



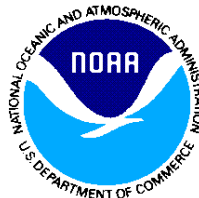
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NOAA ACSP0 Level 2 and 3 (L2/3) Geostationary ABI/AHI Products

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Product Levels for ABI at NOAA

- NOAA “Level 1b” (L1b) ABI data is obtained from L0 data by radiometric calibration and resampling onto a fixed spatial grid
- ABI radiances that have not been resampled, are not available at **any** product level
- The GOES-R Program distributes operational L1b data and derived products from ABI L1b, called Level 2 (e.g. SST, Land Surface Temp, Aerosol Optical Depth)
- GOES-R uses the generic term L2+ to allow for extra processing (e.g. Reflected Shortwave Radiation is derived on its own spatial grid)
- Being part NOAA and GOES-R, NOAA ACSPO SST team follows this nomenclature



Product Levels in partner agencies

- AHI is a twin to ABI – so same preprocessing steps are applied to L0
- JMA doesn't call them L1b though – it's "Himawari Standard Data" (HSD), but they describe it as "L1B-Equivalent"
- A similar resampling is done for MSG SEVIRI, and the product is called Level 1.5 (L1.5)
- For AHI and SEVIRI (like for ABI), calibrated radiances that have not been resampled, are not available at **any** product level
- Nevertheless, SEVIRI L2 products (aerosol, cloud, LST, etc) do exist - example of SEVIRI SST L2 product archived in PO.DAAC are shown in last slide



ACSPO Nomenclature

- Consistently with NOAA and GOES-R nomenclature, ACSPO uses “Level 2 Preprocessed/Collated (L2P/C)” terms to refer to the “original satellite projection” products derived from ABI/AHI L1b
- With respect to ACSPO and SST monitoring systems, L2C is closer to L2P than L3C as it can be processed using all of our tools that were designed for L2P, without significant modifications
- NOAA ACSPO uses the L2/L3 dichotomy to distinguish if any further re-gridding has occurred on the top of that done in L1b
- We refer to our 0.02° equiangular gridded products as L3U/C, unambiguously consistent with GHRSSST GDS2 guidelines

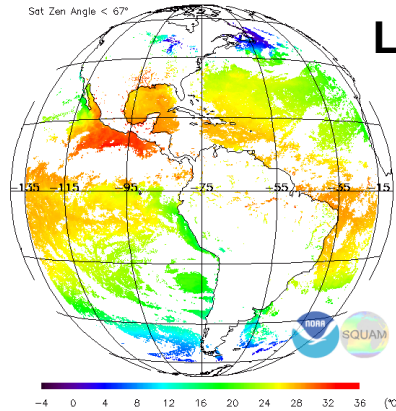


ABI/AHI ACSPPO Product Dataflow

G16/17 L1b
H08/09 HSD

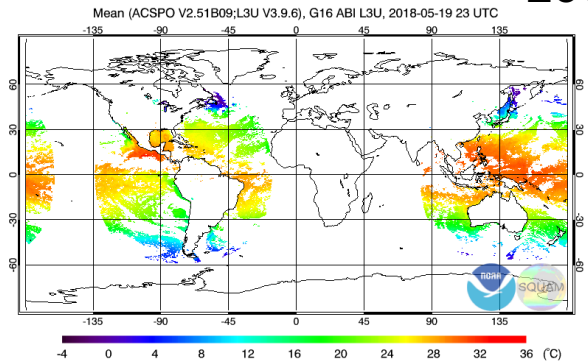


Mean (ACSPPO V2.51B09), G16 ABI L2P, 2018-05-19 23 UTC
Sat Zen Angle < 67°



L2P

Regrid

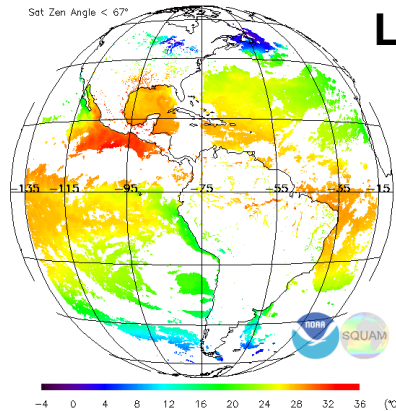


L3U

Collate

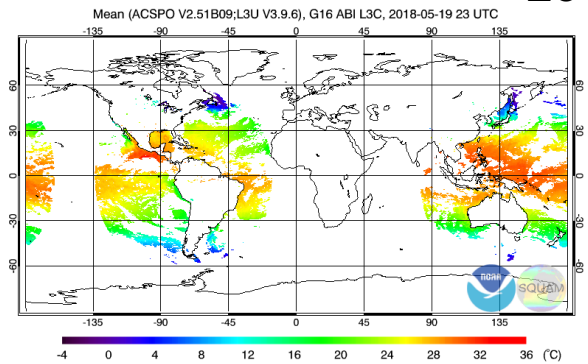


Mean (ACSPPO V2.51B09), G16 ABI L2C, 2018-05-19 23 UTC
Sat Zen Angle < 67°



L2C

Regrid



L3C



Statement of Problem/Confusion

- In the GDS2 guide and subsequent discussion, the same “Level 3 Collated (L3C)” term is suggested to describe two different products
 - “Combination of several geostationary snapshots in original satellite projection.”
 - “Combination of several geostationary snapshots on a new space grid.”
- The question is:
 - How we differentiate between two ACSPO products?

In order to minimize confusion for ACSPO users, L2C is used for collated in time, but not re-projected and L3C is used for collated in time and re-projected



“Precedent Rule” – What’s in PO.DAAC now?

- From a user’s perspective, whatever is in PO.DAAC is the gold standard. ABI/AHI has not been archived yet, but two SEVIRI SST products are there:
- https://podaac.jpl.nasa.gov/dataset/SEVIRI_SST-OSISAF-L3C-v1.0
“GHRSSST Level 3C Atlantic sub-skin Sea Surface Temperature from the Spinning Enhanced Visible and Infrared Imager (SEVIRI) on MSG at 0 degree longitude (GDS V2) produced by OSI SAF” – It’s an L3C equiangular 0.05° 1hr product. - Agrees with what we propose to archive for ABI 0.02° 1hr.
- <https://podaac.jpl.nasa.gov/dataset/MSG03-OSPO-L2P-v1.0>
“GHRSSST Level 2P Atlantic Regional Skin Sea Surface Temperature from the Spinning Enhanced Visible and InfraRed Imager (SEVIRI) on the Meteosat Second Generation (MSG-3) satellite (GDS version 2)” - Agrees with what we propose for L2C