**NASA DEVELOP National Program**

**** NASA Goddard Space Flight Center

Wise County and City of Norton Clerk of Court's Office

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**Short Title: Thailand Disasters**

**Updated Abstract**

Drought is a natural disaster impacting agricultural, environmental, and economic livelihoods. The Kingdom of Thailand is impacted by drought due to the variability of monsoon rains as well as other unfavorable meteorological conditions. The drought of 2015 was the worst drought to impact Thailand in over 15 years. As one of the biggest exporters of rice in the world, drought has the ability to impact the economy of Thailand in a big way. The available drought monitoring system in Thailand looked at only agricultural drought. This was insufficient for analyzing accurate risk management and decision-making. Using data from various Earth observing satellites, such as Terra (Moderate Resolution Imaging Spectroradiometer), Aqua (Moderate Resolution Imaging Spectroradiometer), Tropical Rainfall Measuring Mission (Microwave Imager) and Global Precipitation Measurement (Microwave Imager), and *in situ* stations, this study utilized three indices to analyze and monitor the current state of meteorological, hydrological and agricultural drought across Thailand. The Standardized Precipitation Index was used in monitoring meteorological drought, the Stream-Flow Drought Index was used in monitoring hydrological drought, and the Drought Severity Index was used in monitoring agricultural drought. All indices were based on a monthly temporal resolution for monitoring drought. The study demonstrated how a combination of various indices can offer better understanding of drought conditions, with data derived from Earth observing satellites offering the ability to monitor drought across the entire country and in near-real time.