

Web Map Application for Flood Management in Thailand

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Two years ago Thailand was hit by one of the most devastating natural disasters, the 2011 flood. The severe flood covered the majority part of Northern and Central Thailand, affecting agricultural sector, industry, family homes and inevitably the economy of the country. With lesson learned from this major flood, the Thai government has developed an integrated water and flood management plan, in order to manage the country's flood prone area as a whole. The plan holistically deals with water and flood management from upstream to downstream, taken into account the characteristics of the country's terrain. For upstream, the plan emphasizes on reforestation to help absorbing the water and delaying the flood flow. In the lowlands, the plan focuses on improving irrigation and designing new ways of agricultural practice to suit local conditions of different area. For the lowest downstream part of the basin which covers the main area of Thai economy including Bangkok, the plan emphasized on expanding and increasing the flood flow channels in order to reduce water level during the flood season and improve drainage to the Gulf of Thailand.

Geo-Informatics and Space Technology Development Agency: GISTDA is the main agency assigned by the Thai government to utilize satellite data and geospatial technology for various modules of the integrated plan. In addition, GISTDA has been assigned to provide geospatial information for government agencies related to water and flood management. This work aims to demonstrate how satellite data especially from Thaichote (THEOS) and geospatial technology can be utilized for each module of flood management, and to describe web map application development for information dissemination.

To integrate all the flood related data and share with all relevant government agencies, the new web map applications for flood management had been developed. GISTDA processed and integrated satellite data and geospatial information with ArcGIS, and analyzed into information useful for flood management planning. Various government agencies can access such information from GISTDA's ArcGIS Server through the internet with computers, tablets and smart phones. This web map application for flood management can ensure that the information can be accessed in a timely manner.

Keyword: Flood management, Disaster, Thaichote, Geospatial information