

C A R I B B E A N

M E T E O R O L O G I C A L

O R G A N I Z A T I O N

**ANNUAL MEETING OF DIRECTORS OF METEOROLOGICAL SERVICES Doc. 4**

St. George's, GRENADA, 9 NOVEMBER 2016

**OPERATIONAL MATTERS**

(Submitted by the Coordinating Director)

## INTRODUCTION

1. Several matters that are particularly related to the operations at National Meteorological Services (NMSs) are raised or addressed in this document. Some of the matters may be of immediate concern or require immediate action on the part of the NMSs, while others are raised to create awareness of issues upcoming in the near future.

## A. WMO Annual Global Monitoring

2. The WMO Manual on the Global Telecommunication System (GTS), in its Attachment 1‑5, refers to a plan for monitoring the operation of the World Weather Watch (WWW). This plan includes provisions for the internationally coordinated monitoring of the operation of the WWW on a non-real-time basis.

3. The Annual Global Monitoring (AGM) is carried out in October each year. The WWW centres are invited to monitor SYNOP, TEMP, PILOT, and CLIMAT reports from the *Regional Basic Synoptic Network* (RBSN) stations, in accordance with the responsibility taken for the exchange of data on the GTS:

* The **National Meteorological Centres** (NMCs) should monitor data from their own territory:
* **Regional Telecommunication Hubs** (RTHs) should at least monitor data from their associated NMCs, and possibly from their own Region:
* **World Meteorological Centres** (WMCs) and RTHs located on the Main Trunk Network (MTN) should monitor the complete global data set.

4. The results of the AGM make it possible to compare the availability of the reports received from RBSN stations at the NMC responsible for inserting the data in the Regional Meteorological Telecommunication Network (RMTN), at the associated RTH and at MTN centres. The differences in the availability of data between centres are generally due to the following main reasons: (i) differences of requirements in the reception of data, (ii) shortcomings in the relay of the data on the GTS, (iii) data not monitored due to differences in the implementation of the monitoring procedures at centres.

5. There are ten (10) Member States of the Caribbean Meteorological Organization whose National Meteorological Service (NMS) are RBSN stations. These are Antigua and Barbuda, Barbados, Belize, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Saint Lucia and Trinidad and Tobago.

6. WMO's data archive at **ftp://ftp.wmo.int/GTS\_monitoring/AGM/To\_WMO/201510/** shows that Dominica, Jamaica and Trinidad and Tobago submitted results of their monitoring for the AGM in 2015. Hence, the results presented in **Table 1** below for the monitoring of SYNOP, TEMP and CLIMAT reflects, for the most part, the reports from the RTH and MTN centres.

|  |  |  |  |
| --- | --- | --- | --- |
| **Country** | **SYNOP**  **(%)** | **TEMP**  **(%)** | **CLIMAT**  **(%)** |
| Antigua and Barbuda | **90-100** | **N/A** | **N/A** |
| Barbados | **Silent** | **90-100** | **Silent** |
| Belize | **90-100** | **90-100** | **Silent** |
| Cayman Islands | **45-90** | **45-90** | **Silent** |
| Dominica (Canefield) | **45-90** | **N/A** | **N/A** |
| Dominica (Melville Hall) | **45-90** | **N/A** | **N/A** |
| Grenada | **90-100** | **N/A** | **N/A** |
| Guyana (CheddiJagan) | **90-100** | **N/A** | **Silent** |
| Jamaica (Kingston) | **90-100** | **90-100** | **90-100** |
| Jamaica (Montego Bay | **90-100** | **N/A** | **90-100** |
| Saint Lucia (Hewanorra) | **90-100** | **N/A** | **N/A** |
| Saint Lucia (Vigie) | **45-90** | **N/A** | **N/A** |
| Trinidad and Tobago (Crown Point) | **90-100** | **N/A** | **N/A** |
| Trinidad and Tobago (Piarco) | **90-100** | **90-100** | **90-100** |

Table 1: Results of the 2015 Annual Global Monitoring:

N/A - Not Applicable

7. The results also show that the stations at Kamarang (81005), Ebini (81010) and Kaieteur Falls (81080) in Guyana, were silent during the reporting period. The RTH and MTN centres results also indicated that between 45-90% of the expected synoptic reports were received from the stations at Lethem (81006) and Mabaruma (81100).

**B. Satellite Matters - Post GOES-R Launch**

8. At the time of writing this document, the GOES-R satellite was expected to be launched on 16th November 2016, with a testing period of one (1) year but its final position as GOES-East or GOES-West is currently unknown. Hence, if any Meteorological Service decides to purchase a GOES Rebroadcast (GRB) system, they must be aware of the delay in the naming of the final position of the GOES-R satellite and make the necessary decision for receiving satellite data. Initially, the users will receive Level 1b data and then access to level 2 data. Level 1b and Level 2 data types are provided in **ANNEX I**.

9. There are several methods which can be used to receive satellite data, which can be used to ingest the present GOES VARiable (GVAR) data format and the NetCDF4 format of the GOES‑R series of satellites. The methods cans be briefly described as:

1. Satellite data as a Service via the Internet;
2. Satellite data access via satellite receiving systems;
3. Satellite data access from the “cloud” via the Internet.
4. Data products as a Service via the Internet.

(1) **Data as a Service via the Internet**

(a) Comprehensive Large Array-data Stewardship System (CLASS)

10. CLASS was developed by the National Oceanic and Atmospheric Administration as an information technology system designed to support long-term, secure preservation and standards-based access to environmental data collections and information. CLASS is an Internet based system which provides the capability for searching, finding and obtaining those satellite data, Geostationary (GOES), Polar orbiting (POES), Defense Meteorological (DMSP), Suomi‑National Polar Partnership (S-NPP) and S-NPP etc. satellites. The data is distributed in raw, AREA, NetCDF, GIF, and JPEG formats.

11. To access CLASS, a Meteorological Service has to create a user account via the URL **https://www.class.ngdc.noaa.gov/saa/products/user\_profile** and set its preferences for the default search, notification and delivery preferences. CLASS is not a real-time or near real-time data retrieval system, but it can be used for case studies or research. Care must be taken in the retrieval of large datasets because it may incur a cost. If the preferred data format for retrieval is raw, area and NetCDF, then the Meteorological Service will need to provide a computer for visualization and visualization software. Information on freely available visualization software is provided in Item (d) under this section.

(b) Production Distribution and Access (PDA)

12. The purpose of the Production Distribution and Access (PDA) system is to serve as a distribution system of satellite data for near real-time users. Users of the data will need visualization systems to view the data as images. Access to the PDA will be based on the following general consideration since the maximum amount of users who will have access to the PDA is 400:

* The affiliation of requesting organization, and
* Type of application for which the satellite data or products is required.

13. Higher priority access will be given to organizations with:

* Mission and statutory authority that supports the requirement for data access;
* Signed NESDIS cooperative agreements or other legislative authorities; and
* A demonstrated timeliness requirement for near-real time satellite data and products to support operational user applications.

14. Hence, to access PDA, requestors must:

* Have an operational need for near real-time data;
* Agree to adhere to the rules of behavior on the Data Access Request form;
* Understand that requests may be prioritized due to data volume issues;
* Send data access request form to: **NESDIS.data.access@noaa.gov.**

15. Services which intend to use PDA access GOES-R data, need to read and understand NOAA's Data Access Policy which is available at:

**http://www.ospo.noaa.gov/Organization/Documents/PDFs/NESDIS\_Data\_Access\_Distribution\_Policy.pdf**. The data access request form is provided in **Annex II**.

(c) Vendor Offering - Data as a Service

16. There is one vendor that is offering "data as a service" whereby the vendor will provide all Level 1b data files and transfer them to the user within five minutes of acquisition from the GOES satellite. The user will have to provide the hardware and software for visualization. This service is similar to the PDA; however, there will be recurring monthly costs to access the data and the user needs to have sufficient bandwidth for downloading the data. Access to Level 2 data will incur additional costs.

(d) Visualization Software

17. There are some Meteorological Services of CMO Member States that have commercial visualization software which will read NetCDF files and display images. It was reported at the 2nd Meeting of the Coordination Group on Satellite Data requirements, which was held in Curaçao from 5-8 September, that VisualWeather, SmartMet and Terrascan can visualize satellite imagery from satellite data in NetCDF format. Further, there is free open source visualization software which are available for use without any license restrictions. These are:

1. **McIDAS V**: - a suite of sophisticated software packages that perform a wide variety of functions with satellite imagery, observational reports, numerical forecasts, and other geophysical data. Those functions include displaying, analyzing, interpreting, acquiring and managing the data. The software which can be used on Windows, Linux and Mac OS X is available at **https://www.ssec.wisc.edu/mcidas/software/v/download.html**.
2. **Pytroll**: - a suite of software packages created by meteorologist for meteorologist, which only operate in a Linux environment and it is available at **http://www.pytroll.org/**.
3. **CSPP-Geo**: - the software is used to generate geophysical products from geostationary satellite data in a Linux environment. It will be capable of processing GOES Rebroadcast (GRB) data received from the next-generation GOES-R satellite. Access to the software requires registration with the Space Science & Engineering Center of the University of Wisconsin -Madison at

**http://download.ssec.wisc.edu/sys/login/form/csppgeo**.

1. **AWIPS II** - this software is more than a satellite visualization package; rather, it is a weather forecasting display and analysis package developed by the National Weather Service and Raytheon. AWIPS II is an open-source Java application which consists of the **EDEX** data server to ingest and decode meteorological data sets including satellite data, and the **CAVE** client for data rendering and analysis. The source code is available at **http://unidata.github.io/awips2/docs/install/install-cave.html**. It is recommended that users also use Unidata's **L**ocal **D**ata **M**anager (LDM) system which includes network client and server programs designed for event-driven data distribution, and it is the fundamental component comprising the Unidata Internet Data Distribution (IDD) system from the data needed by AWIPS II flows. The LDM software is available at **http://www.unidata.ucar.edu/software/ldm/**.

(2) **GOES ReBroadcast(GRB) Systems**

18. The GOES ReBroadcast (GRB) system is designed for the satellite to scan the atmosphere and transmit the raw data to the Ground Segments located at Wallops Islands and Fairmont, West Virginia. On receipt of the GOES-R raw data, the Ground Segment (GS) generates Level 1b and Level 2+ products. These products are transmitted to the GOES-R satellite for distribution to direct readout users with an antenna to receive the products by means of the GOES Rebroadcast (GRB) systems, as shown in Figure 1.

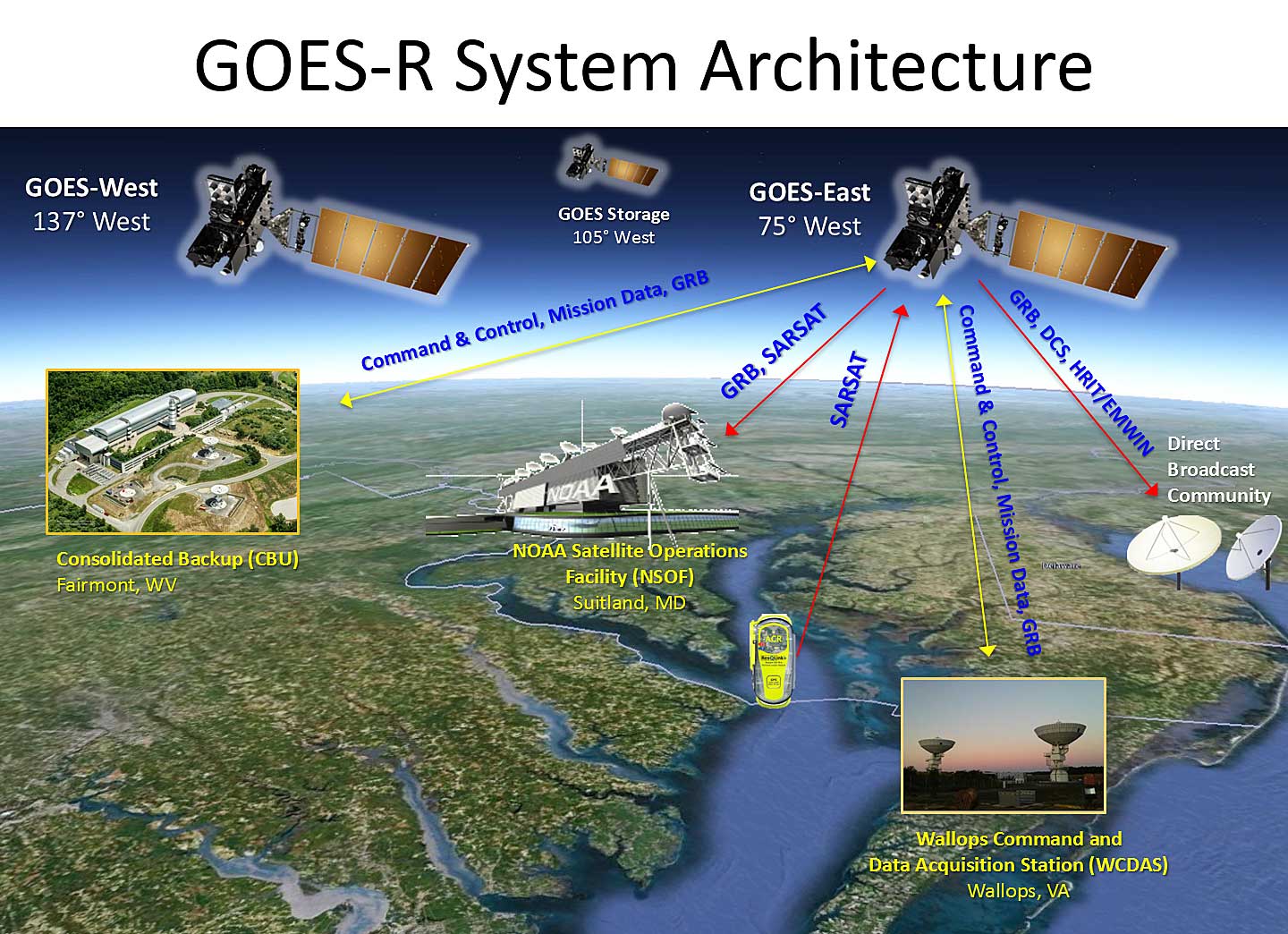


Figure 1: Simplified GOES-R System Architecture

19. There are a few satellite equipment manufacturers which are offering complete GRB systems starting at US $170,000.00 and upwards. A typical complete GRB system consists of the following:

Ground Station Receiving Equipment

* 4.5m Antenna, fixed Axis with Dual channel GOES-R feed
* GRB receiver
* Demodulator
* \*Cabling

*\*****Note****: The standard length of cable from the antenna and the receiver is 100m*. *The maximum distance allowed between antenna and receiver is 200m. However, the additional cable length incurs more cost.*

Acquisition and Processing Equipment

* Computer hardware and operating system

Visualization system

* Hardware ( computer, monitor, UPS)
* Proprietary software
* Software license

Installation and Training

* Manufacturer 's engineer(s) onsite for installation
* Onsite training
* training materials provided

20. Based on vendors' submissions, there are surveys that a Meteorological Service can perform prior to entering into a contract with a vender which can reduce the cost of the GRB system by US $12,000 to US $20,000. These are:

External site survey (must answer the following)

* + Is there line of site to 75°W for the proposed location of the antenna?
  + Is the location clear of interference which could affect the downlink at 1686.6MHz?
  + Will the proposed site minimize potential wind damage?

Internal Site survey (must answer the following)

* + Is there sufficient space to house the rack for the receiver equipment, demodulator and ancillary equipment?
  + Electrical outlet for the UPS?
  + Is there space for the visualization equipment which may include two (2) monitors?

License to use the frequency 1686.6MHz

21. One satellite equipment vendor has proposed other mechanisms for receipt of the GRB Level 1b and Level 2 products without the need for the ground station receiving as proposed above in paragraph 19. The proposal calling for the distribution of the products via the "cloud" and all of the data processing and visualization will be completed at the Meteorological Service. This also eliminates the need for a license to use the frequency of 1686.6MHz, although the internal survey will be still necessary.

22. Another proposal from the same vendor is to have all the processing completed at the vendor's facility, thereby eliminating the ground station receiving equipment and the acquisition and processing equipment and the data sent via the "cloud". However, since the original data is compressed, this would uncompress the data and the file will increase in size from 31MB to approximately 330MB, which could be produced every five (5) minutes if that scan is programmed. Hence, the Internet connectivity of the Meteorological Service will have to be able to download that file size in five (5) minutes before the next download is available.

23. Finally, the last option which is available is imagery as a service whereby the Meteorological Service accesses an account created for the Service by the satellite equipment vendor in the "cloud". The Meteorological Service will have to provide:

1. The areal extent of satellite coverage required.
2. Map projection required.
3. Type of underlying map required (e.g. topographic, physical, road etc.).
4. Type of products required for display (e.g. radiances, lightning detection, fire/hot spot characterization etc.).
5. Computer(s) for accessing the products.
6. \*Internet access.

*\*Note: All viewing will be within the "cloud", hence an Internet bandwidth of 2Mbps should be sufficient.*

3 GEONETCast-Americas

24. GEONETCast, which is a foundational task under the Group of Earth Observation (GEO), is a distribution system for environmental satellite data and products using commercial TV satellites and low cost, off-the-shelf reception technology. GEONETCast‑Americas is a foundational task within AmeriGEOSS, which takes all of the Americas. The GEONETCast-Americas satellite footprint takes in most of North America, the Caribbean, Central and South America, as shown in Figure 2.



Figure 2: GEONETCast-Americas footprint

25. A basic receiver system will be comprised of:

* A computer, with a Windows or Linux operating system (OS), which was purchased in the last 4 years, would suffice.
* Specific OS selection will depend upon software associated with DVB-S/DVB-S2 receiver and Fazzt Client.
* A minimum of 1GB of RAM will suffice for operation of receiver software and Fazzt; 2GB or greater is highly recommended, however, specific memory requirements will depend upon your operational needs.
* It is highly recommended that operating the Fazzt client through a recent installation of Firefox or Chrome; instead of Internet Explorer.
* Highly recommend getting a very large (1 terabyte or greater) disk drive or even a second, very large disk drive to store downloaded data. This will ease the burden of managing and deleting older, downloaded content.
* Visualization software

26. In theory, a GNC-A station can run on Linux or Windows operating systems. However, there are two critical pieces of software that will be utilized in the station computer which dictates the operating system (OS) to be utilized. There is the Kencast Fazzt Professional Client, which is used to un-encapsulate received data packets. The client also manages ‘subscriptions’ to broadcast channels/sub-channels, as well as actual data that is downloaded. Kencast will work on both Windows and Linux; but a Service will have to check with Kencast to determine latest supported OS versions. The second piece of software necessary to successfully operate a GNC - A ground station is that which comes with the DVB-S/DVB -S2 receiver. Often the receiver software limits the station to older versions of Windows, although that is not always the case, since there are some receivers available that work with Linux. A GNC-A "*Guide to Equipment Specification, Component Identification and Selection Discussion*" is available at

**http://geonetcastamericas.noaa.gov/GNCA\_SpecificationComponentDiscussion\_IEPAS\_v2\_2\_0\_20140610.pdf**

27. Presently, all of the data which is on the GIFS server is also streamed via satellite to GEONETCast-Americas broadcast receivers and the meeting which is referenced in paragraph 17, decided on the satellite data which will be sent directly from PDA to GEONETCast-Americas with a latency of one minute: The list of GOES-R products which will be transmitted on GEONETCast-Americas is provided in **ANNEX III**. The software which can be used to visualize the satellite and other data formats is McIDAS V. In addition, Brazil's National Institute for Space Research (INPE) has created an open source visual solution called SIGMACast which may be available for use.

4. HRIT/EMWIN

28. The Emergency Managers Weather Information Network (EMWIN) is a service that provides users with weather forecasts, warnings, graphics, and other information directly from the National Weather Service (NWS) in near real time. The GOES EMWIN relay service is one of a suite of methods to obtain data and display the products on the user’s personal computer.

29. The GOES-R series will continue the current broadcast services of LRIT (Low Rate Information Transmission) and EMWIN but will do so at a significantly higher data capacity. This will be accomplished by combining the two services into a single service with a data relay capacity of 400Kbps. The new service will be called HRIT/EMWIN—HRIT for High Rate Information Transmission.

30. The HRIT (High Rate Information Transmission) service provides broadcast of low-resolution GOES satellite imagery data and selected products to remotely located user HRIT Terminals. The new service will require new antenna and receiver hardware as well as a receiver frequency shift to 1694.1 MHz, from 1692.7 MHz (EMWIN) and 1691.0 (LRIT).

**C. Telecommunications in RA IV**

31. Telecommunication within Regional Association IV (North and Central America and the Caribbean) has changed during 2016. It is recalled that in the 2012 Meeting of Directors of Meteorological Services there was discussion about new telecommunication methodology for transmitting data and information to RTH Washington. The new methods for the transmission of observations were:

* Secure Socket Layer Virtual Private Network (SSL VPN) / NWSTG FTP Ingest Server [RTH Washington System]
* Email Data Input Service (EDIS) [RTH Washington System

32. During late 2015 and the first quarter of 2016, file transfer protocol secure (FTPS) replaced SSL-VPN for all synoptic and climate observations which were transmitted to RTH Washington. Table 2 provides information on the transition of the Meteorological Services in CMO Member States.

|  |  |  |
| --- | --- | --- |
| **Member State** | **Transition Date** | **Completion Date** |
| **Antigua & Barbuda** | 12/1/2015 | 12/18/2015 |
| **Bahamas** | 1/8/2016 | 1/29/2016 |
| **Barbados** | 12/9/2015 | 11/27/2015 |
| **Belize** | 2/22/2016 | 1/29/2016 |
| **Cayman Islands** | 2/5/2016 | 12/17/2016 |
| **Dominica** | 3/31/2016 |  |
| **Grenada** | 12/2/2015 | 12/2/2015 |
| **Guyana** | 3/31/2016 | 4/4/2016 |
| **Jamaica** | 12/4/2015 | 12/3/2015 |
| **Montserrat** | 3/31/2016 |  |
| **Nevis** | 3/31/2016 |  |
| **Saint Kitts** | 2/22/2016 | 3/17/2016 |
| **Saint Lucia** | 2/22/2016 | 2/26/2016 |
| **Trinidad & Tobago** | 12/8/2015 | 12/8/2015 |

Table 2: Transition and completion dates of some Member States

transition to FTPS

33. It should be noted that some Meteorological Services which were not transmitting synoptic observations via SSL-VPN are now able to transmit via FTPS. It is recommended that all Meteorological Services obtain the necessary username and password for transmitting synoptic observations to RTH Washington, since this is the Region’s primary means of communications.

34. The Permanent Representative of the United States of America with the WMO distributed correspondence dated 8th September 2016 from the National Weather Service (NWS), on changes which will be made to the Email Data Input System (EDIS) system for the transmission of observations in text and binary format to RTH Washington. The changes to EDIS will improve the security of the system and it requires the assignment of a Personal Identification Number (PIN) to the Meteorological Service. The PIN will be changed every ninety (90) days to control access to the system.

35. Since EDIS will accept observations both in text and binary format, there are some rules which must be followed to ensure that the observations reach its intended destination. These are:

1. Messages must be sent in ASCII (plain text or alphanumeric code form, **do not use html or rich text**).
2. Email attachments may be either alphanumeric or binary. Each must contain the required WMO heading information. Alphanumeric attachments must also contain the required closing information.
3. Two options are available for sending messages:
4. Messages may be sent as an attachment to the Email
   * + Alphanumeric attachment(s) must have an extension of “ .txt “
     + Any attachment(s) without the “ .txt “ extension will be treated as a binary product
     + Up to five (5) messages can be included in alphanumeric attachments provided each product uses the required closing information
     + You can only have one binary bulletin per attachment and it must have a valid WMO header with associated date/time group at the beginning with the characters “ CRCRLF “ at the end of the heading line
5. Messages may be sent in the body of an Email
   * + The body of an Email shall remain empty if attachments are used.
6. The "subject line" shall contain: **EDIS Message Input NPN (*your pin number)***
7. The WMO abbreviated heading line and message text are the **only required data** for this Email input form.
8. No ASCII character control notations are required except for the report separator [ = ] signal.
9. Each alphanumeric message must be ended with NNNN.

**D. WIS and WIGOS in RA IV**

36. The 2015 Meeting of the Directors of Meteorological Services was informed of a workshop for the creation of WMO Information System (WIS) Metadata, which was held at the CIMH during the period 11‑13 August 2015, and the need for Meteorological Services to nominate to the WMO a WIS Focal Point. Most of the Meteorological Services have not nominated a focal point; neither have they changed their metadata at Global Information System Centre (GISC) Washington.

37. The GISC Washington portal, which enables the user to perform discovery, access and recovery of meteorological information, is located at: **http://giscportal.washington.weather.gov/openwis-user-portal/srv/en/main.home**

38. A RA IV WIGOS Workshop for English-speaking countries was held in Willemstad, Curaçao, from 1 to 3 December 2015. Participants who are the nominated WIGOS Focal Points from the English speaking RA-IV members, Haiti, Guyana, and Suriname, attended the workshop. Participants were introduced to OSCAR/Surface tool through the portal **http://oscar.wmo.int/surface**.

39. The ability to update and edit the metadata both in the GISC portal and OSCAR/Surface resides in the hands of the Focal Points for WIS and WIGOS. However, not all Meteorological Services have nominated focal points and if they have, the focal points have not updated or edited the country's metadata.

40. Permanent Representatives with the WMO must nominate WIS and WIGOS focal points and ensure that the focal points complete the review and update of the country's metadata on the GISC portal and OSCAR/Surface; otherwise the observations, forecast and other information will be undiscoverable as WIS and WIGOS continue to evolve.

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October 2016

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| **Level 1b Products** |
| **Advance Baseline Imager (ABI)** |
| Radiances |
| ***Geostationary Lightning Mapper (GLM****)* |
| Lightning Detection: Events, Groups & Flashes |
| ***SpaceEnvironment In-Situ Suite (SEISS)*** |
| Energetic Heavy Ions |
| Magnetospheric Electrons & Protons: Low Energy |
| Magnetospheric Electrons & Protons: Med & High Energy |
| Solar & Galactic Protons |
| ***Magnetometer (MAG)*** |
| Geomagnetic Field |
| ***Extreme Ultraviolet and X-ray Irradiance Suite (EXIS)*** |
| Solar Flux: EUV |
| Solar Flux: X-ray Irradiance |
| Solar Ultraviolet Imager (SUVI) |
| Solar EUV Imagery |

Bold lettering indicates the sensor

|  |  |
| --- | --- |
| **Level 2 Products** | |
| Aerosol Detection (Including Smoke/Dust) | Downward Shortwave Radiation: Surface |
| Aerosol Optical Depth | Fire/Hot Spot Characterization |
| Clear Sky Masks | Hurricane Intensity Estimation |
| Cloud and Moisture Imagery | Land Surface Temperature (Skin) |
| Cloud Optical Depth | Legacy Vertical Moisture Profile |
| Cloud Particle Size Distribution | Legacy Vertical Temperature Profile |
| Cloud Top Height | Rainfall Rate/QPE |
| Cloud Top Phase | Reflected Shortwave Radiation: TOA |
| Cloud Top Pressure | Sea Surface Temperature (Skin) |
| Cloud Top Temperature | Snow Cover |
| Derived Motion Winds | Total Precipitable Water |
| Derived Stability Indices | Volcanic Ash: Detection and Height |

**ESPC Data Access Request Form**

**Office of Satellite and Product Operations (Ver15)**

**April 2016**

**Guidelines:**

NESDIS recognizes the need for full and open exchange of environmental satellite data and products, as allowed and governed by relevant laws, international agreements, national and organizational policies and the availability of resources. Distribution of NESDIS Environmental Satellite Processing Center (ESPC) satellite data and products is provided via publicly available distribution services such as the Global Telecommunication System (GTS), NOAA satellite direct broadcast services, Internet websites, the Comprehensive Large Array-Data Stewardship System (CLASS), and NESDIS Data Centers. Access to NOAA/NESDIS ESPC satellite data distribution servers will be evaluated primarily based on the purpose of the request. ESPC only provides and receives unclassified data. Data support is provided on a best effort basis. This form is implemented in accordance with the NOAA/NESDIS policy for "Access and Distribution of Environmental Satellite Data and Products" (dated February 17, 2011). A copy of this policy can be provided upon request.

**Instructions:**

Users requesting satellite data or products are required to provide information within each of the Information Requirement boxes. Please submit fully completed and signed forms as scanned PDFs (from MS Word, publish as PDF, print, sign, and scan) via email to NESDIS.Data.Access@noaa.gov and annotate “Data Access Request” in the Subject line. Alternate methods of submission include faxing the signed form to 301-683-3297 or mail to the Satellite Products and Services Division, Room 3600, 5830 University Research Court, College Park, MD 20740, Attention: User Services Team. Incomplete forms will delay the request process. Thank you for your cooperation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Section 1 – Data Requestor Personnel & Organizational Information** | | | |
| **Request Number (**To be assigned by NESDIS)**:** | | | |
| 1.1 | **Requestor Contact Information:** | Name:  Email:  Phone Number:  Physical Address: | |
| 1.2 | **Date of Request:** |  | |
| 1.3 | **Are you requesting to be an ESPC data USER or PROVIDER?** | **NOTE:** This form is intended for data users only. Data providers need to use the ESPC Data Submission Form. | |
| 1.4 | **Gov’t Agency, Gov’t Affiliation or Non-Gov’t Organization Name** (e.g., NOAA, DoD, other USG agency, research, academia, international government, private sector, contractor)**:** | Affiliation: ☐NOAA ☐DoD ☐Research ☐ Academia ☐International Government ☐Private Sector ☐Contractor If “Other” Please Specify:  Organization Name: | |
| 1.5 | **NOAA Program or Contract:**  Input the program or contract supported by this request (if applicable). For NOAA Users, please name division or branch chief of the NOAA user. |  | |
| 1.6 | **NOAA Primary POC Information:**  If applicable, provide the POC information for the principal person at NOAA that you are working with. | Name:  Email:  Phone Number: | |
| 1.7 | **Do you have 24x7 technical support?** | ☐Yes ☐No | **24x7 Contact:**  Email:  Phone Number: |
| 1.8 | **Requestor’s Technical Point of Contact (TPOC) Information (both a primary and back-up contact):**  If the request is approved, these personnel will work with NESDIS to establish and maintain connectivity to the data source. | **Primary TPOC**  Name:  Email:  Phone Number: | **Back-up TPOC**  Name:  Email:  Phone Number: |
| 1.9 | **Requestor’s Information Technology (I.T.) System Security POC:**  This person should be available 24x7 in case of an incident. For government systems, this must be the system ISSO. | **IT System Security POC**  Name:  Email:  Phone Number: | |
| 1.10 | **Responsible Official Information:**  Provide the POC information for the primary official external user. If government organization, this person must be the System Owner (SO). For other organizations, the POC must be the legally responsible system owner/operator. | **Responsible Official Information**  Name:  Email:  Phone Number:  System ID (Government Systems): | |
| **Section 2 – Request Information** | | | |
| 2.1 | **Purpose of Request/Justification:**  Please provide detailed information on your need for operational real time satellite data. (i.e. the application the requested data will be supporting or how it will be used) |  | |
| 2.2 | **Is there an existing agreement** (Memorandum of Understanding/Agreement, Letter of Agreement, Interconnection Security Agreement, etc.) **between your organization and NESDIS that covers the provision of this data? Select “Yes” or “No”** to indicate if such an agreement exists. | ☐Yes ☐No | |
| **If Yes from above,** Provide the following Document Reference Information: | Document Title:  Document Date:  Other: | |
| 2.3 | **How long will you need access to the data? (**e.g., one week, one month, etc.) |  | |
| 2.4 | **Do you have an existing account or access to any of our distribution servers?** | ☐Yes ☐No | |
| **If so, provide server and user ID, if applicable:** | Server:  User ID: | |
| 2.5 | **For what system are you requesting access?** | ☐PDA ☐GeoDIST☐LZSS☐eGRES☐DDS☐ Unknown | |
| 2.6 | **Products:**  Tell us the types of product you are interested in receiving.  For DDS, exact filenames patterns are required.  **Example:** GOES Imagery |  | |
| **Section 3 – Connection Information** | | | | |
| 3.1 | **Please provide connection information for your primary and backup systems:**  Internal (within NOAA 5045) users must provide system name;  External users must provide minimum bandwidth at or within your system boundary, and if you are using the Internet as part of your data path. | Min Bandwidth (external users):  Using Internet? (external users):  Server Names (internal users): | | |
| 3.2 | **Provide Address Information (External Users Only):**  IP addresses of servers, routers, firewalls, and other devices within the data path. | Server IP addresses:  Network Device IP addresses: | | |
| 3.3 | **Our default data access is Pull. If you wish to receive the data via a Push, provide justification here. See note in rules of behavior. Must have 24x7 contact listed in Section 1.7.** | Push justification: | | |
| 3.4 | **Provide protocol:**  PDA: Our default protocol is FTPS explicit mode. If you wish to use SFTP or FTPS implicit mode, your maximum available data volume may be reduced.  GeoDIST: ADDE  LZSS and eGRES: SSH and SMTP  DDS: FTP (going away early FY17) | Protocol: | | |

Please read the following Rules of Behavior. Your signature below is your agreement to abide by these policies:

1. Only pull data that is absolutely necessary to support your mission/operations.
2. Follow the established means for secure data transfer established for the distribution system. Specific instructions will be provided by the administrator when your access request is approved.
3. Only push to or pull data once from our agreed server(s).
4. Make sure to check return codes for your transfers and make sure your scripts handle any errors.
5. User understands that ESPC reserves the right to verify the identity and affiliation of the requestor and that only authorized data is pulled.
6. Accounts cannot be shared with any third parties. You may serve approved data to others in your organization.
7. User is aware of their responsibility for complying with the NESDIS data access policies and safeguards.
8. User must report any known or suspected breaches of security to [ESPC.Operations@noaa.gov](mailto:ESPC.Operations@noaa.gov) and [PDA.Admin@noaa.gov](mailto:PDA.Admin@noaa.gov).
9. User understands that misuse or violation of any of these Rules of Behavior may result in immediate termination of access privileges.
10. If you are a Push user and we are unable to reach a POC following a Push failure, we may relegate you to Pull Status.

**This form shall be signed by the person named in Section 1.10.**

(Digital signatures are required for LZSS and eGRES requests. Follow the instructions below for signing a PDF with a CAC or PIV card.)

I have read the above Rules of Behavior and agree to abide by these rules:

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions to digitally sign a PDF**

To digitally sign your request you will need a computer capable of reading a smart card (CAC or PIV).

Insert the smart card in the card reader.

Open the PDF (you created from MS Word) in Acrobat Reader.

Select “Tools” from the menu bar.

Select “Certificates” from the Tools page.

Select “Digitally Sign” from the Certificates menu. A window will pop up, with instructions to use your mouse to create a box on the document where you wish the signature to appear.

Click “OK” on the pop up. Create the signature box in the space between “Signed:” and “Date:” above.

A window will appear with your signature information from your smart card. Check the box that says, “Lock Document?” and click “Sign” on the window.

You will be prompted to save the PDF.

Save it, appending the word “signed” to the filename, i.e. ESPCDataAccessForm-April2016-STAR signed.pdf

Your signature will appear on the document and a window will pop up asking you for the PIN for your smart card. Enter the PIN and click OK. Close the document.

Submit via email as noted on Page 1.

