



# Leveraging digital innovations in geospatial information applications for disaster risk resilience

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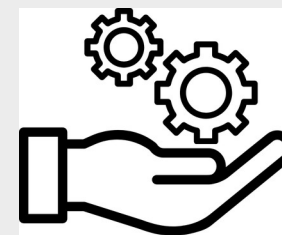
**AI-power tools for  
disaster risk  
mapping**

02



**Knowledge products  
and geospatial  
applications**

03

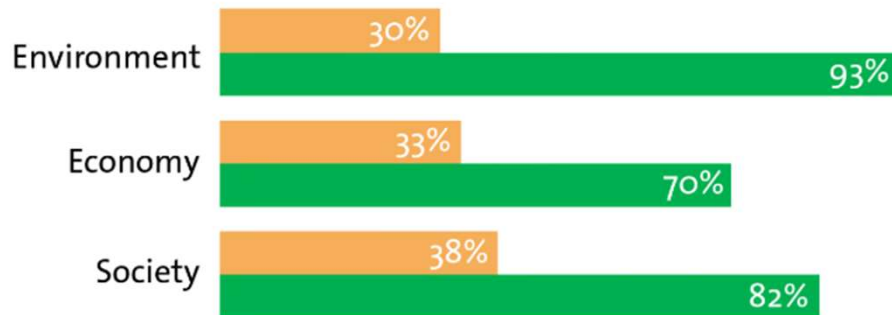


**Technical  
support and  
capacity building**



**SUSTAINABLE DEVELOPMENT GOALS**

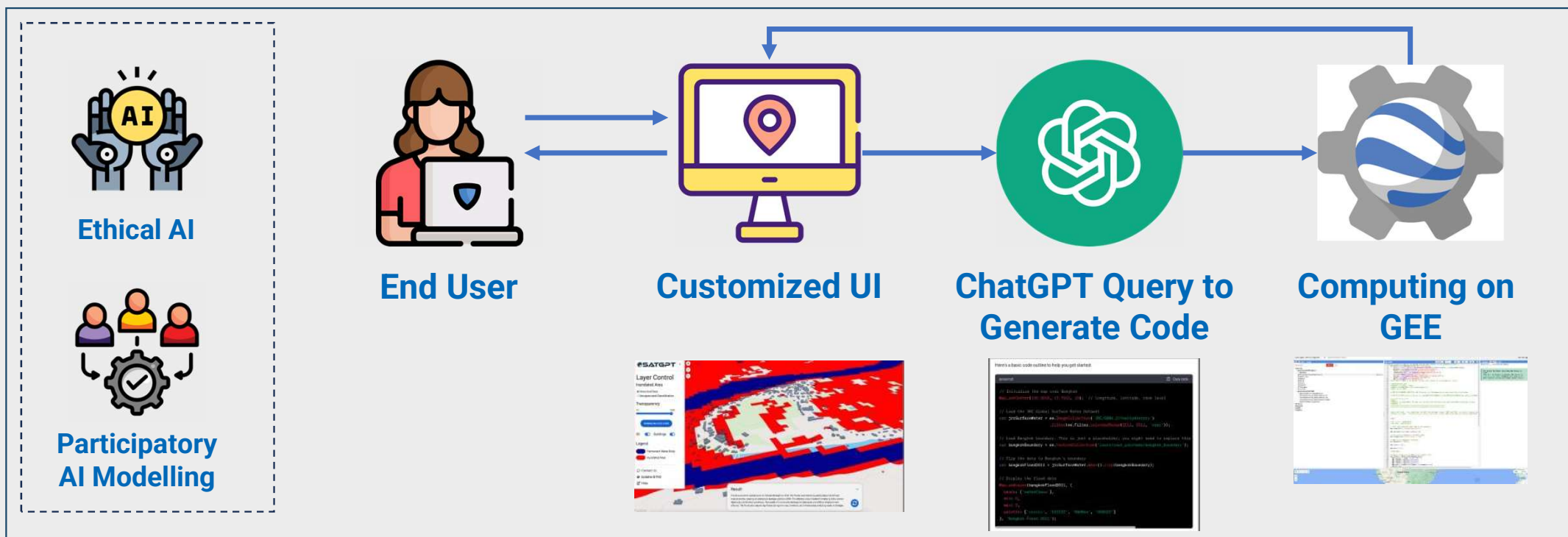
Targets inhibited by AI    Targets enabled by AI



# AI and SDGs

- ✓ In the **Global Digital Compact**, AI is recognized as a transformative tool capable of accelerating progress toward the Sustainable Development Goals (SDGs).
- ✓ The **Declaration on Future Generations**, underscores the transformative potential of AI in achieving the SDGs.
- ✓ The **UN General Assembly resolution A/RES/79/322** emphasizes the role of international cooperation, capacity-building, and inclusive access to AI technologies to support sustainable development in Central Asia.





Infrastructure

**SATGPT**

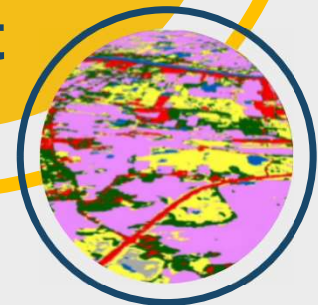


# SatGPT for Flood Hotspot Mapping

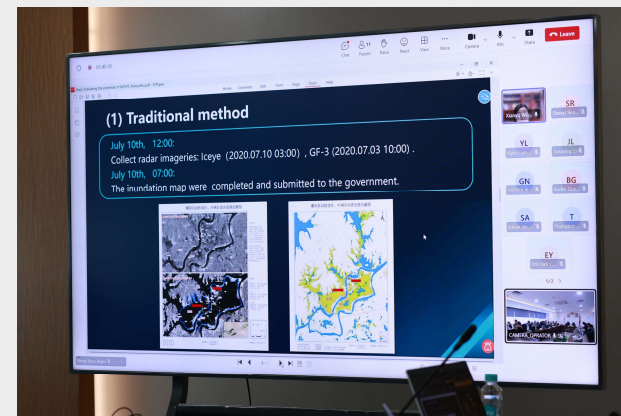
- Flooding has affected **over 3 billion people** and caused over **\$900 billion in losses** in the past 30 years in the **Asia and the Pacific**.
- SatGPT is a flood mapping expert accessible to every user in the region.

# SATGPT

**Historical  
flood maps  
in less than  
1 minute at  
a minimal  
cost**



[Website: SATGPT](http://Website: SATGPT)



[https://bit.ly/SatGPT\\_Training\\_Resources](https://bit.ly/SatGPT_Training_Resources)



# Virtual Satellite Constellation for Disaster Risk Management (VSC)

The **VSC** will develop a mechanism for sharing satellite imagery within Asia and the Pacific to build resilience in disaster risk hotspots



**Develop a satellite imagery sharing mechanism** for enhanced pre-disaster monitoring of risk in high disaster - low risk countries



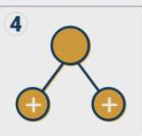
**Improve the capacity** of local governments and disaster management-related agencies to be prepared and manage disasters over their entire cycle



**Provide inputs** to the spacefaring nations on the design of future satellites and sensors which address national and regional data needs

1

**Set up an informal working group** to work out the operational details and conduct a study to map free and commercial remote sensing data providers and share the catalogue with all member States.



4

**Match support and demand** for satellite data by the secretariat using the VSC Catalog and form a working group to facilitate data transfer.

7

**Contribute to the Asia-Pacific Plan of Action on Space Applications for Sustainable Development (2018–2030) in the areas of:**

2

**Invite spacefaring countries** to set aside a percentage of their satellite operational time or data archive for use by high disaster-risk and low-capacity countries.



5

**Provide technical assistance** to the target countries in hosting, storing, processing and analysing the satellite data.



**Disaster Risk Reduction and Resilience**



**Social Development**



**Management of Natural Resources**

3

**Invite target countries** to identify disaster risk hotspots for satellite imaging.



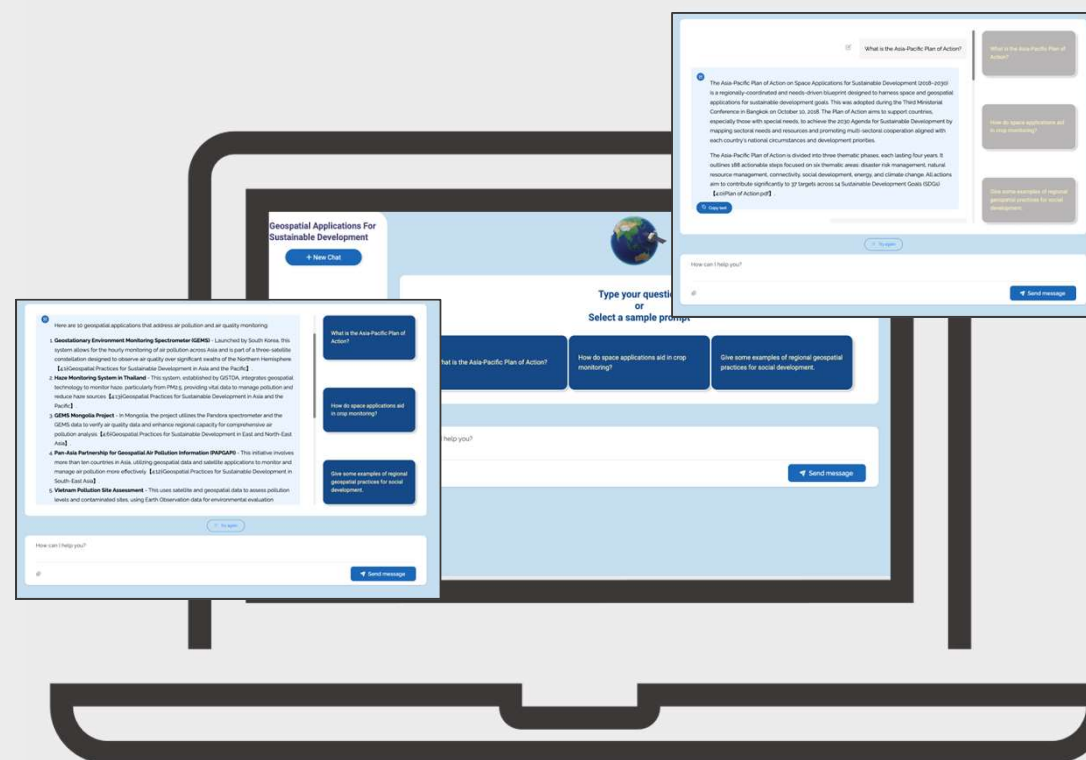
6

**Share the data requests** with all the spacefaring nations to ensure that the regional needs are addressed in future satellite and sensor design.



## GeoApps

- ✓ AI-powered tool
- ✓ Assists readers to query and generate information about geospatial practices across the Asia-Pacific
- ✓ Synthesizes information from the Compendium and other knowledge products



Visit <http://geo-apps.info> to learn more on how geospatial applications contribute to sustainable development!



## Geospatial Practices for Sustainable Development: Compendium series



Disaster risk  
reduction and  
resilience



Management of  
natural  
resources



Connectivity



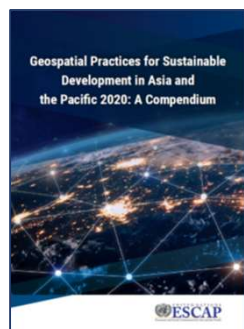
Energy



Social  
development



Climate change



2020 edition



2022 edition



2024 edition



2026 edition  
(forthcoming)

The Compendium serves as a **benchmark** for the region's efforts to **implement the Plan of Action**, fostering knowledge-sharing, peer learning, and innovative solutions for sustainable development.



## Youth Forum on Innovative Geospatial Information Applications



## Building institutional capacity for the use of integrated spatio-temporal data in local SDG monitoring and decision-making



Indonesia



Selection of pond retention area



Thailand



Water quality monitoring and sustainable marine fish cage management



Uzbekistan



Soil salinity monitoring



Pakistan



Forest monitoring



# Promoting Crop Biodiversity through Innovative Use of Space Applications



With support from the Aerospace Information Research Institute  
of the Chinese Academy of Sciences

## Indonesia



National Research and  
Innovation Agency



Brawijaya University

**Subnational focus area:** Junrejo District, East Java



## Indonesia



## Malaysia



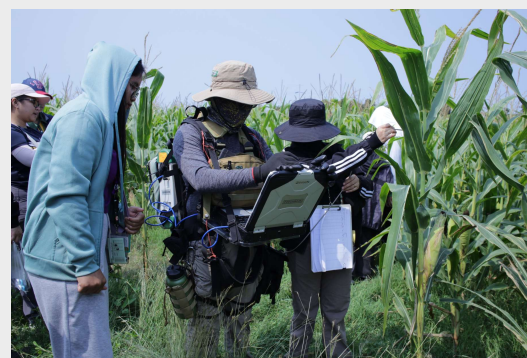
Malaysian Space Agency



Universiti Putra Malaysia  
(Sarawak Campus)

**Subnational focus area:** Tanjung Karang, Selangor

## The Philippines



## The Philippines

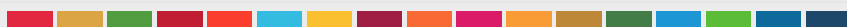


Philippine Space Agency



Mariano Marcos  
State University

**Subnational focus area:** Batac, Ilocos Norte



## Earth observation-based drought monitoring systems for Central Asia



Customization of a crop monitoring system  
(focusing on wheat)



Development of drought information system



Technical assessments



Training activities



Regional knowledge sharing



**Workshops in Tajikistan and Uzbekistan**  
(August 13-20, 2025)



## Building resilient agriculture in the Lower Mekong Basin



Partnership



*GISTDA*

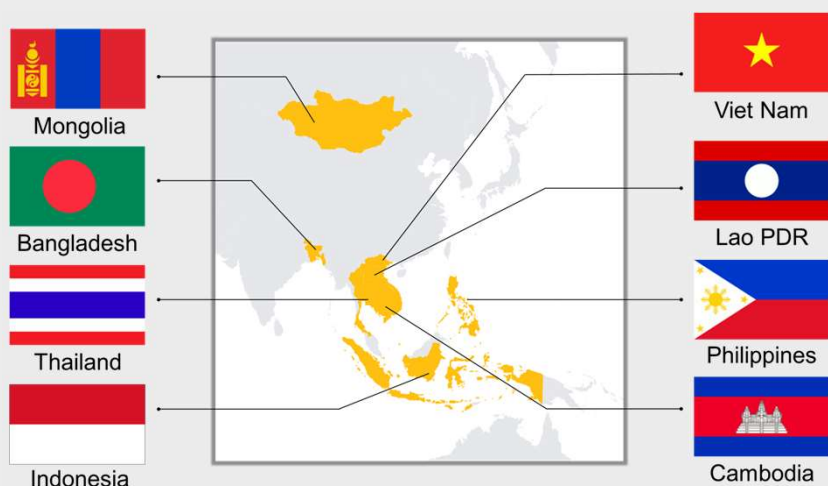


**GIC**

**NECTEC**



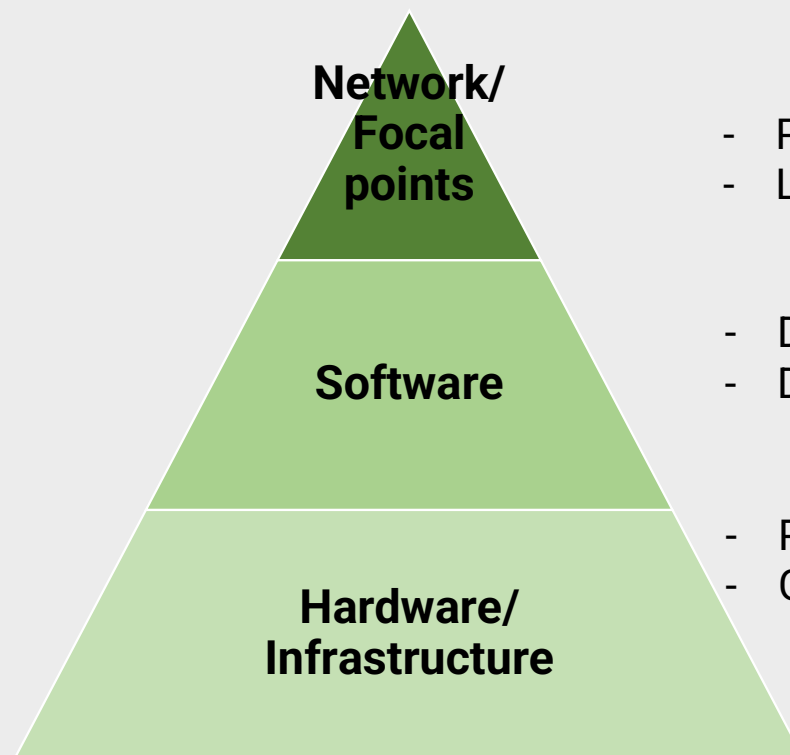
## Building the Pan-Asia Partnership for Geospatial Air Pollution information



| Subject Area | # | Member States  |
|--------------|---|----------------|
| Space        | 4 | BG, IN, PH, TH |
| Environment  | 4 | KH, LA, MN, VT |

### Project coverage in the Asia Pacific region

- COUNTRIES: 17% no. of countries (World Bank, 2020)
- SPATIAL: 13.8% of land area (World Bank, 2020)



- Pandora local operators
- Local investigator/experts
- Data retrieval algorithm (L2)
- Data applications (L3, L4)
- Pandora network
- GEMS

- There were a total of 213 participants in organized meetings over the years 2022 through 2024
- The participation is on an increasing trend.

- 1. How to address key challenges in integrating digital innovations in space and geospatial information applications for disaster risk reduction and sustainable development. Reinforce the importance of institutional support and long-term funding to create an enabling environment that supports digital transformation and sustains innovations.**
- 2. How to further enhance substantive cooperation on space science and technology and their applications to leverage innovative digital applications, manage data and information more effectively, engage end users, and enhance partnerships with national, regional, and global stakeholders;**
- 3. Identify approaches and practices related to the integrated applications of remote sensing, GIS, and satellite navigation and positioning for disaster preparedness and risk reduction, and for engaging the youth to actively participate in innovative geospatial applications; and**
- 4. Opportunities to mobilize financial, technical, and human resource support to implement the Plan of Action and for potential contributions from ICC members.**

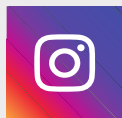


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# ESCAP

Economic and Social Commission  
for Asia and the Pacific