



Utilization of Space Technologies at the NDRRM Operations Center

November 2024

| SERVING THE NATION, PROTECTING THE PEOPLE



OFFICE OF CIVIL DEFENSE

Paolo Jonas Alan

IT Officer, Information and Communications Technology
Division, OCD

SCOPE OF PRESENTATION:

- I. NDRRMC and OCD Overview**
- II. Disaster Risk Reduction and Management in the Philippines**
- III. Uses of Space Technologies in DRRM in the Philippines**





NDRRMC and OCD Overview

The National Disaster Risk Reduction and Management Council (NDRRMC) and the Office of Civil Defense (OCD)



NDRRMC



Highest organized and authorized body in DRRM in the Philippines



Office of Civil Defense (OCD)

The OCD, as the **implementing arm** of the **NDRRMC**, shall have the primary mission of **administering a comprehensive national civil defense and disaster risk reduction and management program** by providing leadership in the continuous development of strategic and systematic approaches as well as measures to reduce the vulnerabilities and risks to hazards and manage the consequences of disasters.





Disaster Risk Reduction and Management in the Philippines

Philippine Disaster Risk Profile

WORLD RISK INDEX REPORTS

3rd in 2011 – 2013
2nd in 2014
3rd in 2015 – 2018
9th in 2019
9th in 2020
8th in 2021
1st in 2022

Reference: World Risk Report 2020
<https://www.unisdr.org/we/inform/publications/files/resources/WorldRiskReport-2020.pdf>

Rank	Country	Risk
1.	Philippines	46.82
2.	India	42.31
3.	Indonesia	41.46
4.	Colombia	38.37
5.	Mexico	37.55
6.	Myanmar	35.49
7.	Mozambique	34.37
8.	China	28.70
9.	Bangladesh	27.90
10.	Pakistan	26.75
11.	Russian Federation	26.54
12.	Vietnam	25.85
13.	Peru	25.41
14.	Somalia	25.07
15.	Yemen	24.26
...		...

1st in 2023
1st in 2024

THE PHILIPPINES DISASTER RISK PROFILE

300 Volcanoes
20 Earthquakes Daily
20 Typhoons Yearly
 Philippines as "Exporter of Typhoons"

Photo credit: Google Images

The NDRRM Operations Center



NERVE CENTER of alert and monitoring, multi-agency and multi-level operational coordination, response and resource, and information management.



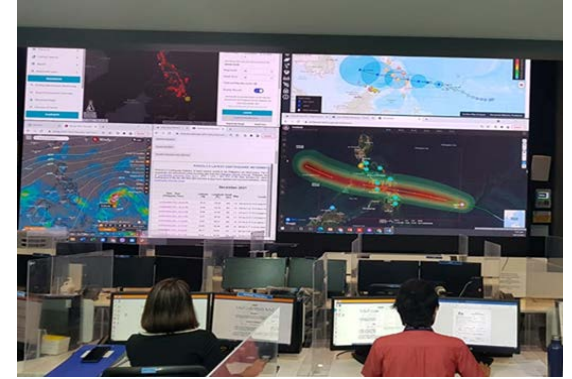
*Managed and **operated** on a **24/7** basis*

*Principal facility responsible for **monitoring potential and ongoing emergency situations***

*Undertake **information management** in the event of an ongoing disaster*



The NDRRM Operations Center





Uses of Space Technologies in DRRM in the Philippines

Satellite Communications during Emergency Situations

- VSAT and Starlink (Low earth orbit satellite)
- Satellite phones

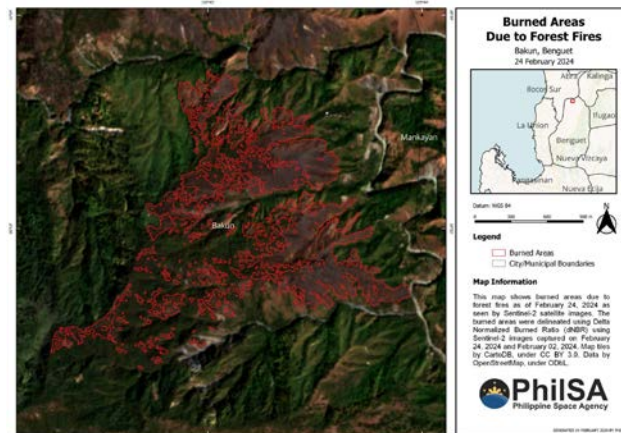


SatCom as Backup Communications





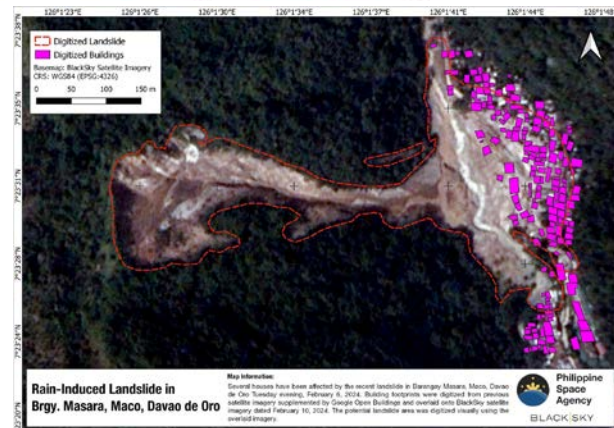
Satellite Images From PhilSA



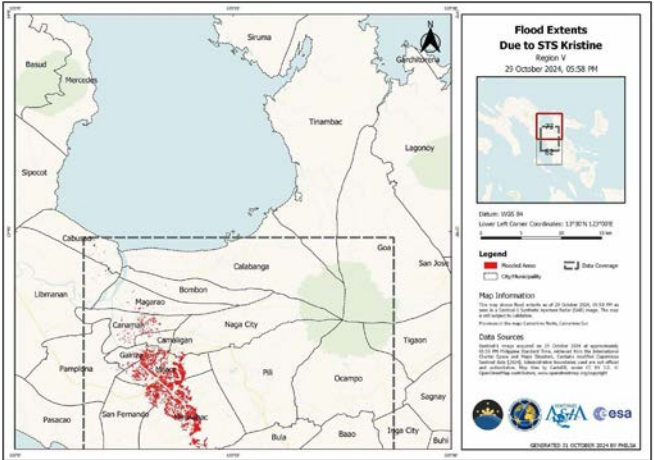
Rio Grande de Mindanao



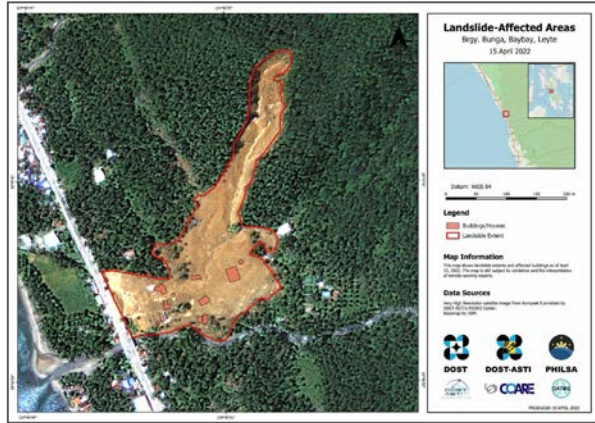
Situation and flooding on agricultural and built-up areas as seen on Landsat 9 imagery due to overflow of the Mindanao river.



Flood Maps



Landslide Maps

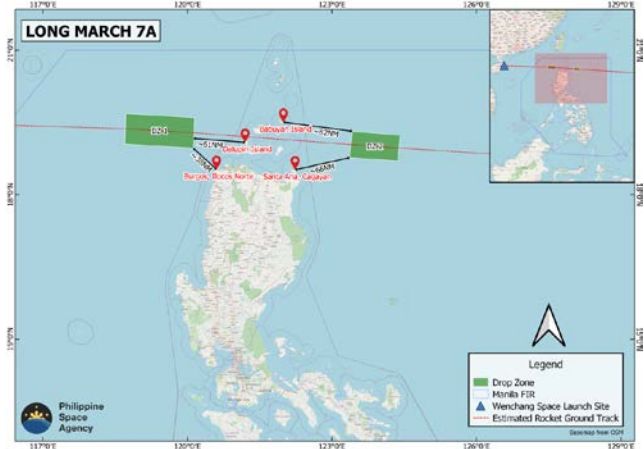
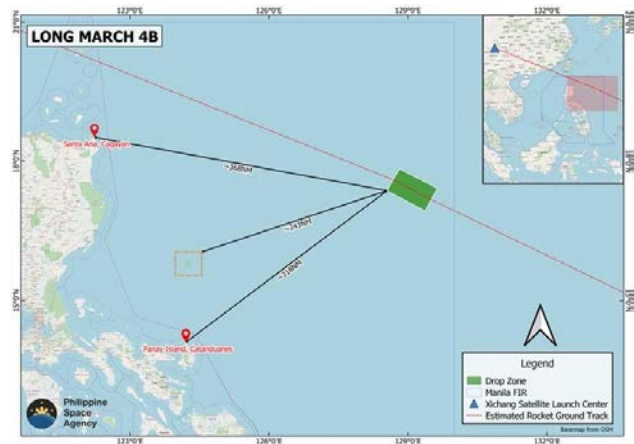


Civil Defense Operations in Davao De Oro Rain-Induced Landslide Map (2024)

Relief, Logistics, and Rehabilitation Planning



Rocket Launch Advisory






REPUBLIC OF THE PHILIPPINES
NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL
Camp General Emilio Aguinaldo, Quezon City, Philippines


MEMORANDUM 02 September 2024
No. 193, s. 2024

FOR : PCG, BFAR, DILG, DENR-NAMRIA, RDRRMCs II and V
SUBJECT : ADVISORY ON ROCKET LAUNCH OF THE LONG MARCH 4B BY THE PEOPLE'S REPUBLIC OF CHINA

Source: Philippine Space Agency (PhSA)

The People's Republic of China is scheduled to launch the Long March 4B from the Xichang Satellite Launch Center in Liangshan Yi Autonomous Prefecture, Sichuan, sometime between 0916H - 0943H on 3 September 2024. Parts of this Long March 4B rocket are expected to drop within the identified drop zone which is approximately 243 NM away from Philippine Rise and 318 NM away from Panay Island, Catanduanes.


REPUBLIC OF THE PHILIPPINES
NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT COUNCIL
Camp General Emilio Aguinaldo, Quezon City, Philippines


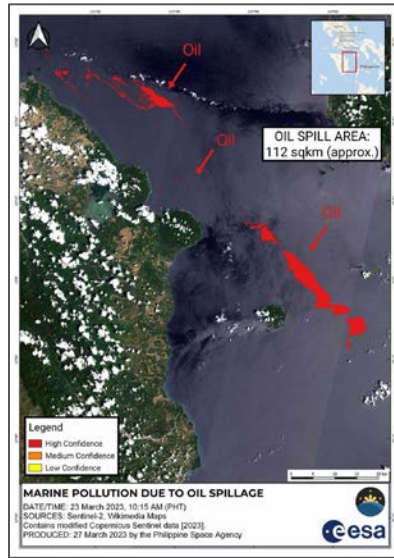
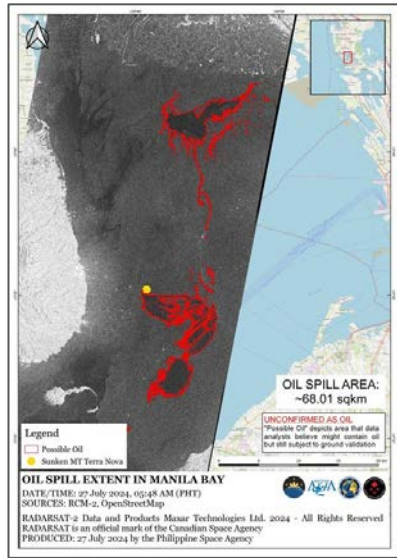
MEMORANDUM 25 JUN 2024
No. 130, s. 2024

FOR : PCG, BFAR, DILG, DENR-NAMRIA, RDRRMCs I and II
SUBJECT : ADVISORY ON PRC ROCKET LAUNCH

Source: Philippine Space Agency (PhSA)

The People's Republic of China is scheduled to launch the Long March 7A from the Wenchang Spacecraft Launch Site in Wenchang, Hainan sometime between 1900H-2300H on 28 June – 30 June 2024. Parts of this Long March 7A rocket are expected to drop within the identified drop zone which is approximately 75 NM away from Burgos, Ilocos Norte and 126 NM away from Santa Ana, Cagayan.

Oil Spill Incidents



Tropical Cyclone Kristine (Trami) 2024





THANK YOU

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