

NOAA-20 Algorithm Maturity Review

November 27, 2018

Review Team Members: Mitch Goldberg (chair), Lihang Zhou, Satya Kalluri, Arron Layns, Jim Yoe, Kevin Schrab, Rick Stumpf, Michael Ford, Gary Wick, Tom Renkevans, Jim Gleason

Summary

The review team acknowledges the Volcanic Ash, Cloud and Ocean Color science teams for their efforts and hard work in preparing for this review and calibrating/validating all the N20 products. In summary, the review team recommends:

- Volcanic Ash is at provisional maturity
- Ocean Color is scientifically at provisional maturity. Full provisional maturity will occur after verification on the operational system.
- DCOMP is at provisional maturity pending resolution of the action item to compare SNPP to N20.

The review team also requests that all readme files be provided as soon as possible.

Volcanic Ash

The statistical and visual-based analyses of the 9 cases clearly show that all requirements are met, and the product has reached provisional maturity.

Slide 15 summarized that 9 volcanic eruptions were evaluated for this review. Represents reasonable sample of events; however it was noted that there were no major eruptions covered by NOAA-20 during the evaluation time period. All results shown are from processing on NDE I&T.

Obviously for validated maturity, more cases will be evaluated, including significant (high mass loading) cases.

Recommend the team work on comparisons to GOES-16 VA products for future reviews.

Recommend Mike work with Hongming Qi to get an SPSRB user request (preferably with at least one NOAA user such as VAAC/Jamie Kibler, NWS or OAR for dispersion modeling) submitted for the VOLCAT capability. There's no reason NESDIS cannot find a technical solution for implementing VOLCAT.

Ocean Color

The Ocean Color team demonstrated that the N20 product meets all the requirements, and thus meets Provisional maturity. The ocean color team also showed good characterization of the product under other environmental conditions/scenarios.

Since the DAP has not been delivered to OSPO, all results are shown for offline processing. Implies scientifically provisional. Full provisional maturity is pending verification with Okeanos processing.

The performance/stats after April 26/27 2018 are impressive, bringing into spec.

Slide 39 should be updated to show that all documentation will be updated for N20

Following the review, the OC team provided additional information on lack of high quality MOBY data during the validation period. Per the CalVal plans, MOBY will continue to be used for vicarious calibration purposes for the Ocean Color products.

Recommend that the OC team document any other weaknesses/anomalies (e.g., bands M4 and M5 seem to be noisier for N20 than SNPP) with the N20 data since April 27 in the readme.

Daytime Cloud Optical and Microphysical Properties (DCOMP)

The comparisons with MODIS look very good, and the statistics based on cloud phase improve the characterization of the product. Comparisons with AMSR2 also look good.

Recommend analyzing global mean (monthly or 7 days?) comparisons (maybe aggregated over certain latitude bands) between SNPP and N20 to show consistency between the two satellites. If this is completed and results look good, then DCOMP is at provisional.

Recommend the team consider upgrading the algorithm to use something else as aerosol auxiliary data other than a static file. (future recommendation). Also future work should include comparisons (and consistency) with G16/17.

Have any of the other teams that use M5 (eg OC) noticed a similar problem with the brightness on N20?

Please provide cloud team recommendations for improving independent validation datasets for these products.