

**JPSS PROVING GROUND SEMINAR**

TITLE	Automatic Near-Real-Time Flood Detection using Suomi-NPP/VIIRS Data
SPEAKER	Dr Donglian Sun George Mason University
DATE & TIME	Tuesday, March 8, 2016 12:00 pm, Eastern Daylight Time (New York, GMT-04:00)
LOCATION	Aerospace Building 8th Floor Conference Room 10210 Greenbelt Rd Lanham, MD 20706 and Via Webinar (See below)
ABSTRACT	Near real-time satellite-derived flood maps are invaluable to river forecasters and decision-makers for disaster monitoring and relief efforts. With the support from the JPSS (Joint-Polar Satellite System) Proving Ground and Risk Reduction Program (JPSS/PGRR), a flood detection package has been developed using SNPP/VIIRS (Suomi National Polar-orbiting Partnership/Visible Infrared Imaging Radiometer Suite) imagery to generate daily near real-time flood maps automatically for National Weather Service (NWS)-River Forecast Centers (RFC) in the USA. In this package, a series of algorithms have been developed including water detection, cloud shadow removal, terrain shadow removal, minor flood detection, water fraction retrieval and flooding water determination. The package has been running routinely with the direct broadcast SNPP/VIIRS data since 2014. Flood maps were carefully evaluated by river forecasters using airborne imagery and hydraulic observations. Offline validation was also made via visual inspection with VIIRS false-color composite images on more than 10,000 granules across a variety of scenes and comparison with river gauge observations year-round. Evaluation of the product has shown high accuracy and the promising performance of the package has won positive feedback and recognition from end-users.
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