

MEMORANDUM FOR: The Record
FROM: Kexin Zhang and Quanhua (Mark) Liu, CrIS OLR Leads
SUBJECT: SNPP CrIS Outgoing Longwave Radiation (OLR) Validated maturity status and public release
DATE: 10/13/2016

{Beat/Provisional/Validated} maturity status declaration for {Product}

Maturity Review Date: 10/18/2016
Effective Date: 10/18/2016
Operational System: NUCAPS Version 1.5

The JPSS Algorithm Maturity Readiness Review Board approved the release of the NUCAPS OLR to the public with a Validated maturity level quality as of 10/18/2016 (effective date), based on JPSS Validation Maturity Review held on 10/18/2016 (link to review artifacts: <http://www.star.nesdis.noaa.gov/jpss/AlgorithmMaturity.php>).

1. Maturity stage definition (reference to the AMM webpage for maturity definition: <http://www.star.nesdis.noaa.gov/jpss/documents/Status/DataProductMaturityLevelDefinitions.pdf>)
2. Algorithm Description:
 - List of Products
 - CrIS OLR short name: FLUX
 - Product requirements/Exclusions (LIRDS)
 - JERD-2200: *The algorithm shall produce an OLR product during daytime and nighttime, regardless of sky conditions.*
 - JERD-2201: *The algorithm shall produce an OLR product that has a horizontal cell size of 25 km at nadir.*
 - JERD-2202: *The algorithm shall produce an OLR product that has a mapping uncertainty (3 sigma) of 5 km at nadir.*
 - JERD-2203: *The algorithm shall produce an OLR product that has a measurement range of 0 to 500 W/m².*
 - JERD-2204: *The algorithm shall produce an OLR product that has a measurement precision of 12 W/m².*
 - JERD-2205: *The algorithm shall produce an OLR product that has a measurement accuracy of 5 W/m²*

Quality flags (Table)

- Values
 - 0 = good
 - 1 = rejected
 - -9999 = missing



Product evaluation/validation

Daily, monthly and inter-annual CrIS OLR comparison with CERES OLR on Aqua and SNPP.

Product availability/reliability

CrIS OLR data were produced since 12/09/2015, but data before 09/12/2016 (Beta maturity effective date) were not reliable because of the correction regression coefficient file hasn't been updated.

Algorithm performance dependence

Depend on the accuracy of CERES OLR on Aqua and SNPP.

Known errors/issues/limitations

3. Changes since last maturity stage
 - Updated correction regression coefficient (effect on 9/12/2016)
4. Review board recommendations
5. Path Forward/Future Plan
 - Regional OLR analysis
 - Seasonal OLR analysis
 - Time series of CrIS OLR analysis
 - SNO OLR analysis

6. Additional Items to note

Additional information is available in the CrIS OLR algorithm theoretical basis document (ATBD) and validation maturity review briefing, which can be accessed at:

<http://www.star.nesdis.noaa.gov/jpss/Docs.php>

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