

## **Thailand's National Perspective**

Thailand was the first country in South-east Asia and the third country in Asia after Japan and India to set up an earth observation satellite ground receiving station in 1981. Since the foot print of the station extended to about 2,500 kilometers from Bangkok, virtually all of the major land mass of South-east Asia was covered by Thai station. At present the Thai station continues to access the data from LANDSAT-7, IRS-1C/1D and RADARSAT 1. In early 2003, IKONOS Regional Center was established in cooperation with Space Imaging Southeast Asia and has been providing up-to-date data to users.

In November 2000, Geo-Informatics and Space Technology Development Agency, in short GISTDA, was established as a Public Organization. The establishment of GISTDA has demonstrated the determination of our country to seriously pursue our objectives in the peaceful use of Space Technology and Earth Observation System for sustainable development coupling with geo-informatics. The Thai government also established a National Geo-Informatics Committee to be responsible for coordination of RS/GIS activities of the country to reduce duplication, to increase efficiency and to set up standards and procedures for information networking and clearing house. A National GIS Master Plan has been completed and ready for cabinet consideration for implementation. A feasibility study on National Spatial Data Infrastructure (NSDI) is to start soon. The availability of high resolution satellite data such as IKONOS and Quickbird made it possible to speed up the mapping at 1:10,000 and 1:4,000 scales to assist in many government development projects.

### **Satellite Data Applications**

Forestry : Landsat data were first introduced for classification of forest and non-forest areas in Thailand in 1973. Since then, the National Park, Wildlife and Plant Conservation Department has used satellite data for monitoring the change of forest areas every 3 year-period. Detection of mangrove forest, forest encroachment area and shifting cultivation as well as assessment of burned area from forest fire were among the major applications.

Agriculture : Major economic crop acreage assessment providing baseline data for yield prediction, and agro-economic zoning and monitoring and assessment of damages due to flooding, etc.

Land use and land cover : Land use mapping as well as land use change monitoring.

Hydrology and water resources: For water management in each watershed: and for simulation model for water resource management, study of under ground water, study of dispersion of sediment in reservoirs, mapping of floods and flood prone area.

Geology and geomorphology : Detection of mineral resources, petroleum deposits, underground water, and planning of dam construction.

Oceanography and coastal resources : Dispersion of suspended sediment, water quality, sea surface temperature, monitoring and appraising of aquaculture, and salt pans.

Cartography : Updating of small to large scale maps, and property mapping.

Natural disasters : Monitoring of natural disasters to assess and alleviate the damages due to floods, land slides and forest fire.

Environment : Environmental impact assessment due to human activities including degradation and destruction of land and water resources, marine pollution and chemical contamination such as oil spill.

### **International cooperation**

Thailand realizes the importance of international cooperation to fulfill the goal of “space for mankind”. Thailand was instrumental in setting up the Regional Remote Sensing Program (RRSP) of UN/ESCAP in the 1980’s and has since providing full support to the current RESAP of ESCAP and other regional cooperation such as ASEAN Sub-Committee on Space Applications. Thailand hosted the First Asian Conference on Remote Sensing (ACRS) in 1980 and will host the 25<sup>th</sup> ACRS in November 2004. Thailand is an Associate Member of CEOS and has several cooperation agreement with countries in Asia, Europe and America.

### **Earth Observation Satellite Project**

With increasing needs of the country and lower cost of access to space, Thailand is now in the process of developing an earth observation satellite to fulfil the needs of the country. This would be a small satellite with optical sensors to provide valuable data for crop monitoring, natural hazards damage assessment and environmental observation. Research and development would be part of the project to increase the capacity in satellite technology.

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Thailand agrees with the main principles of the Earth Observation Summit Declaration to seek cooperation among nations for an Integrated Earth Observation System and will support the activities in the programmes to be set up by the ad hoc Intergovernmental Group on Earth Observation (GEO). Sub-regional projects may be set up under the GEO for specific purposes such as the Greater Mekong Sub-region Development of the riparian countries.