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The Community Satellite Processing Package (CSPP): Supporting the Use of Near-Real-Time Polar Orbiter Satellite Data

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NOAA sponsors the Community Satellite Processing Package (CSPP) in support of global direct broadcast users.   The free software supports the creation of products from Low Earth Orbit (LEO) satellite instruments, with a focus on the JPSS mission.   The software allows users to calibrate, navigate and create science software products from locally acquired NOAA-21, -20 and S-NPP VIIRS, CrIS, ATMS and OMPS instruments, including Sensor Data Records (SDRs), HEAP NUCAPS, MiRS microwave retrievals, ACSPO Sea Surface Temperatures, CLAVRx cloud retrievals, Active Fires as well as a number of VIIRS Environmental Data Records (EDRs) such as Surface Reflectance and Vegetation Indices. Along with the NOAA Enterprise Algorithms, other supported software includes AMSR-2 GAASP microwave retrievals, VIIRS Flood retrievals, and Polar2Grid, a visualization package that makes it easy to create high quality satellite data and product images. Most of the product software packages support multiple missions, including Metop-B, -C, NOAA-18, -19, Aqua and Terra.

CSPP software is freely distributed. It is precompiled for 64-bit Intel Linux operating systems, is easy to install and operate, includes up-to-date algorithms, includes test data for verification, runs efficiently on modest hardware, and has prompt user support.

The software is designed to be easy to use in that all external required ancillary data is hosted on CSPP websites and fetched automatically as part of the execution process.

Since its inception in 2012, more than 3200 registrants from 108 countries including all seven continents have downloaded one or more of the CSPP LEO software packages to support local applications.   Examples of the variety of ways the software is used in the global direct broadcast community will be provided, including use by the US National Weather Service.   In addition, new and future CSPP work will be presented including upcoming releases.