

NOAA-20 Algorithm Maturity Review

Nov 21, 2019

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

Summary

All science teams did a great job presenting N20 calval results and following prior review team guidance for their products.. The review panel recommends:

- Land Surface Temperature (LST) reached Validated Maturity, pending on close of RFAs
- Land Surface Albedo (LSA) reached Validated Maturity, pending on close of RFAs

Land Surface Temperature

For LST: Good comparisons with SNPP, and MODIS. Agree with the team's assessment that comparisons with NASA LST will also be useful. Agree with the team's assessment that making use of enterprise cloud mask cloud probabilities will improve the product.

Slide 7, update with PCT versions

Slide 15, seasonal information should be more clear.... Consider using northern hemisphere stations (SURFRAD, Netherlands) for Winter, Spring, Summer, Fall.

Slide 15, for October 2019 (or any other full months where both are available) it would be interesting to see both NOAA-20 and S-NPP results to verify they are consistent for the northern hemisphere stations.

Slide 16, label to indicate you are showing Bias (Standard Deviation)

Slide 17, would like to see gridded versus gridded comparisons in addition to pixel pairs - differences should be smaller

Slide 23, recommend work with Tom Atkins/Lori Brown to integrate validation results into the long-term monitoring pages for JSTAR

Slide 25, user feedback is lacking - nothing new since provisional review. Validated should include user feedback that the algorithm is appropriately described/ready for their operational use. Need an update on the users who are interested in this product for obtaining a more accurate 2m air temperature - at provisional it was promising, is it still promising? Any additional work done? Consider reaching out to OAR/HRRR modelers in conjunction with GOES-R LST efforts. Is there any feedback received from the PAL? Consider reaching out to Jeff Privette/LST State of the Climate authors for feedback/interest - what would be needed for this

to be useful? If Soil Moisture application is promising look to users of that application for downstream needs... What about Gridded LST/LSA Product Request? That must have a user and use this as an input?

Slide 27, move action status to "open" until verified that user request has been satisfied with change to add angular information to the file

RFA-LST-1: LST team to provide updated user feedback and feedback from the PAL on this product.

RFA-LST-2: Update the review package to address the review team's comments, and re-submit the package to the review team for approval.

Land Surface Albedo

For LSA: Very good statistics compared with in situ and other satellites.

Many slides - lower footnote is indicating this is Provisional review rather than Validated

Slide 10 - Is reference to Provisional Maturity an error?

Slide 11 - When doing the daily composite, suggest to exclude the large scan angles.

Slide 16 - Recommend graph on the left hand side also show Northern Hemisphere subset to indicate Summer and Southern Hemisphere subset to indicate Winter, just to verify no seasonal biases noted

Slide 22-24 - Comparisons with MODIS show dependence on terrain roughness. Are the VIIRS geolocation products with terrain correction applied in the albedo processing? While for MODIS, the geolocation products have always applied terrain corrections. For VIIRS, geolocation with (GMTCO) and without (CMODO) terrain correction is products.

Slide 25, users interested in using the climatology data, recommend to publish the results on climatology data. Same comments as for LST - user feedback seems to be lacking - nothing new since provisional review? Validated should include user feedback that the algorithm is appropriately described/ready for their operational use. If Soil Moisture application is promising look to users of that application for downstream needs... What about Gridded LST/LSA Product Request? That must have a user and use this as an input?

RFA-LSA-1: The albedo team to confirm Inputs Terrain Corrected. (from: Slewec Blonski)

RFA-LSA-2: The albedo team to submit updated users' feedback and feedback from the OSPO PAL, and plan forward of operational uses of this product.

RFA-LSA-3: Update the review package for LSA to address the review team's comments, and re-submit the package to the review team for approval.