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Mapping the Global Agricultural Drought with Chinese Meteorological Satellite Data

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Under the global climate change, the global agricultural drought is attracting the attentions from agricultural community in the world in order to alleviate the impact. Thanks to the global coverage and the relative long time series of the second generation FENGYUN polar orbiting satellite, the normalized difference of vegetation index NDVI and the brightness temperature BT retrieved from FY3C VIRR were used to develop the drought index. The vegetation condition index VCI model between the current value and the historical range in the past 8 years of NDVI was built while the temperature condition index TCI model between the current value and the historical range in the past 8 years of BT in 11um was also set. And then the Vegetation Health Index VHI was further computed with the VCI and TCI. The VHI was categorized into 5 classes, namely, Extreme Drought, Severe Drought, Moderate Drought, Light Drought and Normal. Maps and data are becoming available and updated every 10-day on the website and the PIE cloud. The uses may visit the cloud and make the maps they need. This presentation will introduce the technology in detail and how the users may take the facilitate to obtain their own agricultural drought map routinely.

Key words: Agricultural Drought; Vegetation Health Index; Chinese Meteorological Satellite; Cloud Computing; Satellite Data Processing