

The Drought Monitoring in Thailand using MODIS Data

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ABSTRACT: Normally, drought in Thailand occurs annually starting from mid-October until mid-May for the upper region (northern, northeastern, central and eastern). In addition, during June to July, there will be another short period drought in most regions in the country. The drought has been severely increased within previous years. In 2013, it is expected that the problem will be persistent all year round caused by the rain interruption since late 2012 leading to fewer agricultural products, coupling with higher prices, and will affect the community as a whole.

Presently, GISTDA is using the daily data from Terra/Aqua satellites with MODIS system. This enables in a vast coverage area, also with a wide variety of bands and capability in the indication on the drought factors, which are Nir-Infrared band: differentiate and plant density and Shortwave Infrared band: calculate the degree of moisture, particularly the leaves. These will be used as the factors in NDWI by using the 7 days data which were processed using Python Language that calculating blue band to clear cloud. Then analysis the statistic minimum, maximum and average degree in district level and given the number of index to consider as drought. These data will be deemed drought areas as found from the remote sensing and consort with the official drought area, also known as socioeconomic drought, under Department of Disaster Prevention and Mitigation standards. With this comparison, it was found that both drought had similar outputs that can be used as the country wide and provincial wide on droughts via the homepages (<http://fire.gistda.or.th>, <http://drought.gistda.or.th>) and these data will be used in monitoring the drought in district level.

Key Words: MODIS, NDWI, DROUGHT

