

VIIRS SNPP V1 Product and PGE Status

- Following products have completed reprocessing and currently in forward processing
 - Land Surface Reflectance daily, 8-day and CMG
 - Vegetation Index 16-day, monthly and CMG
 - LAI-FPAR daily and 8-day
 - BRDF-Albedo
 - L2 Active Fire, Snow, and Sea-ice
- These products are currently in processing: process at leading edge, reprocess the current year, reprocess from the beginning of the year.
 - L3 Fire
 - JPL's LST
- Currently in science test
 - Burned Area
 - L3 Snow
 - BRDF CMG
 - L2G sea-ice and IST
 - Black Marble
- Currently in integration test
 - Phenology
- In development at SCF
 - Cloud gap filled Snow Cover
 - MAIAC (to be generated in V2)

VIIRS NRT

- Products generated within 2 to 2.5 hours after the acquisition of the data
- Plans to port VIIRS PGEs for all heritage MODIS products operational for NRT MODIS
- Processing uses session based PDS files
- Most products use the operational PGEs used in the V1 reprocessing
- Products are near science quality.
- Currently in processing
 - LSR, Snow, Sea-ice, Active Fire, BRDF-Albedo
- Currently in testing
 - LST – will use NCEP data instead of MERRA2 used in standard processing.

VIIRS GIBS

- Generate the images of product at the native product resolution and deliver to GIBS
- Plans to generate images of V1 VIIRS land products where images are available for the heritage MODIS product.
- Currently operational
 - Active Fire
 - Corrected Reflectance
- Issue
 - Need to communicate to the user the product used to produce the images posted on Worldview.
 - Be able to replace the images with images from the latest collection processing.

Land SIPS: V2 SNPP VIIRS Reprocessing Plan

- V2 is all in HDF5 including the intermediates that are currently in HDF4 in the on-going V1 reprocessing.
- Land SIPS is currently updating the libraries and the upstream PGEs (land aerosol, land cloud mask, grid_to_gran) to handle HDF5 inputs and generate HDF5 outputs.
- Science teams need to update
 - L2 PGEs to work with the NASA L1B in HDF5/netcdf4 format. NASA L1B and Geo products are available from AS 5110
 - L3 PGEs to read and output all products in HDF5, exception are ancillaries from other data source.
- Metadata may need to be streamlined – watch for guidance on list of metadata and format.
- Target Timeline for the reprocessing of SNPP VIIRS is Spring 2019, i.e. after completion of the on-going V1 reprocessing.

Land SIPS: J1 VIIRS Reprocessing Plan

- Land SIPS is funded to generate L1B and land continuity products from J1 VIIRS
 - Test of J1 VIIRS L1B using post-launch LUT delivered by VCST and cross calibration of J1 and SNPP VIIRS is in progress.
 - V2 SNPP VIIRS PGEs will be ported to read and process J1 VIIRS data.
 - Processing can start only after or along with SNPP VIIRS V2 reprocessing.
- VIIRS Science Team isn't funded to support J1 products at this time
 - VCST and operational Q/A teams will support on going Q/A of the products
 - Assessing validation status can only be based on cross comparison with SNPP
 - Issues that arise from instrument artifacts that require adjustment to science software to correct may require an augmentation of PI funding
 - At present the only major difference between the VIIRS instrument, we are aware of is in the day/night bands and a detector issue in I3.

Maintenance and use of Upstream Products

- Cloud Mask
 - IDPS version of the algorithm, not calibrated and maintained. Known to have significant commission and omission errors
 - Should land use cloud mask from atmosphere SIPS when it becomes available?
- Aerosol
 - IDPS version of the algorithm, augmented by changes recommended by LSR team
- Land Cover
 - Currently using MODIS land cover product in processing of LAI-FPAR
- QSTLWM (Quarterly Surface Type Land Water Mask)
 - An hybrid product developed by BU for use in IDPS processing
 - Currently used by Cloud Mask and Active Fire in the Land SIPS processing stream
 - This is the LWM propagated downstream to all products
 - Who is the owner and what about the maintenance of this product?
- Land Water Mask
 - The MODIS heritage LWM is in the VNP03 product. In heritage MODIS processing all L2 propagate LWM from the geolocation file (MxD03) – this LWM is maintained and owned by UMD
 - Current VIIRS processing doesn't use this at all. Should all L2 PGEs be updated to use LWM from VNP3 instead of using QSTLWM?

Different Projection and Resolution

- Should VIIRS (and so MODIS too) product be generated in other map projection
 - Geographic (currently Black Marble)
 - Polar (currently Sea-ice and IST) (not the same as with MODIS, EASE vs EASE2)
- Should VIIRS L3 be made at
 - Native resolution (currently sea-ice and IST)