**NASA DEVELOP National Program**

****IRI

**Summer 2015**

**Short Title: Malawi Disasters II**

**Updated Abstract**

The African country of Malawi experiences a strong seasonal rainy season stretching from October to April, which provides about 95% of its annual precipitation. In addition to this high seasonality, about 20% of Malawi’s land cover is comprised of surface water from Lake Malawi, one of the Great African Lakes. These unique features contribute to the country’s increased vulnerability to riverine floods and flash floods. In January 2015, extended periods of extreme rainfall caused a series of flood events throughout Southern Malawi, which resulted in the displacement of over 230,000 residents and caused 276 fatalities. In order for local authorities and supporting humanitarian agencies to provide post-disaster relief, these organizations often rely on remotely-sensed satellite data to evaluate impact and design response programs. In partnership with the Malawi Red Cross, this project aims to expand on the findings from previous research in Spring 2015 by first comparing ground-truth data (locations of shelter site of internally displaced people (IDPs) and origins of IDPs) with flood products derived from NASA’s Earth Observing System (EOS), and second, by integrating European Space Agency (ESA) remotely sensed data to explore the potential predictive capabilities of soil moisture for flash flood detection. The results of this study will increase the ability to monitor different types of flood events, which will benefit organizations involved with disaster relief efforts in Malawi, allowing for a quicker response and more appropriate allocation of emergency flood relief efforts.