

GOES-17 EXIS Level 1b (L1b) Data Release
Beta Data Quality
28 June 2018
Read-Me for Data Users

The GOES-R Peer Stakeholder Product Validation Review (PS-PVR) for the GOES-17 EXIS L1b Beta Maturity was held on 27 June 2018. As a result of this review, the PS-PVR panel recommended that the EXIS L1b data be included in GRB. This was accomplished at 15:00 UT on 28 June 2018.

The L1b data products derived from EXIS include:

- X-Ray fluxes: (derived from X-Ray Sensor (XRS) observations)
- Extreme ultraviolet (EUV) line irradiances, Magnesium II indices, and EUV proxy spectra (derived from Extreme Ultraviolet Sensor (EUVS) observations)

Beta maturity, by definition, means that:

- Initial calibration applied (L1b);
- Rapid changes in product input tables / algorithms can be expected;
- Product quick looks and initial comparisons with ground truth data not adequate to determine product quality;
- Anomalies may be found in the product and the resolution strategy may not exist;
- Product is made available to users to gain familiarity with data formats and parameters (via GRB);
- Product has been minimally validated and may still contain significant errors; and
- Product is not optimized for operational use.

The GOES-17 EXIS Level 1b (L1b) Beta level data products are preliminary, non-operational data. These data are currently undergoing testing and initial calibration and validation. The user should be aware that these products are only at a Beta level of maturity. This means that the products are made available to users for them to gain familiarity with data formats and parameters in accordance with the GOES-R Product User Guide (PUG). Beta products have been minimally validated and still contain significant errors. They are not optimized for operational or research. Users bear all responsibility for inspecting the data prior to use and for the manner in which the data are utilized.

Persons desiring to use the GOES-17 EXIS Beta-maturity L1b products for any reason, including but not limited to scientific and technical investigations, should involve the responsible NOAA scientists before proceeding.

Some of the more major known L1b issues under work for resolution are:

1. XRS dark corrections are not yet included.
2. Timestamp may not be correct in EUV L1b filenames.
3. Timestamps in files do not match data in files.
4. EXIS roll angle is missing from file.
5. Field of view maps are not updated based on post launch testing.

6. EUVS data needs degradation corrections.
7. Some flags are not correctly set.
8. EUVS model is incorrect.
9. Low flux electron fluxes have significant electron contamination.
10. XRS A channel measurements differ significantly from GOES-NOP data.
11. XRS data lacks corrections for SEP impacts.
12. XRS primary channel switching is non-optimal.
13. XRS and EUVS signals do not recovery properly from an eclipse for multiple hours.

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