VIIRS Ice Surface Temperature EDR Release, Provisional Data Quality
Last Updated: 09/12/2013
Read-me for Data Users

The Joint Polar Satellite System (JPSS) Algorithm Engineering Review Board approved the release of the VIIRS Ice Surface Temperature Data Record (EDR) with a Provisional level maturity as of October 15, 2012 (IDPS Build Mx6.4). This data product is represented by Collection Short Name (CSN) VIIRS-IST-EDR. An evaluation of the product generated after that date has shown it to satisfy the criteria for Provisional-level maturity. Those criteria are:

- Product quality may not be optimal
- Incremental product improvements are still occurring
- Version control is in affect
- General research community is encouraged to participate in the QA and validation of the product, but need to be aware that product validation and QA are ongoing
- Users are urged to consult the EDR product status document prior to use of the data in publications
- Ready for operational evaluation

The Board recommends that users be informed of the following information and characteristics when evaluating the Ice Surface Temperature EDR:

1. The Ice Surface Temperature EDR has been generated since January 2012, however the time series of the derived product are not consistent. Inconsistency occurred due to several modifications that have been introduced to the cloud detection algorithm and hence to the cloud mask during the time period from January 2012 to April 2013.

2. Performance of VIIRS Cloud Mask (VCM) remained non-uniform and suboptimal during the monitoring period. This adversely affected the accuracy of the Ice Surface Temperature EDR causing ice surface temperatures to appear where no ice is actually present. Fixes to the VCM are currently underway and will be reflected in future versions of the IST EDR.

3. The conclusion on the realistic representation of ice surface temperature by the VIIRS Ice Surface Temperature EDR and on its accuracy has been made based on the analysis of the product during the time period from January 2012 to March 2013.

Future steps in the process to further validate the Ice Surface Temperature EDR and to move the product to Validated I maturity include the following:

1. Detailed performance characterization, requiring:
    a. Update of IST regression coefficients based on matchup with VIIRS and truth IST sources.
    b. Improvements, consistency, and stability in the VIIRS cloud mask.

2. Implement ability to check for reduced quality VIIRS Ice Concentration IP input based on quality flags, with additional quality checks to be added to the Ice Concentration IP.
3. Define appropriate Data Quality Threshold Tables (DQTTs).
4. Note that no algorithm code changes are currently planned.

Additional information on VIIRS and algorithm theoretical basis documents (ATBDs) is available at: http://www.star.nesdis.noaa.gov/jpss/ATBD.php.

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