APSCO and Its GEO Activities

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Asia-Pacific Space Cooperation Organization (APSCO)

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The Asia-Pacific Space Cooperation Organization (APSCO) is an intergovernmental organization with full international juridical personality; Convention signed in 2005, and inaugurated in 2008; Its main objective is to promote the peaceful uses of outer space in Asia-Pacific Region, and to carry out the cooperation in the fields of space science, space technology and space applications among Member States and regional countries.
APSCO is the second space multilateral inter-governmental organization certified by UN after ESA.

UNOOSA Observer since 2009.

Permanent Observer of UN-COPUOS

Observer of GEO

Observer of ICG

Collaboration with other organizations: UN-ESCAP, UN-SPIDER, UN-RCSSTEAP, ISSI-BJ and ESA
1. **Improve Space Capacity Building**
   - build capacities by Education and Training and undertaking activities in Space Science and Technology and its Applications, as well as formulate Space Policies, Law and Regulations

2. **Improve Sharing Service Capability**
   - Sharing of data, jointly developing products and applications, developing APSCO Telemetry, Tracking and Command (TT&C) ground station network and sharing services

3. **Improve the Quick Response Capability**
   - cooperative data acquisition, analysis and judgment for emergency rescue, and improve emergency response capability

4. **Improve the Industry Driving Capability**
   - build the cooperation and exchange platform among the related enterprises providing space-based information services in all Member States

5. **Improve Information Inter-Connection**
   - improve infrastructure construction and information services through space technology such as remote sensing, telecommunication and navigation
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<td>• Establishment of a Framework for Researches on Application of Space Technology for Disaster Monitoring in the APSCO Member State</td>
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<td>• Establishment of the Education and Training Center of APSCO</td>
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<td>• APSCO Small Student Satellites (SSS)</td>
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Established in 2012

Network for sharing satellite remote sensing data

- Data provided by fleet of 9 Earth-observation satellites from China
- More than 70,000 satellite images acquired by MS
- More than 20 million km² coverage area

DSSP Pilot Projects

- Estimation of Rice Field using Multiple Satellite Sensors
- Evaluation of Different Remote Sensing Techniques for Drought Study
- etc.
Conducted by Chulabhorn Satellite Receiving Station, Kasetsart University, Thailand

Combined sensors from HJ1A/1B and SAR satellites

The rice field estimation has been substantially improved with >80% reliability

Estimation of Rice Field using Multiple Satellite Sensors

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Remote Sensing Techniques for Drought Study

- Conducted by SUPARCO, Pakistan
- Combined sensors from HJ1A/1B and AQUA satellite
- Time-series of different indices, such as NDVI, VCI, TCI were studied
- Monitoring and mapping of satellite based drought indices is reliable and would play an important role in predicting drought conditions
The space segment
- 3 operating satellites donated by China (GF-1, GF-2, CBERS-04)
- 2 newly developed EO satellites
  - 1 Hi-Resolution
  - 1 Hyperspectral
- 6 nano/micro satellites for quick response communication
- Participating satellites from MS

Asia-Pacific Ground Station Network
- Existing network in China
- Compatible upgraded stations in APSCO Member States

Shared AIT Facilities
Hands-on technology transfer
APSCO Cloud Service Platform

APSCO Terminal (Web/Client)
- Cloud Workbench
  - Download & Upload
  - Start & Process
- Cloud Storage
- Virtual Machine
  - Order & Retrieve
  - Assign
  - Apply & Deploy
- Satellite Data
- Cloud Computers
- Application Software
● Compatible GNSS Terminals for Emergency Management and Disaster Rescue Project
● Determining Precursor Ionospheric Signatures of Earthquakes by Ground-Based Ionospheric Sounding Project
● Framework for Researches on Application of Space Technology for Disaster Monitoring in the APSCO Member States
● Quick response among Member States, and actively support the International CHARTER
Active Involvement in international space affairs
Peaceful use of outer space
Sharing knowledge and experiences
Collaborative gains with its Member States
Open worldwide to international space communities

Thank You!