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PNSWSH

Technical Implementation Notice 15-48
National Weather Service Headquarters Washington DC
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-NOAA Weather Wire Service
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From: Tim McClung
Chief Operating Officer
NWS Office of Science and Technology Integration

Subject: S-NPP Near-Constant Contrast Imagery to be added to NOAAPORT Effective December 1, 2015

On or about December 1, 2015, beginning at approximately 1500 Coordinated Universal Time (UTC), NWS will start sending Suomi-National Polar-Orbiting Partnership (S-NPP) Near-Constant Contrast imagery across the NOAAPORT satellite broadcast network. The NOAAPORT Near-Constant Contrast imagery will be drawn from the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument on the S-NPP satellite. These imagery products will be provided to NOAAPORT by the NOAA National Environmental Satellite, Data, and Information Service (NESDIS) S-NPP Data Exploitation (NDE) system.

NWS will transmit the Near-Constant Contrast imagery across the Polarsat (PID 105) channel of the NOAAPORT satellite broadcast network. That channel already carries S-NPP/VIIRS imagery for the Alaska Region.

There are four geographical regions for which this new imagery will be provided:

Alaska Region Sector (WMO Header: TIPB10 KNES):
Lower/Southern Latitude - 45 degrees N
Upper/Northern Latitude - 75 degrees N
Left/Western Longitude - 120 degrees E
Right/Eastern Longitude - 120 degrees W

Pacific Region Sector (WMO Header: TIPI10 KNES):
Lower/Southern Latitude - 30 degrees S
Upper/Northern Latitude - 45 degrees N
Left/Western Longitude - 120 degrees E
Right/Eastern Longitude - 120 degrees W

CONUS Sector (WMO Header: TIPC10 KNES):

Lower/Southern Latitude - 20 degrees N
Upper/Northern Latitude - 55 degrees N
Left/Western Longitude - 130 degrees W
Right/Eastern Longitude - 60 degrees W

Puerto Rico Sector (WMO Header: TIPQ10 KNES):
Lower/Southern Latitude - 10 degrees N
Upper/Northern Latitude - 30 degrees N
Left/Western Longitude - 80 degrees W
Right/Eastern Longitude - 50 degrees W

Each file will contain one granule of VIIRS NCC imagery. The horizontal resolution of this imagery, at nadir, will be approximately 750 meters. The format of this imagery will be netCDF4, compressed via gzip. Each VIIRS granule covers approximately 86 seconds of data, or roughly 5 degrees or 556 kilometers of along-track geographical extent.

Geolocation information for each granule will be stored within each product file; however, similar to the geolocation of existing S-NPP/VIIRS imagery on the NOAAPORT POLARSAT channel, each file will only include simplified/reduced geolocation data for the centerline and edges. The geolocation information consists of three 771-dimension arrays of latitude/longitude pairs that correspond to the granule edge (first column), granule centerline, and granule edge (last column), with all three arrays oriented along the satellite track.

Additional geolocation-related information (though not specific to the NOAAPORT stream of NPP VIIRS imagery) can be found in the "Joint Polar Satellite System (JPSS) Operational Algorithm Description (OAD) Document for VIIRS Ground Track Mercator (GTM) Imagery Environmental Data Record (EDR) Software," Revision A, January 18, 2012, (e.g., Section 2.0.4).

To access these products on NOAAPORT, users must:

-Read beyond or strip off the WMO header
-Decompress the resulting product (e.g., via gunzip)
-Use a netCDF4 reader (e.g., a decoder that invokes the Unidata netCDF4 software package)
-Apply the geolocation algorithm

For questions regarding the scientific or technical content of the NOAAPORT-disseminated S-NPP/VIIRS imagery please contact:

ESPC Help Desk
Suitland, Maryland 20746
Phone: 301-817-3880
Email: ESPCOperations@noaa.gov

For questions regarding the NOAAPORT activation or distribution of these products please contact:

Brian Gockel
NOAA/NWS Office of Observations
Phone: 301-427-9396
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NWS Technical Implementation Notices are online at:

http://www.nws.noaa.gov/om/notif.htm

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