2019 JPSS STAR Annual Meeting

Algorithm Management Project Update

Arron L. Layns

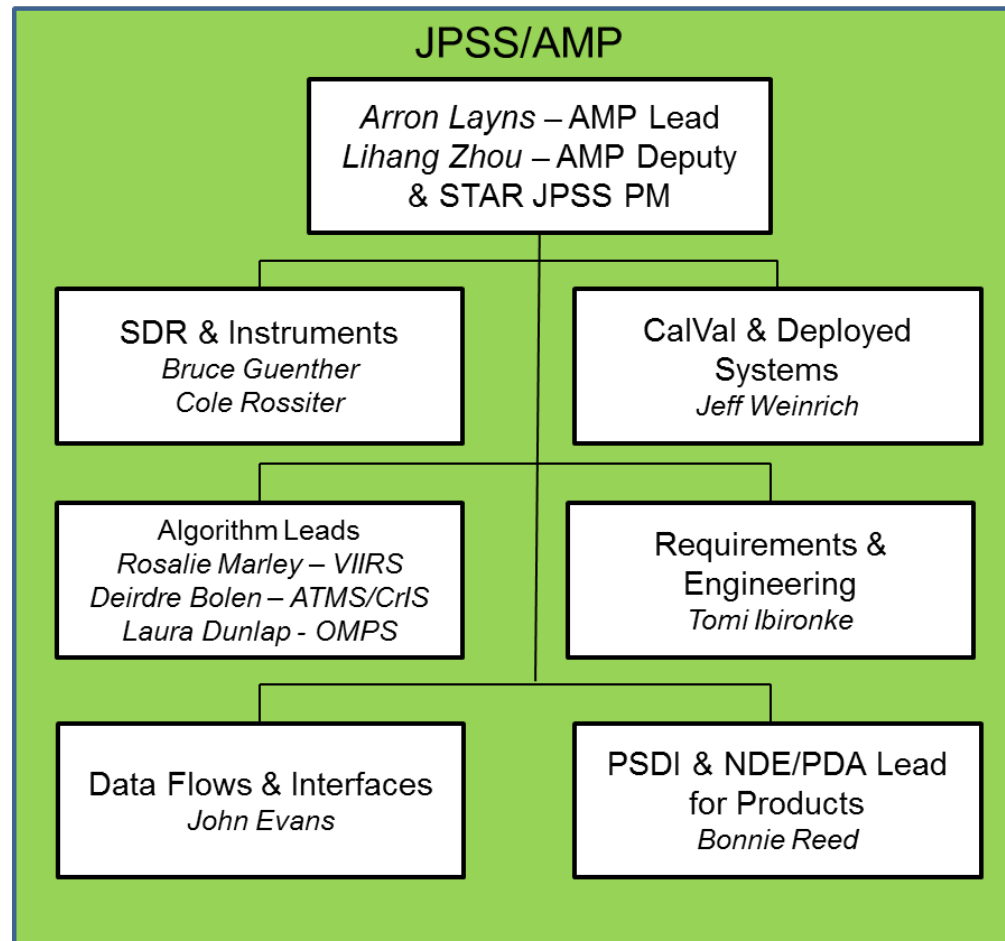Algorithm Management Project Lead

August 27, 2018

Agenda

- Organizational Update

- Priorities

- Lessons Learned

Organization

- On August 1, 2018, JPSS established the Ground Segment Project led by Heather Kilcoyne
- AMP and the associated JSTAR activities are now part of the JPSS Ground Segment Project

JPSS/AMP

Arron Layns – AMP Lead
Lihang Zhou – AMP Deputy
& STAR JPSS PM

SDR & Instruments
Bruce Guenther
Cole Rossiter

CalVal & Deployed Systems
Jeff Weinrich

Algorithm Leads
Rosalie Marley – VIIRS
Deirdre Bolen – ATMS/CrIS
Laura Dunlap - OMPS

Requirements & Engineering
Tomi Ibironke

Data Flows & Interfaces
John Evans

PSDI & NDE/PDA Lead for Products
Bonnie Reed

Strategic Priorities (1 of 2)

- **S-NPP in the Long-Term Monitoring Phase of the Cal/Val Process**

    - Sensors and their related products are mature and stable

    - Need to complete the Enterprise EDR migration to NDE including operationalizing the remaining EDRs and turning off production/distribution/archive of the IDPS-generated EDRs

        - OSPO notified all ESPC users in July 2018 that distribution of the S-NPP EDRs generated by IDPS (with the exception of VIIRS Imagery EDRs) will cease on December 31, 2018.

    - Maintenance updates should continue to address sensor variability and/or degradation

- **NOAA-20 in the mature stages of the Intensive Cal/Val Phase**

    - Progress through the maturity phases is progressing well.

    - Continuing to work with OSPO and ESPDS to operationalize the N20 algorithms through the monthly algorithm builds on NDE.

Strategic Priorities (2 of 2)

- **JPSS-2 is in development phase**
  - Continue to closely engage with Flight Project and Project Science Teams during sensor build and development phases
    - VIIRS sensor characterization nearing completion
    - ATMS, CrIS, and OMPS environmental testing coming up in 2018-2019
    - AMP closely monitors all Flight risks with potential science data quality impacts (e.g., waivers)
    - AMP/STAR is invited to all Instrument PMRs and has access to all applicable materials
  - Plan and schedule any J2 code change or table deliveries.

- **Algorithm enhancements/improvements**
  - Must be submitted through the DRAT for IDPS
  - Can be done through maintenance releases for NDE assuming the change does not significantly change the processing requirements or require >160 hours of OSPO time to implement. Otherwise, submit through SPSRB user request.
  - Known changes being tracked by JPSS:
    - Remove CrIS Truncated Spectral Resolution processing (only maintain the Full Spectral Resolution processing)
    - Remove dependency on gridding software for OMPS SDR
    - Add terrain correction to the VIIRS Imagery EDRs
    - Add VIIRS Imagery EDRs for all 16 M bands (beyond the 6 that are produced today)

Lessons Learned

- AMP/STAR submitted lessons learned to Ground Segment Project for incorporation into overall Ground and Flight , where applicable, Lessons Learned

  - Staging the algorithms: Recommend all "J2-ready" SDR and EDR algorithms be staged on IDPS or NDE strings in time for the J2 test events or data flows

  - Pre-launch Test Data Flows: Recommend JPSS-2 test data be flowed through all RDR/SDR/EDR algorithms on IDPS and NDE at least 2 times prior to J2 launch

  - Instrument information: Recommend early access to potential instrument performance waivers and sensor-specific values needed for ground tables

  - Flight coordination: Recommend participation in instrument PMRs and review of Flight CCRs

  - Ground Schedule Coordination

    - Plan further in advance any J2 (or other) algorithm (code) changes with IDPS, DPES, and RTN

    - Improve post-launch algorithm change process to enable quick algorithm changes, if needed, quickly after launch

  - HRD: Recommend pre-launch HRD test data be provided to the HRD user community such as UW and DRL

  - Geolocation: Recommend verification of time difference protocols

All lessons learned were accepted by the Ground Segment

Summary

- JPSS will continue to support the end-to-end product lifecycle for all JPSS missions.

- The past year has seen real success in getting the N20 KPPs to operation very efficiently.

- Over the next year, the focus for AMP/STAR should be:
  - maintaining SNPP
  - completing the calval and product operationalization for N20
  - prepping for J2, including applying lessons learned to future missions.