CrIS SDR Release, Provisional Data Quality

Recommended Cautions for Data Users

The JPSS Algorithm Engineering Review Board has released the CrIS Sensor Data Record product to the public with the data quality attribute of Provisional. Provisional Quality is defined as:

* Product quality may not be optimal
* Incremental product improvements are still occurring as calibration parameters are adjusted
* Version control is in affect
* General research community is encouraged to participate in the QA
* Users are urged to consult the SDR product status documents prior to use of the data in publications
* Ready for operational evaluation

The Board recommends that users be aware of certain specific data product characteristics. The product caveats for CrIS at this time are:

1. In the SDR product, certain granules contain intentionally 3 scans instead of nominal 4. These are called ‘short’ granules. The spectra of the fourth scan are filled values (-999.0 to -999.9). However, the data quality flags (DQFs) of the spectra in that fourth scan are set to valid. The users shall examine the spectra values for determining the validity of these spectra (DR 5011)
2. In rare case, a granule may contain spectra that are flagged as valid where they should have been flagged as invalid. These bad spectra have floating point values (not filled values) and they have distorted spectral features when compared to valid spectra. Two unique instances are presented. On November 6th 2012, this case involved manual retasking, missing Earth scene packets and missing 8 seconds telemetry packet. The corrupted granule is:

SCRIS\_npp\_d20121106\_t1508099\_e1508397\_b05324\_c20121106213043803140\_noaa\_ops.h5

A second instance occurred on December 26th 2012 from 20H:44M:09S to 21H:18M:57S UTC. This anomaly lasted 34 minutes. It involved manual retasking also. Radiance values (real and imaginary) were too high. About 60% of the bad spectra were flagged as invalid (DR 5043).

As part of the mitigation effort, manual retasking will no longer be performed. Although we do not anticipate future occurrence of such anomalies, the reader should avoid using data where there is a cluster of invalid spectra, or examine the spectra values for determining the validity of these spectra.

1. In the case of missing Earth scene packet, the CrIS SDR produces ‘fake’ spectra with filled values (-999.0 to -999.9). The CrIS Overall data quality flag is correctly set to invalid. However, the “RDR Invalid” DQF is set to valid instead of invalid (DR 4963). The fix is planned for MX 7.1 (June 2013).
2. The maturity date for the CrIS SDR data is Oct 23, 2012
3. The point of contact for the CrIS SDR is Yong Han yong.han@noaa.gov

The Products with Short names of the effected products

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| CrIS SDR Ellipsoid Geolocation | GCRSO\_NPP |
| CrIS Science SDR | CRIS\_SDR |
| CrIS Science RDR | RCRIS-RNSCA\_NPP |
| CrIS Telemetry RDR | RCRIT\_NPP |
| CrIS Memory Dump | RCRIU\_NPP |
| CrIS Scene Selection Module (SSM) Dwell RDR | RCRIH\_NPP |
| CrIS Diagnostic RDR | RCRID\_NPP |
| CrIS Housekeeping Dwell | RCRIH\_NPP |
| CrIS Inteferogram Module | RCRII\_NPP |