

# EDR validated maturity readiness review

EDR review panel members participating – Mitch Goldberg, (JPSS Program Scientist and Chair), Jim Gleason (JPSS Project Scientist), Tom Schott (NESDIS/OSD), James Yoe (NWS), Michael Johnson (NWS). Ex-Officio members (JPSS algorithm program) – Lihang Zhou, Fuzhong Weng, Ivan Csiszar, Eric Gottshall

The following are recommendations from the Panel for the EDR review held on September 3 and 4, 2014. Overall the teams provided detailed analysis of the performance of the EDRs. More quantitative analysis is needed for the Ozone EDR.

## **Data Product Maturity Assessment: the products below are available from the JPSS ground system (i.e., IDPS or NDE).**

- **Sounding EDR Products**

Panel agreed on sounding data products (Atmospheric Vertical Temperature Profiles and Atmospheric Moisture Profiles) validated stage 1 maturity.

In addition we also recommend:

- Team to provide more information on planned microwave improvements; communicate with MIRS team on possible microwave improvements.
- Team to provide more detailed plan on surface emissivity improvements
- Provide validation results of CrIS ozone retrievals.

- **SST EDR Product**

Panel agreed on its validated stage 3 maturity

- Recommend during Cal Val LTM stage validate product performance regionally.
- JPL site: SST team (led by Alex Ignatov) to make sure the ACSPO high resolution data is available on JPS site to the users continually.

- Follow up with team on planning and timeline for fully reprocessing the SST data time series from launch to support Coastwatch and Coral Reef watch anomaly applications.

- **Ozone EDR Products**

- Panel agreed good work is being done, and recommended the team to generate statistics comparing the ozone EDRs with ozone sounds or SBUV/other satellites or in-situ, and show comparison of the statistics against the spec in L1RD in an acceptable format before a declaration on maturity can take place.
- User feedback on reference for comparison (example: NOAA-19 SBUV/2). If so, then generate detail statistics comparing OMPS with NOAA-19.
- Fix SDR issues ASAP: Team to provide an updated schedule by which the implementation of identified SDR fixes will be completed in IDPS.
- Panel requested a date that EDR performance vs. spec table to be provided by the team to the EDR Review Panel.
- Recommend the OMPS SDR team working with GSICS UV Group to come up with a common bias correction algorithm for getting the OMPS cross calibrated as other similar instruments (SBUV2, OMI, GOME, etc.), to produce consistent Ozone EDR Products.

- **Aerosol EDR Products**

- Recommend the Validate stage 2 for AOT and ASPS for validate stage 1.
- Inter-compare with MODIS ASPS for more extensive statistical analysis.

- **Active Fire EDR Product**

Panel recommended that based on the analysis of input VIIRS SDR changes and statistical comparisons with Aqua MODIS, the Active Fire to be validated stage 1 since this August.

- **Vegetation Index EDR Product**

Validation stage 1. Excellent presentation and detail analysis of VI products. Used numerous “ground truths”

- **Surface Reflectance Intermediate Product**

Validation stage 1 pending DRs implemented and the performance verified. Team to provide schedule for DR submission within a week.

Extend to the ocean if it's feasible; consider impacts on processing and archiving.

**Algorithm Maturity Assessment: the products below are in development in the JPSS Risk Reduction (RR) project entitled “Uniform Multi-sensor Algorithms for Consistent Products” and will become available within NDE in 2016.**

- **Cloud EDR Algorithms (The Clouds from AVHRR Extended [CLAVR-x])**

- Panel agreed on cloud top properties and daytime cloud optical properties algorithms reached the science validated maturity and recommend implementing these algorithms and making the products available to the users
- Night time cloud property algorithm is not ready for science validated maturity
- Cloud base height algorithm performance seems promising and at validating 1 maturity, need to identify users for such product.
- As for Cloud cover layer algorithm; panel recommend to produce both GOESR and NDE defined products for the user

- **Sea Ice Characterization EDR Algorithm**

Panel agreed with team's recommendation that SIC does not meet stage 1.

- Team to provide feedback on the OTIM (GOES-R/NDE) algorithm that being implemented in NDE, present the performance evaluation for OTIM using similar validation datasets on the coming TRR. (Invite EDR Review Board to the TRR).
- Team to provide feedback on using microwave to enhance the ice products and see if any blended products can be generated.

- **Snow Cover (Snow Fraction) EDR Algorithm**

Scientific maturity seems sound for NDSI algorithm. Recommend to proceed with NDSI regression approach.

- Study the inclusion of NDSI into the cryosphere products of the JPSS risk reduction project.
- Team to prepare a DAP as soon as possible.
- Inter-comparisons with MODSCAG should be explored by a coordinated GOES-R JPSS effort.