type of Evant	Loc. of Event	Charter Requestor	Project Management		
01/08/2001	Date of activation	Type of Evant	Loc. of Event	Charter Requestor	Project Management	
06/02/2004	06/03/20017	Date of activation	Type of Evant	Loc. of Event	Charter Requestor	Project Management
26/12/2004	16/09/2009	07/01/2014	Volcano	Sinabung, Sumatra	USGS on Behalf of PVMBG	CVO
27/12/2004	30/09/2009	13/02/2014	Volcano	Mount Kelud	ADRC on Behalf of LAPAN	LAPAN
25/04/2006	28/10/2010	15/12/2014	Landslide	Banjarnegara, Java	ADRC on Behalf of LAPAN	LAPAN
27/05/2006	03/11/2010	07/12/2016	Earthquake	Aceh	ADRC on Behalf of LAPAN	LAPAN
27/12/2006	30/01/2013	06/08/2018	Earthquake	Lombok Island	ADRC on Behalf of LAPAN	AIT
	05/11/2013	29/09/2018	Earthquake, Tsunami	Central Sulawesi	ADRC on Behalf of LAPAN	AIT
		23/12/2018	Oceanwave	Sunda strait	UNOOSA on Behalf of LAPAN	LAPAN
		19/03/2019	Floods	Papua	ADRC on Behalf of LAPAN	AIT

International Charter Activation



International Charter
SPACE & MAJOR DISASTERS

Login Register Google Custom Search

Need Help? Contact here

Activations Media Gallery News Links About the Charter

Higher resolution version

Kelud Volcano, Kediri-Malang-Blitar regency, East Java Province

Source: SPOT-6
Acquired: 06/12/2013

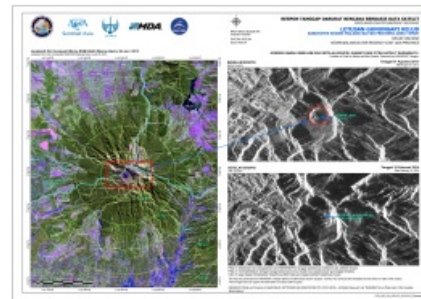
Copyright: SPOT-6 © Astrium Services 2013 - All rights reserved
Map produced by LAPAN, Indonesia

Higher resolution version

Condition of Mount Kelud crater before and after eruption

Source: RADARSAT-2 / Landsat-8
Acquired: RADARSAT-2 Pre-crisis: 31/08/2013
RADARSAT-2 Post-crisis: 15/02/2014
Landsat-8: 26/06/2013

Copyright: RADARSAT-2 Data and Products © MacDonald, Dettwiler and Associates Ltd. (2014) - All Rights Reserved. RADARSAT is an official trademark of the Canadian Space Agency.
Landsat-8 data and products © USGS (2013) - All rights reserved
Map produced by LAPAN



UNITED NATIONS
Office for Outer Space Affairs

MT. KELUD ERUPTION

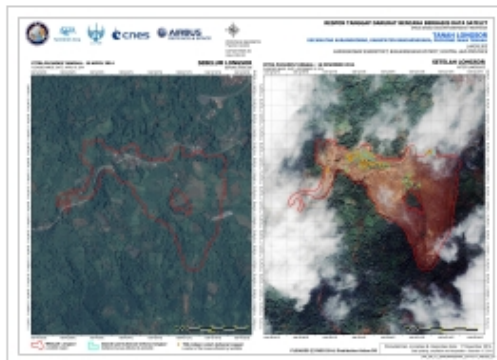
Type of Event: Volcano

Location of Event:
Mount Kelud - Java, Indonesia

Date of Charter Activation:
13 February 2014

Charter Requestor:
Asia Disaster Reduction Center (ADRC) on behalf of
Indonesia Institute of Aeronautics and Space
(LAPAN)

Project Management: LAPAN



Landslide, Karangobar subdistrict, Central Java Province, Indonesia

Source: Pleiades

Acquired: Pre-disaster: 18/04/2014

Post-disaster: 16/12/2014

Copyright: Pleiades © CNES 2014 - Distribution: Airbus Defence and Space, all rights reserved
Map produced by LAPAN

BANJARNEGARA LANDSLIDE

Type of Event: Landslide

Location of Event: Indonesia

Date of Charter Activation: 15 December 2014

Time of Charter Activation: 01:44:00

Time zone of Charter Activation: UTC+01:00

Charter Requestor:

Asia Disaster Reduction Center (ADRC) on behalf of Indonesian National Institute of Aeronautics and Space (LAPAN)

Project Management: LAPAN

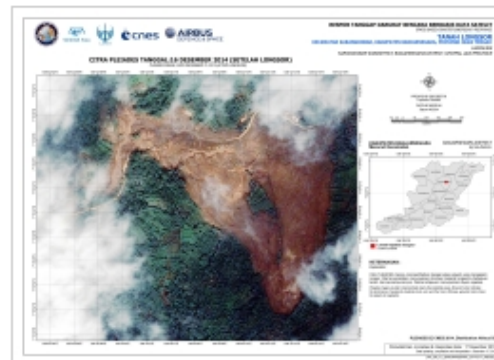
[Higher resolution version](#)

Landslide, Karangobar subdistrict, Central Java Province, Indonesia

Source: Pleiades

Acquired: 16/12/2014

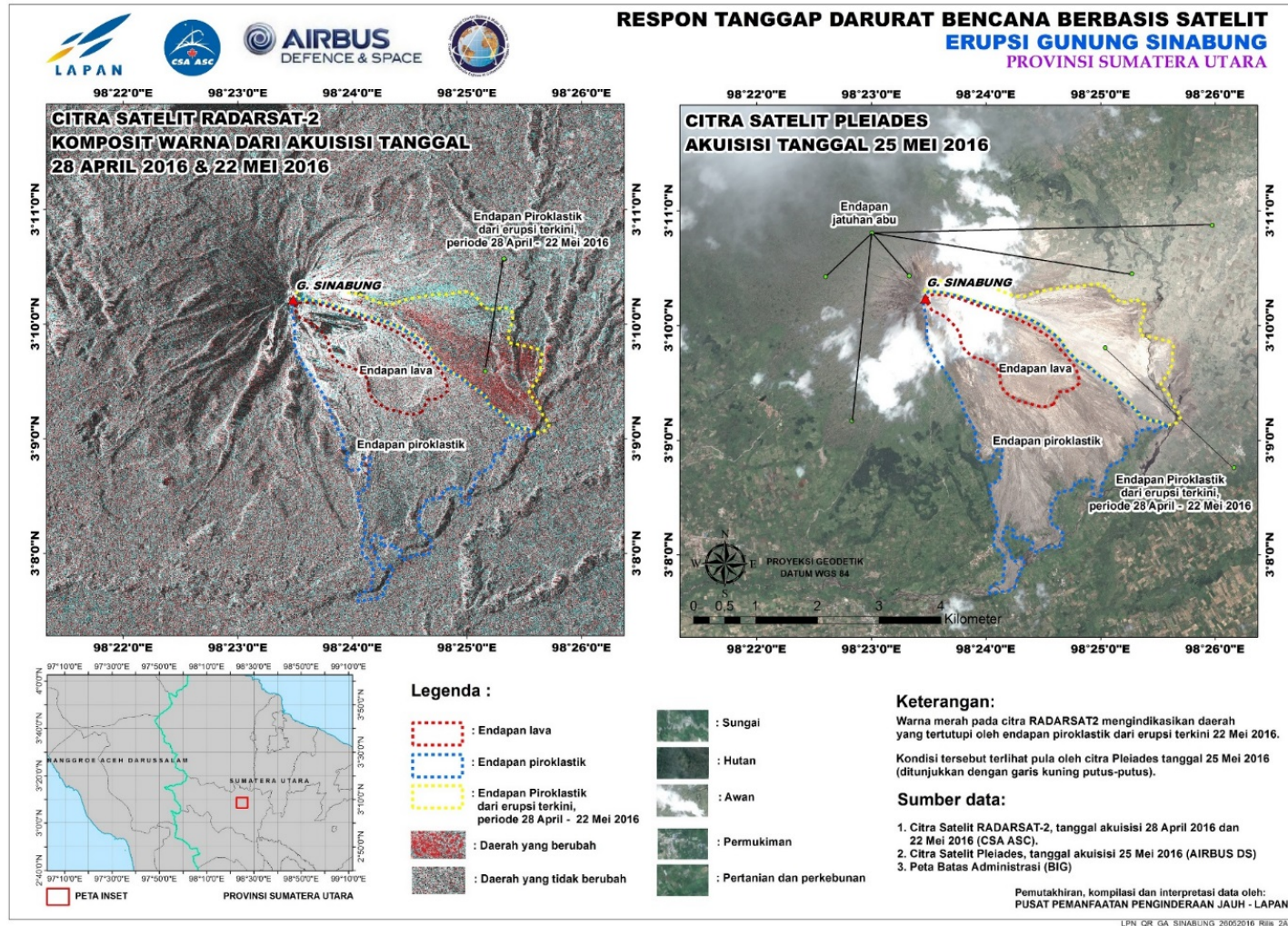
Copyright: Pleiades © CNES 2014 - Distribution: Airbus Defence and Space, all rights reserved
Map produced by LAPAN



03

Dissemination Information

Emergency Response Mapping Mt.SinabungEruption (21 May 2016, Karo, North Sumatra)



Emergency Response Mapping Fast Flood at Garut District (20 Sep 2016, Garut, West Java)



CENTRE NATIONAL D'ÉTUDES SPATIALES

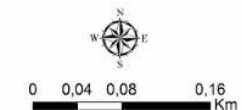
ANALISIS DAMPAK BANJIR BANDANG DI KABUPATEN GARUT TANGGAL 20 SEPTEMBER 2016 BERBASIS DATA SATELIT PENGINDERAAN JAUH



Gambar - 1



Gambar - 2



LEGENDA

- Jalan
- Sungai
- Lokasi Permukiman / Rumah Rusak Berat
- Pemukiman
- Lahan Pertanian
- Industri



Keterangan dan informasi data:

Gambar-1 menunjukkan Citra Satelit PLEIADES Tgl. 09 Juni 2014 (Sebelum Bencana).

Gambar-2 menunjukkan Citra Satelit PLEIADES Tgl. 07 Oktober 2016 (Setelah Bencana).

Analisis daerah terdampak banjir dibuat berdasarkan perbandingan obyek dari Citra Satelit PLEIADES pada kondisi kuasi data sebelum dan sesudah bencana. Daerah terdampak banjir hanya dapat diidentifikasi pada obyek yang mengalami kondisi rusak berat total.

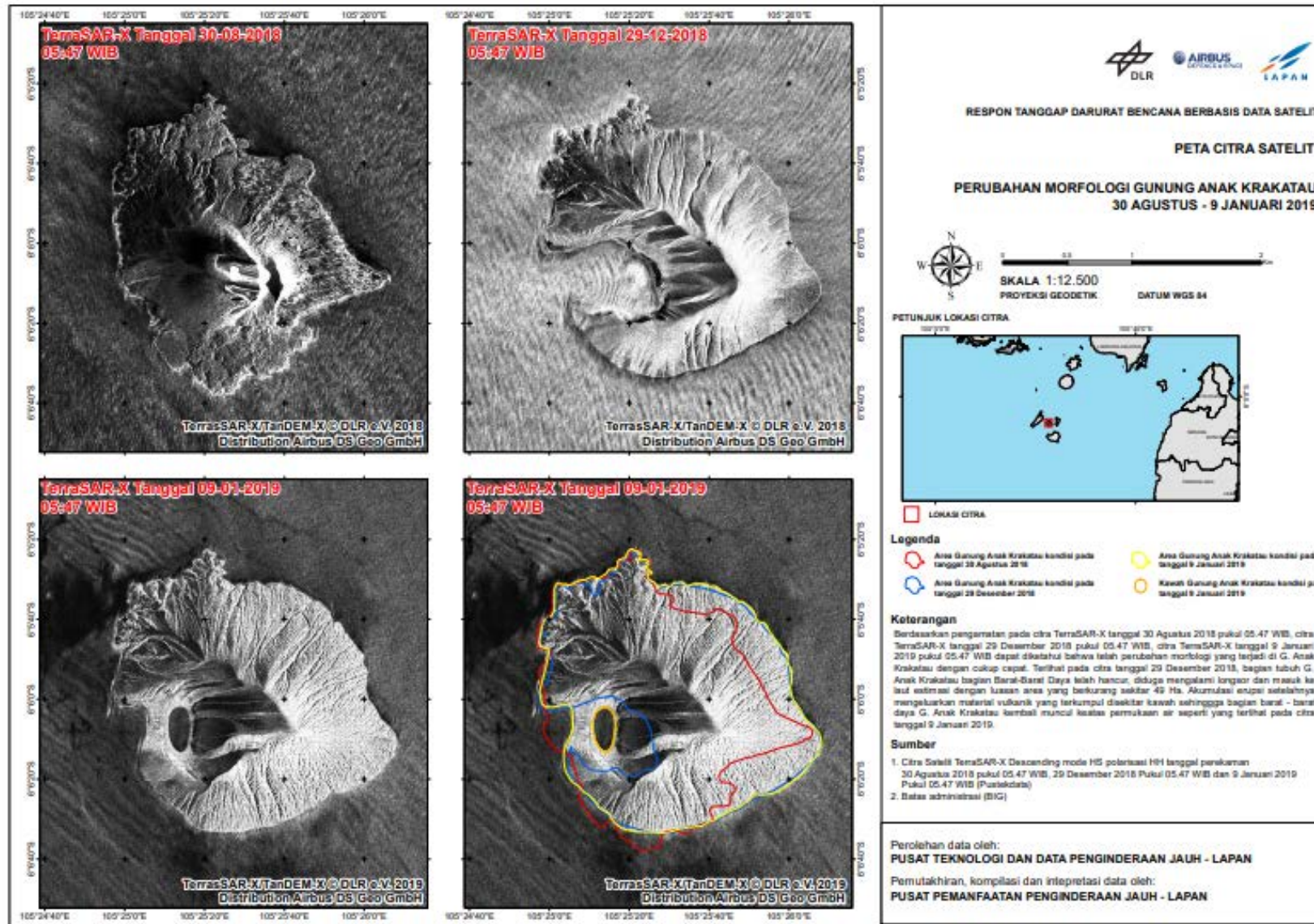
Sumber Data:

1. Citra Satelit PLEIADES Tgl. 09 Juni 2014 (LAPAN, Copyright: ©CNES 2014 AIRBUS DS, All Right Reserved)
2. Citra Satelit PLEIADES Tgl. 07 Oktober 2016 (CNES, Hasil Aktivasi Charter)
3. Peta Rupa Bumi Indonesia (BRI)

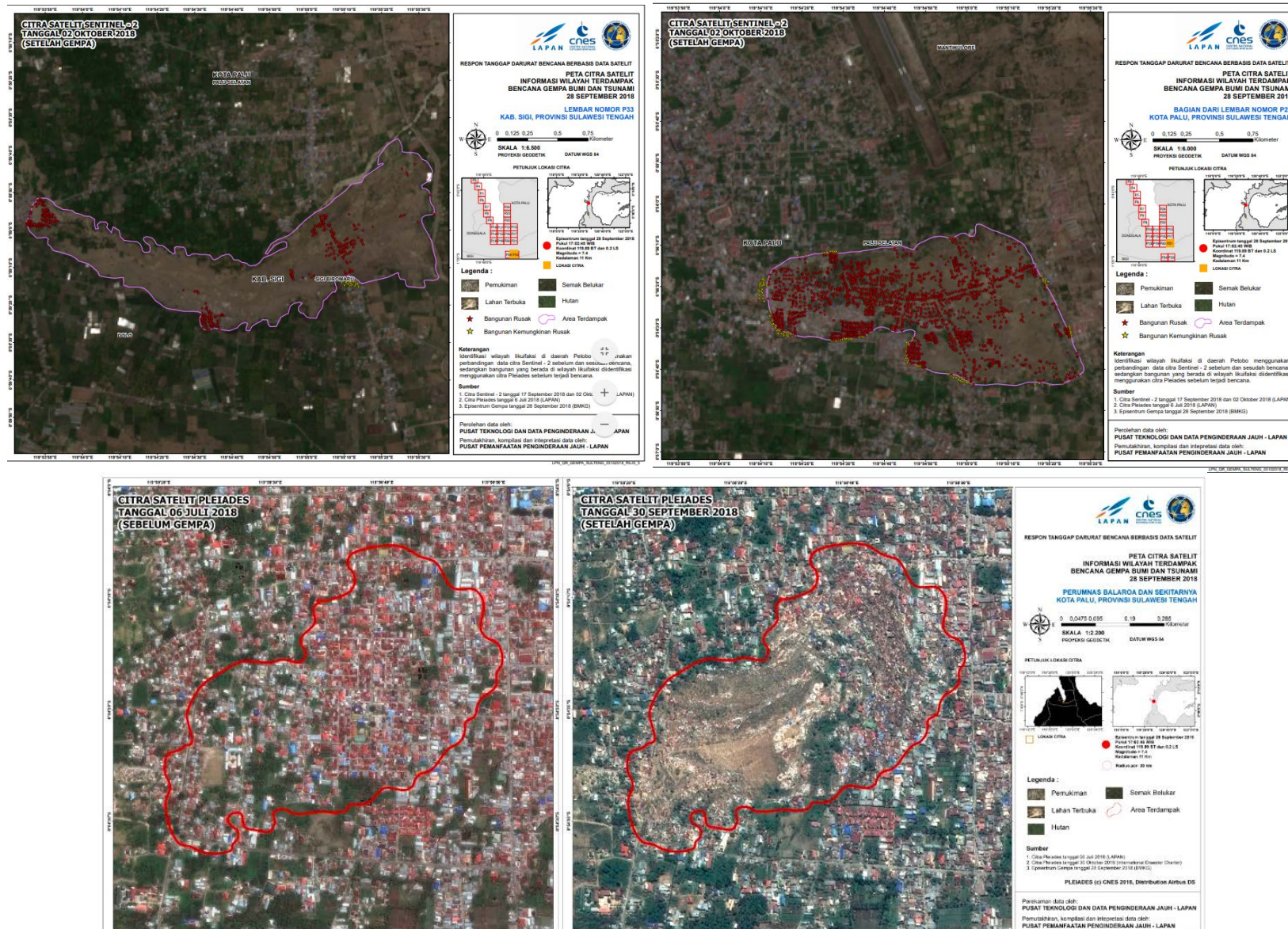
Pemrosesan, kompilasi & interpretasi data citra:
PUSAT PEMANFAATAN PENGINDERAAN JAUH - LAPAN

Emergency Response - Volcano Eruption

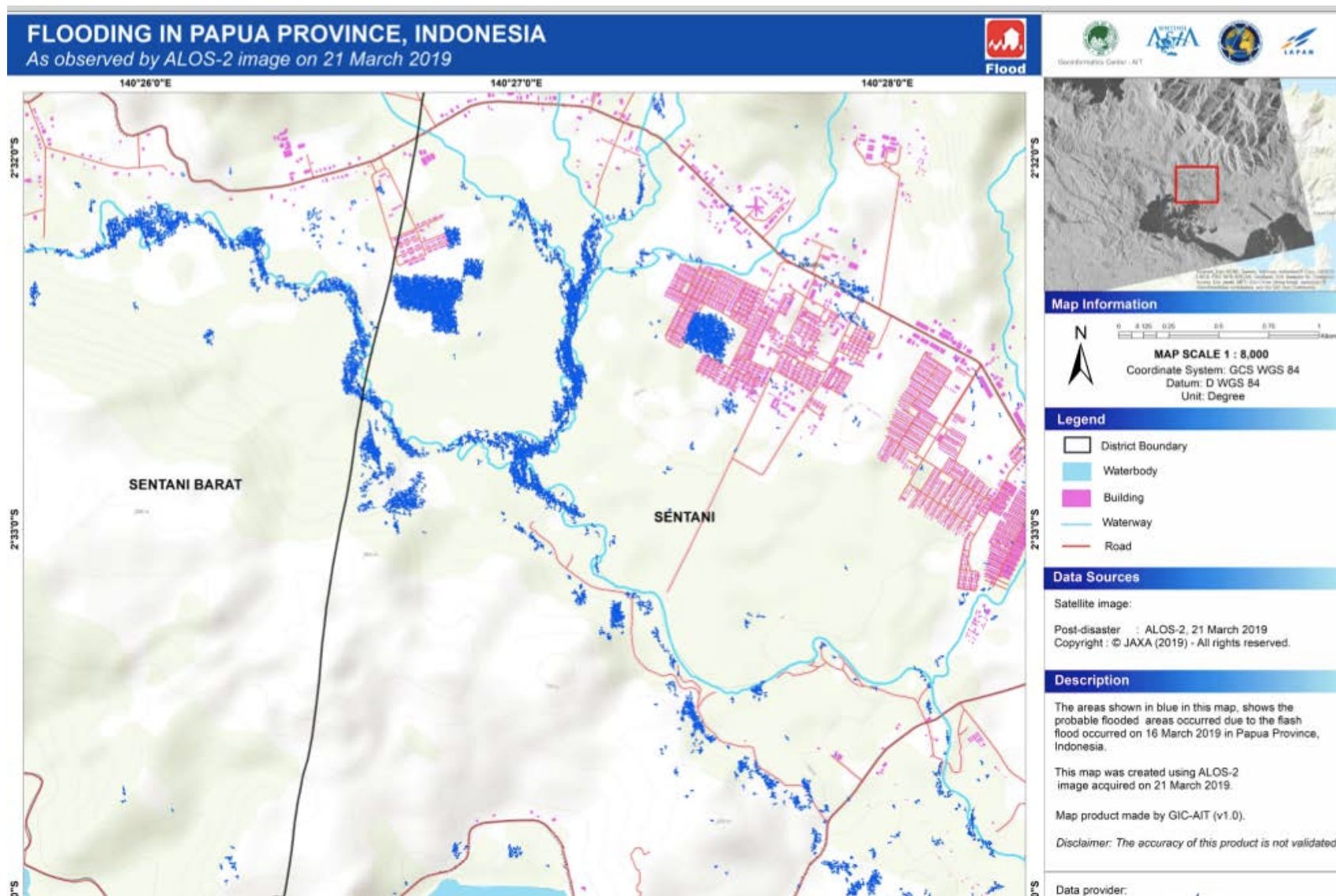
Mt. Krakatau (from TerraSar X)



Emergency Response Soil Liquefaction in Palu, North Sulawesi

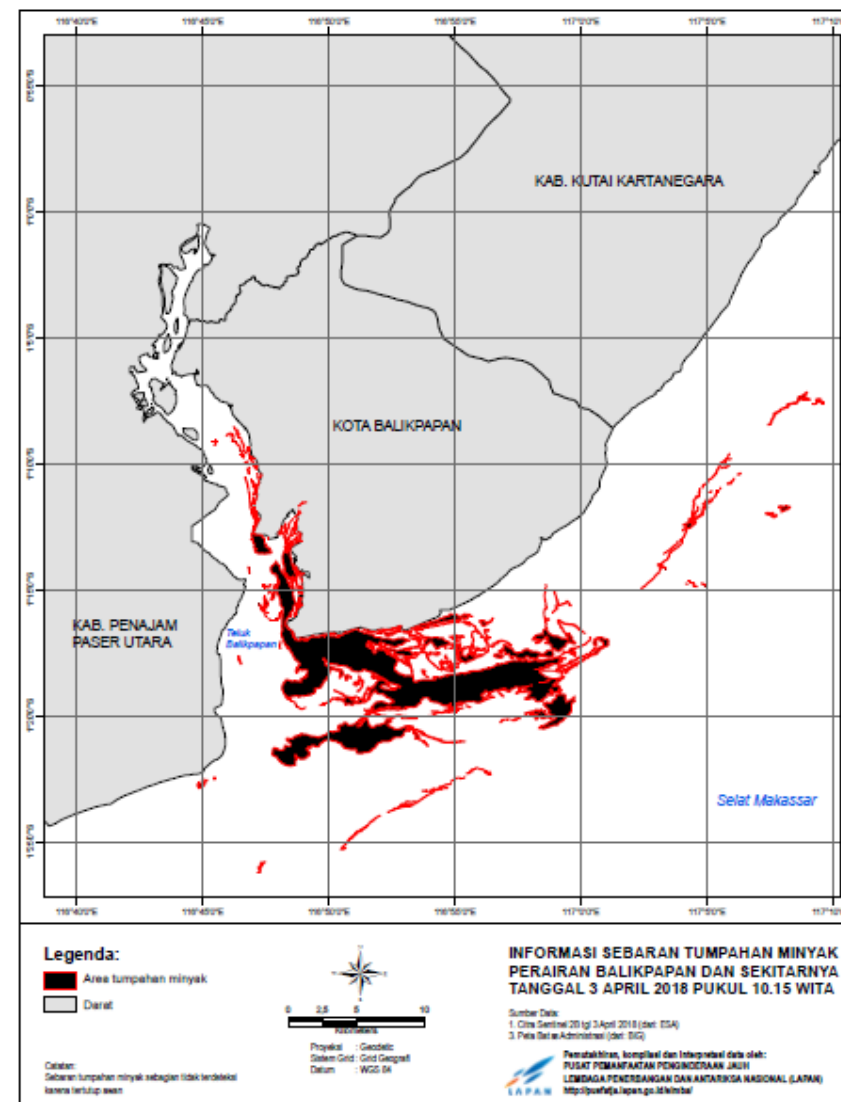
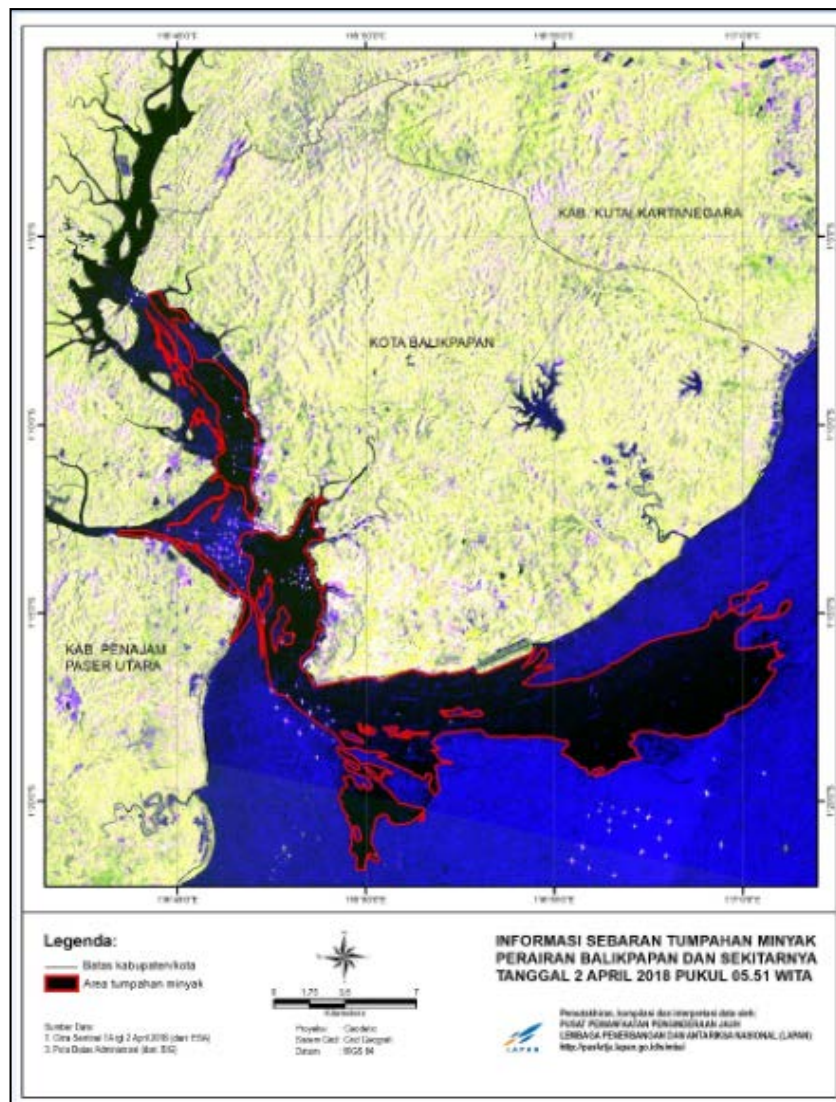


Emergency Response Flood in Papua, Indonesia



Emergency Response – Oil Spill

Coastal zone of Balikpapan, Kalimantan (From Sentinel-1A)



04

Coordination and Distribution Information

Coordination with Disaster Management Agency

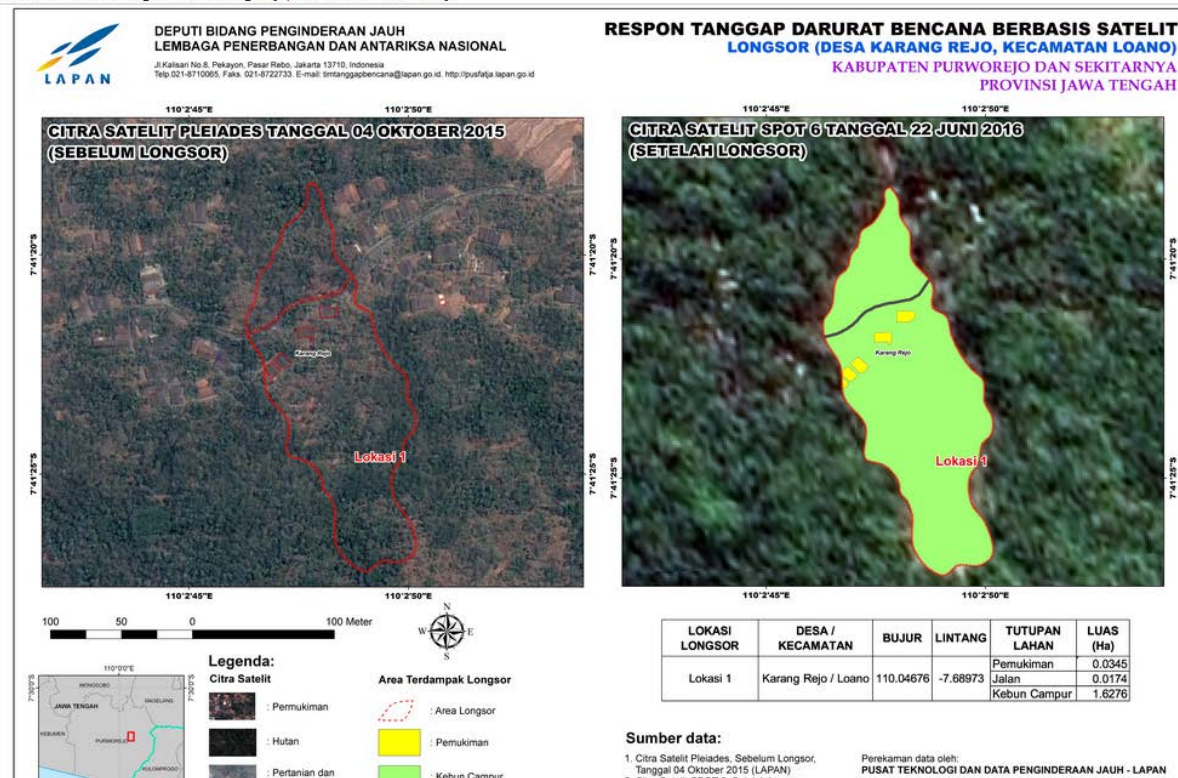


GEOSPASIAL
BADAN NASIONAL PENANGGULANGAN BENCANA

PETA TERKINI

- Peta Distribusi Pengungsi Per Kabupaten (10 Oktober 2017 Pukul 18.00 WITA)
- Peta Distribusi Pengungsi Per Kecamatan (10 Oktober 2017 Pukul 18.00 WITA)
- Peta Usulan Pemasangan Sumur Bor Gunung Agung Prov. Bali
- Peta Rambu Peringatan Sekitar Gunung Agung
- Peta Sebaran Puskesmas Sekitar Gunung Agung

Peta Citra Satelit Longsor Ds. Karang Rejo, Kec. Loano – Purworejo



Pastigana - INDONESIA
Agus, Agus, Deputi, FAJAR Y, Kasbani PV...

Priyatna

QR_LPN_EWS_BANJI...

1 halaman • 7,0 MB • PDF 00:39

Mohon ijin share info rainnfall wilayah DKI Jakarta rilis 3, met pagi semua.....wassalam 00:40

Pak BAMBANG BNPB

Terima kasih pak Priyatna. Mhn info angka2 itu apa ya ? Krn perlokasi campur2. 01:44

Priyatna

Daerah potensi banjirnya pa Bambang, ada dlm nlegendanya... 01:47

Pak BAMBANG BNPB

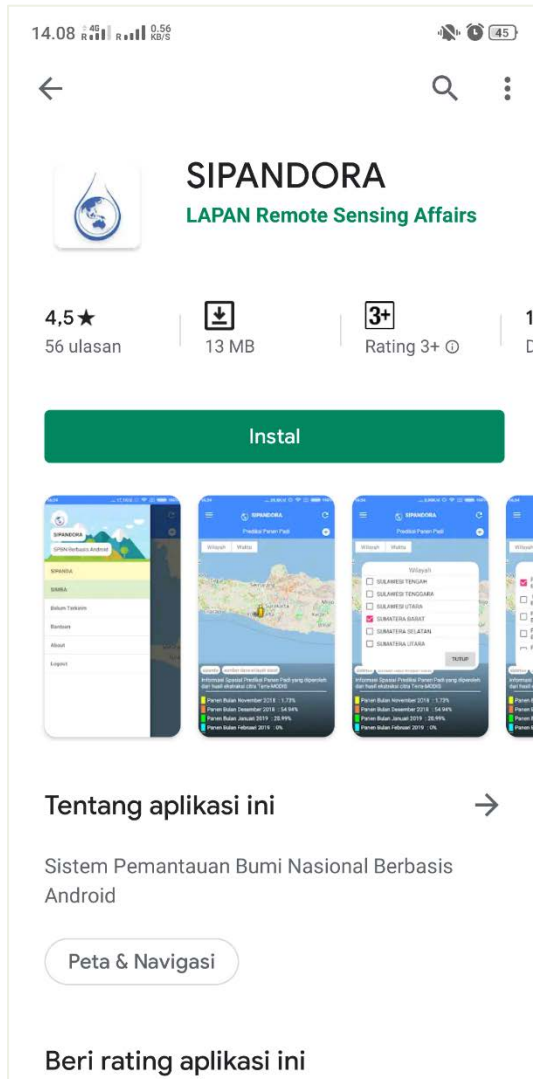
Ketik pesan

Playstore : <https://play.google.com/store/apps/details?id=lapan.go.id.sipandora>

Link video: https://www.youtube.com/watch?v=jC6fNeDG_SI

Content:

- 32 Information Type
- User feedback



Online Data Access

- <http://www.pusfatja.lapan.go.id/> (main website)
- <http://spbn.pusfatja.lapan.go.id/> (national earth monitoring system)
- <http://pusfatja.lapan.go.id/index.php/databaselitbang> (research database)
- <http://pusfatja.lapan.go.id/index.php/publikasi> (research publication)
- <http://pusfatja.lapan.go.id/sipanda/> (natural resources information)
- <http://pusfatja.lapan.go.id/simba/> (disaster mitigation information)
- <http://pusfatja.lapan.go.id/index.php/tanggapbencana> (Disaster emergency response)
- <http://jurnal.lapan.go.id/index.php/ijreses> (online scientific journal)
- http://jurnal.lapan.go.id/index.php/jurnal_inderaja (online scientific journal)
- <https://www.youtube.com/channel/UC8gBtJmQkuB1GITTOXoHMLw> (Youtube Channel)
- <https://www.facebook.com/pusfatja> (Facebook)
- <https://www.instagram.com/pusfatjalapan/> (Instagram)
- https://twitter.com/Pusfatja_LAPAN (Twitter)

Newspaper (online & printed)



Lapan Siapkan Data Citra Satelit Dampak Gempa Lombok

Agnes Savitri, CNN Indonesia | Serin

Ragikan: [f](#) [t](#) [g](#)

LAPAN Identifikasi Kerusakan Akibat Gempa dan Tsunami di Kota Palu

02/10/2018

Berbagi di Facebook [f](#) Tweet di Twitter [t](#) [g](#) [p](#)



Jakarta, CNN Indonesia -- Lembaga data citra satelit untuk informasi ide gempa Lombok.

Data yang digunakan yaitu data satelit TERRASAR, dan sentinel. Data berupa pengambilan keputusan di lapangan dalam memanfaatkan data tersebut dari institusi terkait lainnya.

JAKARTA – Tim LAPAN melakukan identifikasi kerusakan akibat gempa dan tsunami di Palu. Identifikasi kerusakan tersebut menggunakan data citra satelit resolusi sangat tinggi.

*Data yang digunakan adalah data Satelit Pleiades tanggal 6 Juli 2018 (sebelum gempa) yang diterima oleh Stasiun Bumi LAPAN dan tanggal 30 September 2018 (setelah gempa) yang diperoleh Internasional Disaster Charter, jelas Ir Jasyanto, Kepala Bagian Humas Lembaga Antariksa dan Penerbangan Nasional (LAPAN) dalam siaran persnya, Selasa (2/10).

Press conference with BNPB



News on TV media



Disaster synergy activities

Ministry, Local government, army etc



Foto kegiatan sinergi PUI P2I, LIPI; PPET, LIPI; PUSTEKDATA; PUSFATJA; PUSTEKBANG; PUSTEKSAT; PSTA
(Bandung, 23 Februari 2018)



Foto kegiatan Kebencanaan di BNPB (BNPB, 04 Oktober 2018)



Pertemuan Sinergi PUI Klaster Mitigasi Bencana (BMKG, 22 Okt 2018)

Capacity building -technical assistance to local government

Training, supervision, and technical guidance



- Continue on Disaster Emergency Response Mapping
- Continue as RSO UNSPIDER
- ASEAN Mechanism on Disaster Emergency Response (UN SPIDER – ASEAN SCOSA – UNESCAP)
- JAIF Project on Drought and Flood Monitoring in Paddy Field Area (JAXA-ASEAN SCOSA)
- JAIF Project on Rapid Mapping (TOHUKU University)
- Mapping of land degradation, deforestation, and Landuse/cover change (WRI)



Thank You

www.pusfatja.lapan.go.id



Pusat Pemanfaatan Penginderaan Jauh
Remote Sensing Applications Center

09 Januari 2019 | Analisa Daerah Terdampak Longsor desa Sirnaresmi Kec. Cisolok Kab. Sukabumi Prov. Jawa Bai Tuesday , 10-09-2019

Sistem Informasi untuk Mitigasi Bencana (SIMBA)

Navigation menu: Beranda, Profil, Litbangyasa, Publikasi, Agenda, PPID, Zona Integritas, Tautan, Peta situs, Kontak, Ind - Eng

Search bar: Pencarian...

Three small images showing satellite imagery and maps related to disaster mitigation.