

The Use of NASA near Real-Time and Archived Satellite Data to Support Disaster Assessment

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ABSTRACT

With support from a NASA's Applied Sciences Program, The Short-term Prediction Research and Transition (SPoRT) Center has explored a variety of techniques for utilizing archived and near real-time NASA satellite data to support disaster assessment activities. MODIS data from the NASA Land Atmosphere Near Real-time Capability for EOS currently provides true color and other imagery for assessment and potential applications including, but not limited to, flooding, fires, and tornadoes. In May 2013, the SPoRT Center developed unique power outage composites using the VIIRS Day/Night Band to represent the first clear sky view of damage inflicted upon Moore and Oklahoma City, Oklahoma following the devastating EF-5 tornado that occurred on May 20. Pre-event imagery provided by the NASA funded Web-Enabled Landsat Data project offer a basis of comparison for monitoring post-disaster recovery efforts. Techniques have also been developed to generate products from higher resolution imagery from the recently available International Space Station SERVIR Environmental Research and Visualization System instrument. Of paramount importance is to deliver these products to end users expeditiously and in formats compatible with Decision Support Systems (DSS). Delivery techniques include a Tile Map Service (TMS) and a Web Mapping Service (WMS). These mechanisms allow easy integration of satellite products into DSS's, including the National Weather Service's Damage Assessment Toolkit for use by personnel conducting damage surveys. This poster will present an overview of the developed techniques and products and compare the strengths and weaknesses of the TMS and WMS.