

# Near Real Time LEO Level-2 Products Via Direct Broadcast Using the Community Satellite Processing Package

Geoff Cureton, Nick Bearson, Kathy Strabala, Liam Gumley, Allen Huang

Cooperative Institute for Meteorological Satellite Studies  
Space Science and Engineering Center, University of Wisconsin — Madison  
1225 W. Dayton St., Madison, WI 53706, USA



## CSPP Active Fires Overview

- The CSPP Active Fires package is actually two packages: the VIIRS M-band (750m) package as previously released in Q3 2017, and the VIIRS I-band (375m) package.
- These packages are based on codes developed by L. Giglio, W. Schröder, C. O. Justice and W. Walsh (University of Maryland), and I. Csiszar (NOAA/NESDIS), from a baseline version developed in May 2012 by L. Giglio.
- Both the M- and I-band packages output NetCDF4 and text files which can be read in by CSPP-Polar2Grid (and possibly others) to generate high quality AF plots.

## Community Satellite Processing Package

- The Community Satellite Processing Package (CSPP) supports the Direct Broadcast (DB) meteorological and environmental satellite community through the packaging and distribution of open source science software. CSPP supports DB users of both polar orbiting and geostationary satellite data processing and regional real-time applications through distribution of free open source software, and through training in local product applications.
- This poster highlights two new packages, the VIIRS Active Fires package, and the GCOM-W1 AMSR2 Algorithm Software Package (GAASP), which will be available Winter 2019/2020.
- CSPP is funded through NOAA JPSS.

Website: <http://cimss.ssec.wisc.edu/cspp>

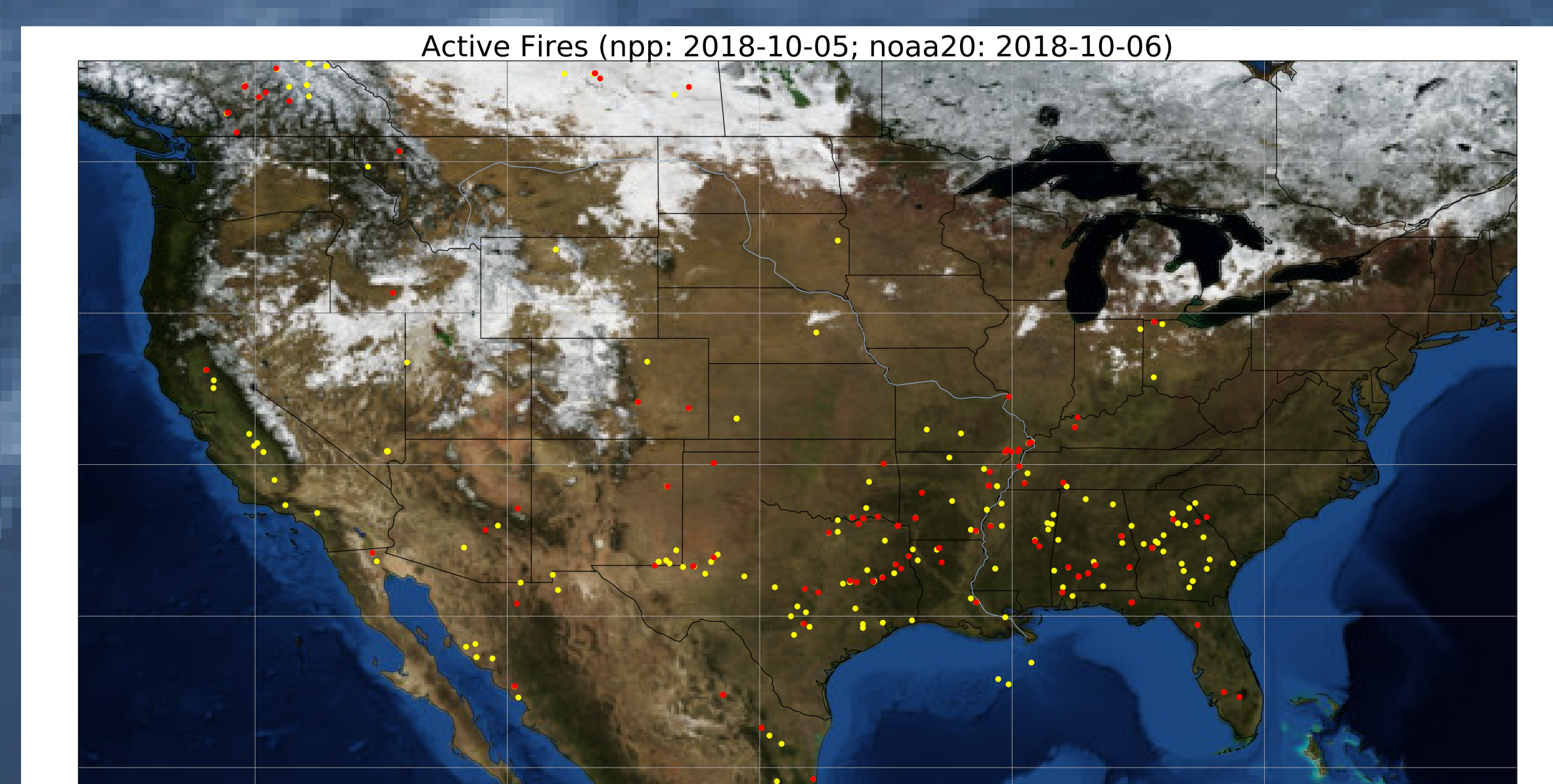
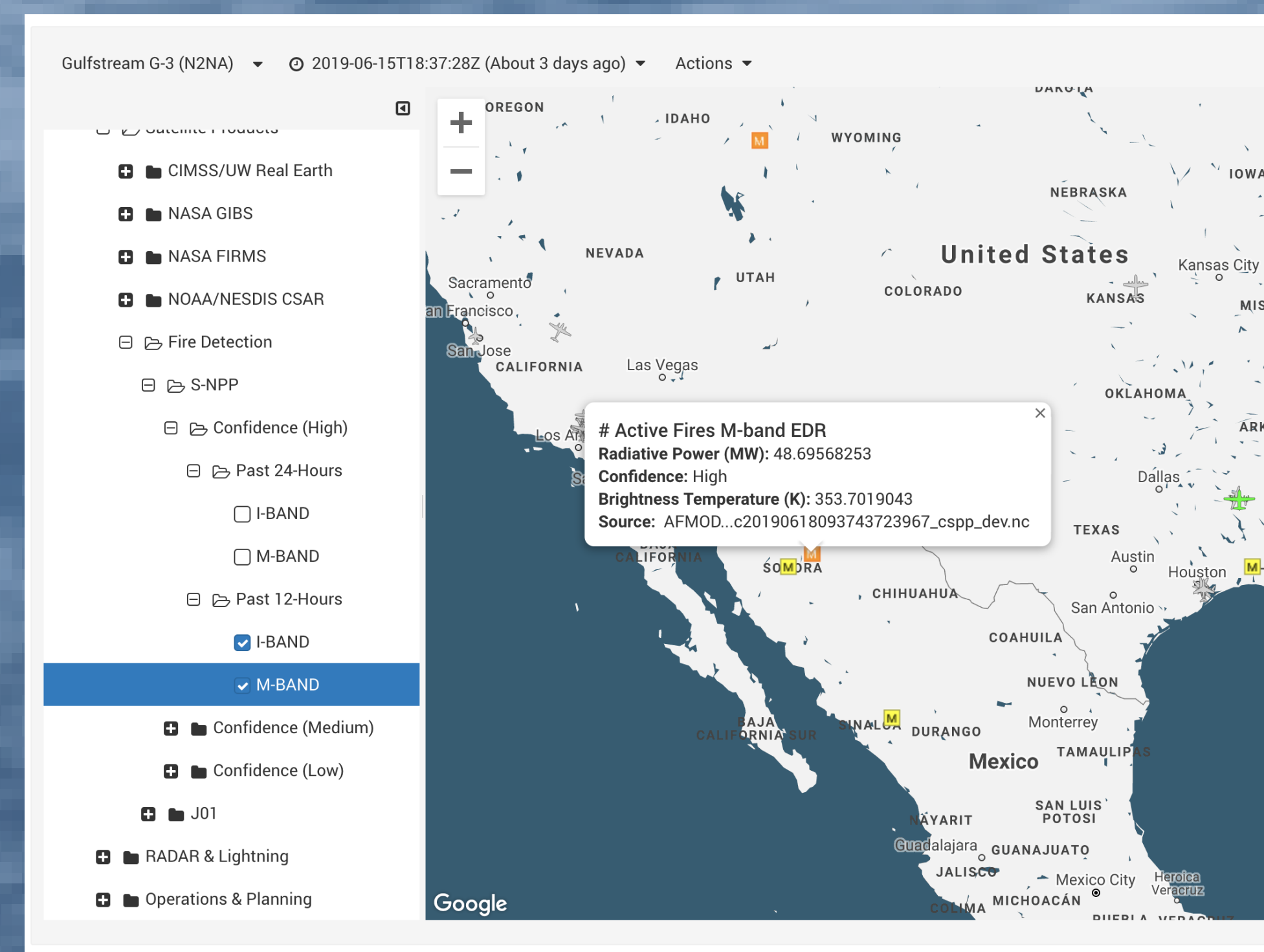
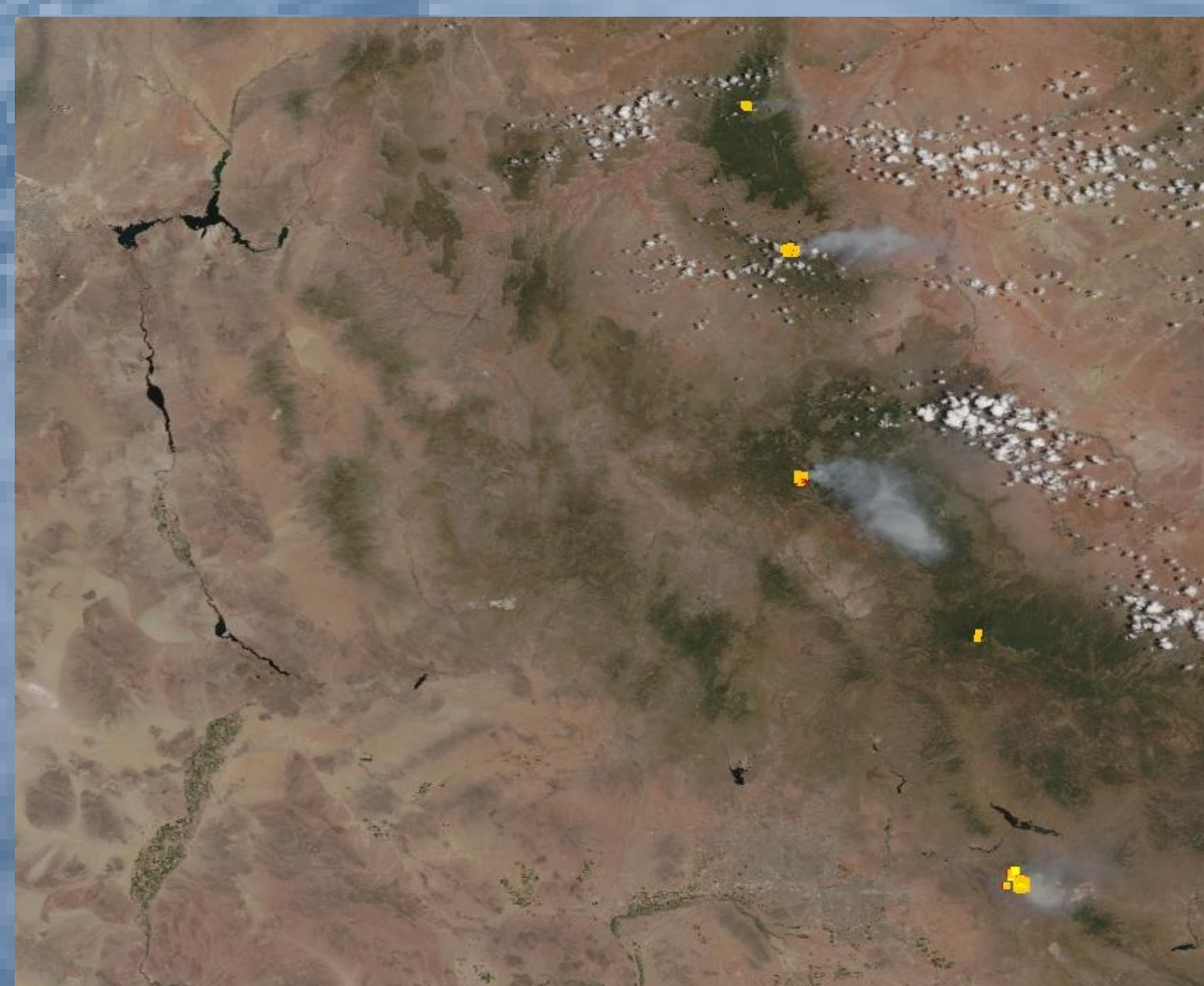
## CSPP GAASP Overview

- CSPP supports generation of level-2 products using the NOAA/NESDIS/STAR Global Change Observation Mission-Water (GCOM-W1) AMSR2 Algorithm Software Package (GAASP) in support of direct broadcast for JAXA's GCOM-W1 satellite.
- GAASP generates Science Data Record (SDR) and Environmental Data Record (EDR) data products for near real-time users from the GCOM-W1 data stream.
- GAASP level-1 and level-2 products supported by CSPP-GAASP include bias-corrected Microwave Brightness Temp (MBT), Precipitation (land and ocean rain rates), GHR Sea Surface Temp (SST), Sea Surface Winds (SSW), Total Precipitable Water (TPW), Cloud Liquid Water (CLW), Soil Moisture, Surface Type, Snow Cover, Snow Depth, Snow Water Equivalent, and Sea Ice.

## CSPP Active Fires Sample Output

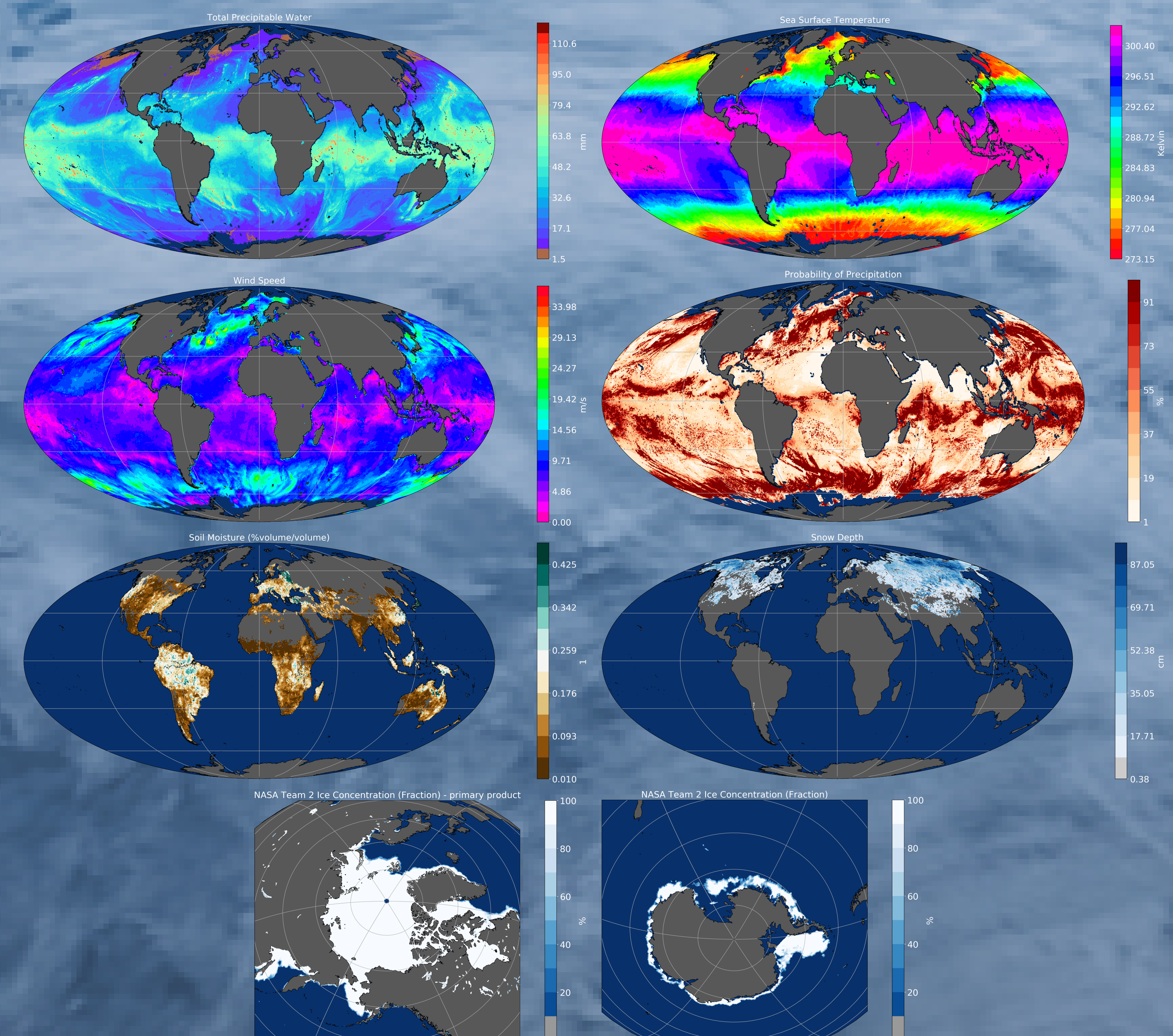
Shown below (clockwise from top left) are:

- Active Fire detections for S/NPP and NOAA-20 for 10 June, 2019, using data derived from direct broadcast at the University of Wisconsin — Madison. This image was created using CSPP Polar2Grid and the Active Fires text file output, and the detection color is scaled by the Fire Radiative Power.
- Active Fire detections loaded into an application developed for the FIREX-AQ field campaign. Mouse-over on fire detections in this application shows information from the Active Fire text output.
- M-band (red) and I-band (yellow) Active Fire detections over CONUS for the 5th and 6th October, 2018. Detections are sourced from both Suomi-NPP and NOAA-20.



## CSPP GAASP Sample Output

- Shown below are visualizations of a selection of output products from CSPP-GAASP, for the 29th January 2020, from level-1 data acquired via direct broadcast at the University of Wisconsin — Madison.



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geoff.cureton@ssec.wisc.edu  
(Background image © NOAA)