# Low Latency Data Access status report + status of implementation of best practices at NOAA

**Presented to CGMS-53 Working Group 1, agenda item 2.4**

**Coordination Group for Meteorological Satellites**

## Executive summary of the WP

This paper describes the implementation status of the Coordination Group for Meteorological Satellites (CGMS) agency best practices in support to local and regional processing of Low Earth Orbiting (LEO) Direct Broadcast (DB) data at the National Oceanic and Atmospheric Administration (NOAA).

This paper focuses on the Polar Operational Environmental Satellites (POES) legacy missions (NOAA-15,NOAA-18, NOAA-19); Suomi National Polar-orbiting Partnership (S-NPP) mission, NOAA-20 and NOAA-21 missions

**Coordination Group for Meteorological Satellites**

## List of Best Practices

1. BP.01 Global Specification for Direct Broadcast
2. BP.02 Timely Provision of Space-to-Ground Interface Control Documents
3. BP.03 Provision of Current Orbit Information
4. BP.04 Provision and Maintenance of Product Processing Software
5. BP.05 Packages Provision of Auxiliary Data for Instrument Product Processing
6. BP.06 Recommendations of Channel Selection for Hyperspectral Instruments
7. BP.07 Spacecraft and Instrument Operational Status
8. BP.08 Operational Announcements
9. BP.09 Satellite Direct Broadcast and Reception Station Performance Requirements
10. BP.10 Monitoring of the Direct Broadcast Downlink

## Status of Operation Broadcast Systems

| | POES | | | | JPSS | | |
|---|---|---|---|---|---|---|---|
| **Instruments** | **NOAA-15** | **NOAA-18** | **NOAA-19** | **Instruments** | **SNPP** | **NOAA-20** | **NOAA-21** |
| AMSU-A1 | Yellow | Green | Green | ATMS | Yellow | Green | Green |
| AMSU-A2 | Green | Green | Green | CERES | Green | Green | Green |
| AVHRR | Yellow | Green | Green | CrIS | Orange | Green | Green |
| HIRS | Yellow | Green | Orange | OMPS | Green | Green | Green |
| MHS | ------- | Red | Yellow | VIIRS | Green | Green | Green |

**Coordination Group for Meteorological Satellites**

## BP.01  Global Specification for Direct Broadcast

Operators should implement the agreed CGMS Direct Broadcast Services.

**NOAA-15, NOAA-18, NOAA-19 (POES)**

- Not applicable

**SNPP, NOAA-20, NOAA-21 (JPSS)**

- Compliant. The HRD builds upon a set of applicable Consultative Committee for Space Data Systems (CCSDS) standards as described in the Joint Polar Satellite System 1 (JPSS-1) Spacecraft High Rate Data (HRD) to Direct Broadcast Stations (DBS) Radio Frequency (RF) Interface Control Document (ICD) (2014)

  https://www.nesdis.noaa.gov/about/documents-reports/jpss-technical-documents

**Coordination Group for Meteorological Satellites**

## BP.02 Timely Provision of Space-to-Ground Interface Control Documents (ICD)

**NOAA-15, NOAA-18, NOAA-19 (POES)**

- Compliant, Status previously briefed during CGMS-46 (web links provided via WP)

**SNPP, NOAA-20, NOAA-21 (JPSS)**

- Compliant. S-NPP/NOAA-20 statuses were briefed during CGMS-46.

- NOAA-21 High-Rate Data (HRD) changes were briefed during CGMS.

  A NOAA-21 ICD revision is now available at the following URL: https://www.nesdis.noaa.gov/about/documents-reports/jpss-technical-documents

**Coordination Group for Meteorological Satellites**

## BP.03  Provision of Current Orbit Information

### NOAA-15, NOAA-18, NOAA-19 (POES)

- Compliant, Status previously briefed during CGMS-46. (Links available in WP)

### SNPP, NOAA-20, NOAA-21 (JPSS)

- Compliant with S-NPP, NOAA-20 and NOAA-21. The JPSS Field Terminal Support (FTS) provides Mission Support Data (ancillary data, auxiliary data and Mission Notices) and the necessary hardware and software specifications needed for processing the broadcasts. FTS distributes S-NPP, NOAA-20 and NOAA-21 TLEs, predicted post- maneuver TLEs, and definitive ephemeris files.
 FTS webpage: https://fieldterminal.nesdis.noaa.gov

- Users can also find S-NPP, NOAA-20 and NOAA-21 TLEs from the following OSPO run webpage: https://celestrak.org/NORAD/elements/

**Coordination Group for Meteorological Satellites**

## BP.04  Provision and Maintenance of Product Processing Software

### NOAA-15, NOAA-18, NOAA-19 (POES)

- Compliant, The Community Satellite Processing Package (CSPP) supports the Direct Broadcast (DB) meteorological and environmental satellite community through the packaging and distribution of open-source science software.

### SNPP, NOAA-20, NOAA-21 (JPSS)

- Compliant, The Community Satellite Processing Package (CSPP) supports the Direct Broadcast (DB) meteorological and environmental satellite community through the packaging and distribution of open-source science software.

- Instructions for downloading CSPP software are on the CSPP Home Page located at: http://cimss.ssec.wisc.edu/cspp/

**Coordination Group for Meteorological Satellites**

## BP.05  Packages Provision of Auxiliary Data for Instrument Product Processing

**NOAA-15, NOAA-18, NOAA-19 (POES)**

- Compliant, Status previously briefed at CGMS-47

**SNPP, NOAA-20, NOAA-21 (JPSS)**

- Compliant with S-NPP, NOAA-20 and NOAA-21 auxiliary data are available on FTS.

- The FTS user portal web page is located at: https://fieldterminal.nesdis.noaa.gov/

**Coordination Group for Meteorological Satellites**

## BP.06  Recommendations of Channel Selection for Hyperspectral Instruments

### NOAA-15, NOAA-18, NOAA-19 (POES)

- Not Applicable

### SNPP, NOAA-20, NOAA-21 (JPSS)

- Compliant. Users are notified of any changes through Environmental Satellite Processing Center (ESPC) Notifications.
    – Contact the ESPC Help Desk to be added to the distribution list:
        ESPCOperations@noaa.gov
    – Notifications are archived at:
        https://www.ospo.noaa.gov/Operations/messages.html

**Coordination Group for Meteorological Satellites**

# BP.07 Spacecraft and Instrument Operational Status

### NOAA-15, NOAA-18, NOAA-19 (POES)

- Compliant, POES status available at the following URL:
  https://www.ospo.noaa.gov/Operations/POES/status.html

### SNPP, NOAA-20, NOAA-21 (JPSS)

- Compliant, JPSS Status is available at:
https://www.ospo.noaa.gov/Operations/JPSS/status.html

- Product maturity level is available at:
https://www.star.nesdis.noaa.gov/jpss/AlgorithmOperational.php

**Coordination Group for Meteorological Satellites**

## BP.08 Operational Announcements

**NOAA-15, NOAA-18, NOAA-19 (POES)**

- Compliant. ESPC Notifications are issued for both planned and unplanned events. The Notifications are also at: http://www.ospo.noaa.gov/Operations/messages.html

**SNPP, NOAA-20, NOAA-21 (JPSS)**

- Compliant. ESPC Notifications are issued for both planned and unplanned events. The Notifications are also at: http://www.ospo.noaa.gov/Operations/messages.html

**Coordination Group for Meteorological Satellites**

## BP.09  Satellite Direct Broadcast and Reception Station Performance Requirements

### NOAA-15, NOAA-18, NOAA-19 (POES)

- Not Applicable

### SNPP, NOAA-20, NOAA-21 (JPSS)

- Compliant, status briefed during CGMS-46 and unchanged.

  – The link budget is provided in the working paper.
(Appendix A.2)

**Coordination Group for Meteorological Satellites**

## BP.10  Monitoring of the Direct Broadcast Downlink
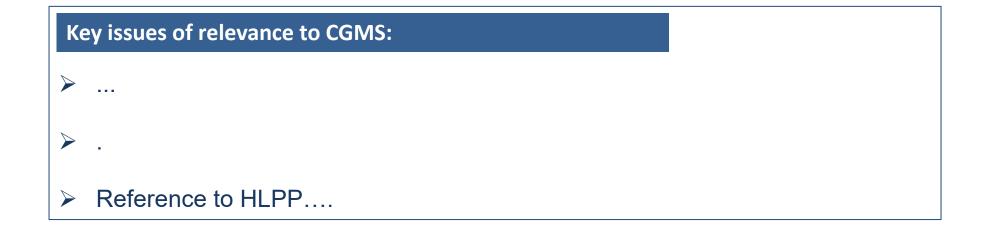
**NOAA-18, NOAA-19 (POES)**

- Compliant. NOAA routinely monitors NOAA-15, 18, and 19 HRPT at Wallops CDAS and Fairbanks CDAS

**SNPP, NOAA-20, NOAA-21 (JPSS)**

- Compliant. Briefed at CGMS-49 with no update.

- OSPO is currently responsible for monitoring the S-NPP, NOAA-20 and NOAA-21 HRD  broadcasts.

**Coordination Group for Meteorological Satellites**

**Key issues of relevance to CGMS:**

➢ …

➢ .

➢ Reference to HLPP….

**Coordination Group for
Meteorological Satellites**

**To be considered by CGMS:**

➢ …

➢ For endorsement…

➢ For actioning…