

NOAA-20 Algorithm Maturity Review

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Summary

VI and GVF have met Beta maturity. Ozone TC is Beta maturity. VIIRS Imagery has met Validated maturity.

The production in NDE continues to have the bug that results in upwards of 20% missing data. The bug fix (JRR v2.0) has been delivered and is expected to be implemented in NDE I&T by early Sept. This affects the JRR products and any downstream products such as VI.

Green Vegetation Fraction & Vegetation Index

GVF and VI have met the Beta maturity criteria.

The VI algorithm is not really an “enterprise algorithm.” It’s not run on GOES-R, and it’s not run operationally on legacy satellites.

There is a large (unexpected) difference between SNPP GVF and N20 GVF. GVF minimum and maximum values needs to be calibrated separately by satellite. There is also a dependency on SR.

What is the point of comparing to IDPS generated products? Literally no work has been done on the IDPS products.

The Vegetation teams must communicate with the SR team because of the dependency and do a root cause analysis on why the IDPS product agrees with MODIS but the NDE version does not.

It’s not clear how the Vegetation team will get enough data (~1year) of data by Feb 2019 in order to conduct their provisional maturity review. It seems they are relying on NDE for the data, but we know a) NDE has a bug that results in 20% missing data, and b) NDE I&T is not meant to be a stable system, and data production is not 24x7.

Root cause analysis is needed to understand difference of NDVI with MODIS. MODIS and IDPS NDVI compares well. Need to include the weekly intercomparison with MODIS for TOC VI.

Action: Kalluri and Csiszar, based on their expertise and managerial responsibilities, to provide oversight of root cause analysis. Side meeting at JPSS STAR meeting next week to discuss path forward.

Tom R Comments:

- Well done - certainly Beta
- Path to provisional - discussion was about using in situ data, but statement was made that such data won't be available for 6 months. Is there a concern about such use for provisional validation?
- Slide 47 - Outreach to users - MUST include OSPO PAL Hanjun in such activities.
- There was discussion related to dropouts. When will that fix be delivered and in place? Any affects towards provisional?
- Certainly a concern on the known issues (slide 43) for NDE sv MODIS as compared to IDPS vs MODIS. Need to understand these differences for progress towards provisional.

Vegetation Health

Differences between SNPP and N20 are expected. The science team should explain why (maybe in the readme).

Scientifically, VH appears very close to provisional; however, it was noted that for provisional, it would be better to analyze NH winter data.

From the user perspective, which product should be used. Need assessment from Science team.

For Provisional review results should be generated from I&T NDE string.

Tom R Comments:

- Beta achieved.
- Probably just me, but I still don't comprehend the value and meaning on slides 18/19 where normalized histogram and just plain image comparisons of VCI and TCI for same time period for N20 and SNPP are so different
- Slide 22 could have used a 2nd scale. The color one for the image is good, but numbers are different and thus possible confusing for the USDA numbers.
- For provisional, would like to see some user testimony to product readiness

Ozone v8TOz (Total Column)

Ozone TC is at BETA because only 1 day of data validation was shown and there are still updates to be delivered to NDE. Request the science teams do additional validation after the updates have been integrated into NDE I&T.

ACTION to Arron: How many days prior to Ops promotion does Jing's team need the OK to put in the Ops build?

Need policy for naming convention for NDE products for NOAA-20, and for follow-on.

[Arron's response: IDPS decided years ago the naming conventions for the products, and it's in the metadata and in the filenames. Changing this in IDPS would be a nightmare in part because by the time we realized it, it was within 6 months of launch of JPSS. On the NDE side, some (maybe most?) of the NDE algorithms use the SDR metadata to create their filenames and metadata so we would have to ask the NDE algorithm developers to change their algorithms to not use the IDPS metadata. This would have resulted in a change to the NPP and N20 algorithms to accommodate this, which we can ask the science teams to do but since many of these products are about to be in operations and archive, does it make sense now to change it? We came to the conclusion no, and just live with the J01.]

[Lihang's comments: live with J01 seems to be a reasonable solution for now, especially for consistent filenames for SDRs/EDRs generated from IDPS and NDE. For J2 and beyond, we might suggest the IDPS/NDE to incorporate these kind of filename changes more proactively]

Caveat statements provided for readme files were well received. Is there a need for periodic updates caveat statements (readme files) for SNPP based on findings.

Recommend provisional be effective once IDPS Mx3 is in operations (currently running on IDPS I&T)

OSPO notes no good user input during the review.

Unclear with geographic coverage requirement is actually met.

Tom R Comments:

- Many changes soon to happen. Were all seemingly small, but in aggregate, concerned that there could be issues and differences.
- Slide 9 - for geographic coverage, recommend the 90% daily global earth is done per requirements for validated review. How does "SZA < 70°" translate to % earth covered?
- Slide 9 - for validated review, need to show data for X>450DU, even if insufficient, show the samples achieved.
- Lots of caveats on slide 26/27. Some going in with CCR and DR soon, but not yet, hence resistant to claim provisional.
- Slide 28 - user feedback of two bullets is insufficient. Doesn't say how the evaluation of data has been, what issues they have seen, and suitability to use data.

VIIRS Imagery EDR

Imagery EDR meets Validated maturity. Excellent users' feedback from NWS/GINA.

Tom R Comments:

- Well done. Validated maturity