



Read-me for Data Users

MEMORANDUM FOR: The JPSS Program Record
SUBMITTED BY: JPSS NUCAPS Products Team Lead, Ken Pryor
CONCURRED BY: JPSS Algorithm Management Project Lead Lihang Zhou
APPROVED BY: JPSS Program Scientist Mitch Goldberg

SUBJECT: NOAA-20 validated maturity status
DATE: 10/24/2019/

Validated maturity status declaration for AVTP, AVMP, O3

Maturity Review Date: 10/24/2019
Effective Date: 10/24/2019
Operational System: NUCAPS, Version #2.5.2.2

The JPSS Algorithm Maturity Readiness Review Board approved the release of the NUCAPS to the public with a Validated maturity level quality as of 10/24/2019 (effective date), based on JPSS Validation Maturity Review held on 10/24/2019 (link to review artifacts).

1. Maturity stage definition (<http://www.star.nesdis.noaa.gov/jpss/AlgorithmMaturity.php>)
2. Algorithm Description:

List of Products (Collection Short Name (CSN):'NUCAPS-EDR')

- Atmospheric Vertical Temperature Profile (AVTP)
- Atmospheric Vertical Moisture Profile (AVMP)
- Atmospheric Ozone Profile (O3)

Product requirements/Exclusions (L1RDS): see artifact at TBD

Quality flags (Table): See artifact at TBD

Product evaluation/validation: See artifact at TBD

Product availability/reliability

N20 NUCAPS-EDR data been produced since 5/23/2018 (Provisional maturity) with V4.3. The primary change from V4.3 to the current version includes updated CO and CH4 a-priori tables, MW and IR tuning LUTs, all-sky and cloud-cleared regression LUTs. A hierarchy of validation data sets were used to validate the products and achieve validated maturity.

Algorithm performance dependence: None

Known errors/issues/limitations: TBD

3. Changes since last maturity stage: Provisional to Validated
4. Review board recommendations
5. Path Forward/Future Plan: Future enhancements may include upgrades to the quality flags embedding super-saturation, NUCAPS algorithm improvements with CAMEL emissivity for improved land surface emissivity characteristics, potential improvements towards swath edges using local angle corrections.
6. Additional Items to note

Additional information is available in the {JPSS Product} algorithm theoretical basis document



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(ATBD) and validation maturity review briefing, which can be accessed at:

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

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