

***VIIRS Sea Ice Characterization EDR and Ice Concentration IP Release, Provisional Data Quality***  
***Last Updated: 12/11/2013***  
***Read-me for Data Users***

The Joint Polar Satellite System (JPSS) Algorithm Engineering Review Board approved the release of the VIIRS Sea Ice Characterization Environmental Data Record (EDR) and Ice Concentration Intermediate Product (IP) with a Provisional level maturity as of October 15, 2012 (IDPS Build Mx6.4). These data products are represented by Collection Short Names (CSNs) VIIRS-SIC-EDR (Sea Ice Characterization EDR) and VIIRS-I-Conc-IP (Ice Concentration IP). An evaluation of the products generated after that date has shown them 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 product information and characteristics when evaluating the product:

- The VIIRS Sea Ice Concentration IP and Sea Ice Characterization EDR have been generated since January 2012. However, the time series of the derived product is 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 February 2012 to October 2013.
- Significant discontinuities in ice concentration and ice classification are evident at the 85 deg SZA transition between day and night.
- False ice is frequently observed near cloud edges, and also exists at other locations.
- Ice misclassifications by the Sea Ice Characterization EDR have also been observed to occur due to low opacity clouds or ice fog, particularly during nighttime.
- The lower reflectance of melting sea ice appears to cause the Sea Ice Characterization EDR to indicate *New/Young Ice*, although this type of ice cannot be present during the melt season.
- Performance of VIIRS Cloud Mask (VCM) remained non-uniform and suboptimal during the monitoring period. This adversely affected the accuracy of the VIIRS Sea Ice Concentration IP and Sea Ice Characterization EDR causing incorrect sea ice identifications. Improvements to the VCM are currently underway and will be reflected in future versions of the VIIRS Sea Ice Concentration IP and Sea Ice Characterization EDR.
- The conclusion on the realistic representation of ice concentration by the VIIRS Sea Ice Concentration IP and sea ice characterization by the VIIRS Sea Ice Characterization EDR and on their accuracy has been made based on the analysis of the product during the time period from January 2012 to October 2013.

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

Point of Contact:

Jeff Key  
VIIRS Cryosphere EDRs Lead  
Jeff.Key@noaa.gov  
608-263-2605