**NASA DEVELOP National Program**

****NASA Marshall Space Flight Center

**Summer 2015**

**Short Title: East Africa Disasters**

**Updated Abstract**

Between 2004 and 2010, a total of 2,620 fatal landslides caused the death of 32,322 people worldwide. Data for individual countries are poorly tracked, but hotspots for devastating landslides occur throughout Rwanda and Uganda due to the local topography and soil type, intense rainfall events, and deforestation. In spite of this, there has been little research that utilizes satellite imagery to estimate areas susceptible to landslides in this region. This project utilized Landsat 8 Operational Land Imager (OLI) data to depict landslides. These landslides were then added to SERVIR’s Global Landslide Catalog (GLC). Next, Landsat 8 OLI, the Tropical Rainfall Measuring Mission (TRMM), the Global Precipitation Measurement (GPM), and Shuttle Radar Topography Mission Version 2 (SRTM V2) data were used to create a Landslide Susceptibility Map. A preliminary assessment of the relative performance of GPM and TRMM in identifying landslide conditions was also performed. The additions to the GLC, the Landslide Susceptibility Map, and the preliminary assessment of satellite rainfall performance will be used by SERVIR and the Regional Centre for Mapping of Resources for Development (RCMRD) for disaster risk management, land use planning, and determining landslide conditions and moisture thresholds.