The Joint Polar Satellite System (JPSS) Program Office is the supporting organization for the Suomi National Polar Orbiting Partnership (S-NPP) satellite that was successfully put into orbit on October 28, 2011. S-NPP carries the following sensors: VIIRS, CrIS, ATMS, OMPS, and CERES. These instruments study the Earth’s weather, oceans, and atmosphere. A team of scientists and engineers from all over the United States document, monitor and fix errors in software code or documentation with the algorithm change process (ACP) to ensure the success of the S-NPP mission by making sure that the best data products are being provided to users.

Algorithm Change Process (ACP)

To accommodate the need for quicker turnarounds in the implementation of code fixes, we have developed the Accelerated Release Cycles (ARCs) that will take the place of the previous major and minor software builds.

The ARCs will begin with the TTO of the MX 8.3 build, scheduled for the mid-march timeframe, and each subsequent ARC will TTO approximately every ten weeks.

New Accelerated Release Cycles (ARCs)

To facilitate the quick incorporation of fixes, we have developed the Accelerated Release Cycles (ARCs) that will replace the previous major and minor software builds. The ARCs will begin with the TTO of the MX 8.3 build, scheduled for mid-March, and each subsequent ARC will TTO approximately every ten weeks.

External User Relationships

The chart to the right shows the various civilian and military organizations that access and benefit from S-NPP’s data products for scientific and educational applications.

With a free subscription, the public can access data from all five of S-NPP’s sensors from the Comprehensive Large Array-Data Stewardship System (CLASS) via their website:

http://www.class.ncdc.noaa.gov

Each algorithm comes with a read me that provides specific guidance on how to use each data product. If users find discrepancies, they can contact the point of contact within each read-me, who can submit a DR to be put through the ACP.

Product Enhancements

With the extensive information that we have accumulated while studying S-NPP’s data products during the Intensive Cal Val (ICV) stage of the program, we are now able to explore the possibility of using the knowledge gained to enhance data products in the program’s future satellite missions.

Enhancements are improvements or changes to the algorithm or data product that make it exceed JPSS-1 requirements or that change a product that is already meeting requirements. Enhancements may include:

1. Improvements in science performance
2. Changes to implementation that provide a long term benefit to the JPSS Program

Enhancements that are reviewed and deemed appropriate for development and implementation will be worked through the algorithm change process after approval.

The new satellites under development in the JPSS program that may benefit from our enhancements will be JPSS-1, which will launch in the 2nd quarter of FY17 and JPSS-2, which is set to launch in the 1st quarter of FY22.

Acronyms

ASRC: Arctic Slope Regional Corporation
ATMS: Advanced Technology Microwave Sounder
CERES: Clouds and the Earth’s Radiant Energy System
CrIS: Cross-Track Infrared Sounder
DPES: Data Products Engineering and Services
NJO: NOAA JPSS Program Office
OMPS: Ozone Mapping Profiler Suite
VIIRS: Visible Infrared Imaging Radiometer Suite