

Drought monitoring and studying in Monsoon Asia under the framework of
Asian Water Cycle Initiative (GEOSS/AWCI)

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Abstract

Drought is a “Creeping” hazard because droughts develop slowly and have a prolonged existence. Drought produces a complex web of impacts, which spans many sectors of the economy, especially agriculture, energy production, transportation, tourism and recreation, forest and wildland fires, urban water supply, environment and human health. Drought is one of the most serious disasters in lots of Asian countries, such as India, Pakistan, China and Mongolia etc. In China, the economic loss related to the drought hazard is about 27 billion US dollars per year.

There is an urgent need to create greater development of an drought monitoring and assessment system. Release of Satellite products provides great chance for scientists to improve the techniques and knowledge of drought study. Drought, related to the water issue in GEOSS implementing plan, is getting more and more concern from the publics and policy maker.

In recent years, remote sensing technology is being used in some countries and regions in monitoring the drought and early warning of drought disaster. Big chances are provided to scientists and policy makers to study and monitor drought, and improve the drought management to reduce the social-economic losses. The state of art tools and techniques are not available operationally in most of the developing countries for inferring drought conditions. There is an urgent need to create greater development of a drought monitoring and assessment system. Release of Satellite products provides great chance for scientists to improve the techniques and knowledge of drought study. Drought, related to the water issue in GEOSS implementing plan, is getting more and more concern from the publics and policy maker.

Under the leadership of GEOSS/AWCI, drought working group was set up 1 year ago. There are more 20 members from more 13 countries joining the collaboration. The participating country members will provide the ground observation data sets (air temperature, air pressure, precipitation, relative humidity, soil temperature and soil moisture) from Japan, China, Mongolia, Pakistan, Bangladesh, Vietnam and Philippine submitted by project members. The Remote Sensing products of ALOS (JAXA), AMSR-E (NASA), GLI (JAXA), and FY-2 (China) will be used to in retrieval of the soil moisture and drought indices. The workshop in Beijing will be mainly focus on the methodology of how to get the drought indices from remote sensing products.