

**Statement by Thailand on  
Agenda item 7. Space-system-based disaster management support  
The 61<sup>st</sup> Session of Scientific and Technical Subcommittee of COPUOS  
29 January – 9 February 2024**

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**Chair and Distinguished delegates,**

Disasters are difficult to avoid and it causes extensive damage on economic activities, natural resources, assets, or even lives. However, through proper preparation and management, we can alleviate and minimize the effects of disasters. Thailand recognizes benefits of space technology can contribute management on pre-, post-, and during disaster. We have actively utilized data from satellite as a scientific tool for disaster management. Space-system-based disaster management support plays an important role in providing area-based information for decision-making in emergency response and long-term recovery from natural disaster events.

In 2023, Thailand made noticeable progress on technological advancement in disaster management in the country in five areas as follows.

1. Flood

We can now determine the depth of flooded areas using Height Above the Nearest Drainage (HAND) model and Interferometric Synthetic Radar (InSAR) data. Our next milestone is urban flood assessment.

2. Forest fire

The accuracy in distinguishing the actual forest fire from general hotspots has been improved using Multi and Hyperspectral Imaging technology combined with machine learning.

3. Air pollution

Monitoring and forecast air quality system is developed. Thailand is coordinating with neighboring countries to find sustainable solutions. Additionally, we have collaborated with Korea to monitor PM 2.5 cloud movement using the Geostationary Environment Monitoring Spectrometer (GEMs) on the Korea satellite (GEO-COMPSAT-2B).

4. Oil leak

We have developed the prediction system that estimates the direction and velocity of oil leaks using satellite images and coastal radar. Resulting in, the warning and preparedness before the oil reaches the land, along with countermeasures to handle the situation.

5. Drought

We can determine the drought index and risk assessment area including the estimation of the crop withering condition using both Moderate and High-Resolution Satellites Imaging.

For the perspective of facilitating disaster management in international level, last year, Thailand signed a renewed Memorandum of Understanding (MoU) with the United Nations Satellite Centre (UNOSAT). As a partner, we are willing to advocate UNOSAT's emergency response missions by sharing satellite data and services to assist the countries who are facing difficult times. The information and our support cover various natural disasters, for instances, flood, tropical cyclone, earthquake, and landside. Moreover, it includes capacity building and analysis in flood impact assessment, population exposure analysis, and post disaster damage assessment.

International collaboration is a key mechanism to manage disaster promptly. This year, 2024, Thailand has an opportunity to serve as a co-chair of Sentinel Asia Steering Committee, an initiative in Asia-Pacific under Asia-Pacific Regional Space Agency Forum.

We intend to utilize data from satellites for support disaster management and mitigation, both in the region and around the globe.

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Earlier, Thailand's previous missions pertinent to space-system-based disaster management are mainly monitoring the situations. In the coming years, we are enhancing our capacity to prevention step, for instances, early warning and forecasting. We believe that space system and its insightful information have potential to give us capability to prepare in-advance for the trouble events, which could alleviate damages caused by disasters. Even, currently, our technology has limitations, we strive to harness research and development to improve impact assessment and prevention.

With acknowledgement of the value of space technology, we are ready to develop our technology and learn the lessons from other countries. Thailand gives our commitment to best use of our resources and facilities to support disaster management, not only for Thailand, but to serve all countries, with the determination on upholding humanitarian purpose.

**Thank you**

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