

NOUS41 KWBC 111120

PNSWSH

Service Change Notice 20-84

National Weather Service Headquarters Silver Spring, MD

720 AM EDT Fri Sep 11 2020

To: Subscribers:
 -NOAA Weather Wire Service
 -Emergency Managers Weather Information Network
 -NOAAPort
 Other NWS Partners and NWS Employees

From: Thomas Cuff
 Director, NWS Office of Observations

Subject: Add Loop Heat Pipe Metadata to GOES-R ABI
 Imagery on the Satellite Broadcast Network
 (a.k.a., NOAAPort), effective September 2, 2020

Effective on or after 1500 UTC September 2, 2020, additional metadata will be included in all Geostationary Operational Environmental Satellite (GOES) Advanced Baseline Imager (ABI) Sectorized Cloud and Moisture Imagery (SCMI) on the Satellite Broadcast Network (SBN).

These additional metadata will not affect current handling of these products by AWIPS.

The additional metadata is related to (and/or can help identify) ABI Loop Heat Pipe anomalies, which cause GOES-17 ABI imagery to degrade at certain times of the year. Specifically, six new metadata items will be added to each NetCDF4 file of GOES-16 and GOES-17 SCMI:

Field(value range)

-
- 1) Sectorized_CMI:percent_good_pixel_qf (0.0 to 1.0)
 - 2) Sectorized_CMI:percent_conditionally_usable_pixel_qf (0.0 to 1.0)
 - 3) Sectorized_CMI:percent_out_of_range_pixel_qf (0.0 to 1.0)
 - 4) Sectorized_CMI:percent_no_value_pixel_qf (0.0 to 1.0)
 - 5) Sectorized_CMI: percent_focal_plane_temperature
 _threshold_exceeded_qf (0.0 to 1.0)

6) Sectorized_CMI:maximum_focal_plane_temperature (see notes following)

There will be one such set of metadata for each netCDF4 product file. For GOES-16, the maximum_focal_plane_temperature value is expected to be near 60K, with minor variability. For GOES-17, the maximum_focal_plane_temperature value is expected to range from approximately 80K to as high as 105K+, with peak temperatures corresponding to Loop Heat Pipe anomalies. The values are all type float.

For more information on the predicted focal plane module temperatures, refer to:

<https://www.goes-r.gov/users/GOES-17-ABI-Performance.html>

and

<https://www.goes-r.gov/downloads/users/abiPerformance/GOES-17ABISaturationPredictionReferenceTools.pdf>

BACKGROUND

The affected GOES East (i.e., GOES-16) imagery is disseminated on the SBN's GOES-R East channel (PID 108). The affected GOES-16 headers are, with references to the 11 character template:

Template: T1 T2 A1 A2 ii CCCC

T1 = T

T2 = I

A1 = R for large-scale (non-mesoscale) sectors

= S for mesoscale sectors

A2 Where A1=R, for large-scale (non-mesoscale) sectors,

A2 corresponds to geographical sectors as follows:

= E for the East CONUS sector

= P for the Puerto Rico Regional sector

= S for the East Full Disk sector

ii = ABI channel number (01 - 16);

between the ii and CCCC is a space

CCCC = KNES (signifies products originated by NESDIS)

Additional information about the GOES 16 SCMI (including the format and headers for mesoscale imagery) is described in SCN 18-66:

<https://www.weather.gov/media/notification/pdfs/scn18-66goes16imagerytransition.pdf>

The GOES West (i.e., GOES-17) imagery is disseminated on the SBN's GOES-R West channel (PID 107). The affected GOES-17 headers are, with references to the 11 character template:

Template: T1 T2 A1 A2 ii CCCC

T1 = T

T2 = I

A1 = R for large-scale (non-mesoscale) sectors
= U for mesoscale sectors

A2 Where A1=R, for large-scale (non-mesoscale) sectors, A2 corresponds to geographical sectors as follows:

= W for the West CONUS sector
= T for the West Full Disk sector
= A for the Alaska sector
= H for the Hawaii sector

ii = ABI channel number (01 - 16);

between the ii and CCCC is a space

CCCC = KNES (signifies products originated by NESDIS)

Additional information about the GOES 17 SCMI (including the format and headers for mesoscale imagery) is described in SCN 18-106:

<https://www.weather.gov/media/notification/pdfs/scn18-106goes-17.pdf>

Critical weather or other factors may delay the addition of this metadata.

For questions pertaining to this change, please contact:

Brian Gockel
NOAA/NWS Office of Observations
Silver Spring, MD 20910
Email: Brian.Gockel@noaa.gov

and

AWIPS Network Control Facility (NCF) Help Desk
NOAA/NWS Office of Central Processing

Silver Spring, MD 20910

Email: nws.ncf.supervisors@noaa.gov

For questions regarding the scientific or technical content of GOES-16 and GOES-17 products please contact:

Environmental Satellite Processing Center (ESPC) Help Desk
Suitland, Maryland 20746

Phone: 301-817-3880

Email: ESPCOperations@noaa.gov

National Service Change Notices are online at:

<https://www.weather.gov/notification/>

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