**Joint APSDEU-14/NAEDEX-26**

**Open Action Items**

**Update 16 October 2015**

**APSDEU-NAEDEX Actions after Oct 2015 Meeting – Revised as of 9 October 2015**

***Asia-Pacific Data***

**AP-1.2.1 Fengyun-3 Sounding Mission** – investigate the generation of BUFR and the dissemination of these data via the GTS and CMACast.

**ACTION: CMA**

**STATUS: OPEN (May 2014)**

**Update Oct 2015:** Still in discussion.

**AP-1.2.1 Fengyun-3 Sounding Mission** – CMA to work with EUMETSAT to come up with a proposal to add the encoding sequence for the sounding products from Fengyun-3 to the WMO Manual on Codes.

**ACTION: CMA and EUMETSAT**

**STATUS: OPEN (May 2014)**

**Update Oct 2015:** A BUFR sequence is used in AAPP and should be adopted by WMO.

**AP-1.2.1 Fengyun-3 Sounding Mission** - There is a requirement for improved timeliness of Fengyun-3 data - to be addressed through the future plans for the RARS/DRARS initiative. **ACTION: All**

**STATUS: OPEN (May 2014)**

**EUMETSAT Current Status (Oct-2014):** new services are currently proposed to our Member States (to be approved at Council in December 2014) for FY-3 data. These would be:

* The Regional FY-3 Sounder Service providing level-1 products from the classical sounder instruments MWTS-II, MWHS-II and IRAS. This service could be available for FY-3C by end 2015.
* The Regional MERSI Service providing level-1 products from MERSI-I and MERSI-II. This service could be available for FY-3C in 2016.

**Update Oct 2015:** Remains open. Still an issue with timeliness of global dataset.

**AP-1.2.1 Fengyun-3 Sounding Mission to CMA**: CMA to investigate timeliness of FY-3 global dataset.

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

**AP-1.2.2** **Fengyun-3 Ozone Mission** – Request to CMA to consider making ozone data from FY-3 TOU, SBUS available through GTS or GISC.

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

**AP-1.2.3** **Fengyun-3 Imaging Mission** – Request to CMA to consider including MWRI in the pre-processing package for FY-3.

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

**AP-1.2.3 Fengyun-3 Imaging Mission** – Request to CMA to make MWRI data available on WIS.

**ACTION: CMA**

**STATUS: ~~OPEN (Oct 2015)~~ CLOSED (Oct 2015)**

**Update (Oct 2015):** data is already on WIS portal in HDF5.

**AP-1.2.4** **Fengyun-3 GNSS Sounding Mission** – CMA to investigate real-time availability and BUFR encoding of GNOS radio-occultation data on the GTS (bending angles and refractivity).

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

**AP-1.6 GPM-core** - JMA, NESDIS and Eumetsat to investigate possibility of distributing GPM-core data in BUFR on GTS.

**ACTION: JMA, NESDIS, EUMETSAT**

**STATUS: OPEN (Oct 2015)**

**AP-1.9 KOMPSAT-5 AOPOD** - KMA to investigate real-time availability of KOMPSAT-5 radio-occultation data on the GTS (bending angles and refractivity)

**ACTION: KMA**

**STATUS: OPEN (Oct 2015)**

**AP-2.6 COMS Digital Imagery** - KMA, ECMWF and Eumetsat to investigate mechanisms to make level 2 COMS aerosol and/or fire radiative power products available in real-time.

**ACTION: KMA, ECMWF, EUMETSAT**

**STATUS: OPEN (Oct 2015)**

**Update (Oct 2015):** unlikely that fire product is available.

**AP-2.9 FY-2 CSR and ASR** - CMA to investigate provision of FY-2 CSR and ASR data in real-time on GTS/WIS.

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

**AP-2.10 COMS CSR and ASR** - KMA, ECMWF and EUMETSAT to investigate mechanisms to make COMS CSR and ASR products available in real-time.

**ACTION: KMA, ECMWF, EUMETSAT**

**STATUS: OPEN (Oct 2015)**

**AP-2.12.3 Himawari-8 CSR and ASR** - JMA to consider provision of Himawari-8 ASR on GTS.

**ACTION: JMA**

**STATUS: OPEN (Oct 2015)**

**AP-2.12.4 SEDA** -JMA to investigate availability of data from SEDA on Himawari-8.

**ACTION: JMA**

**STATUS: OPEN (Oct 2015)**

**Update (Oct 2015):** SEDA is a JAXA instrument.

**AP-2.13 INSAT-3D** - EUMETSAT to continue to investigate INSAT-3D products (ASR, CSR) and report back on progress.

**ACTION: EUMETSAT**

**STATUS: OPEN (Oct 2015)**

**AP-3.1. Wind Profiler Data** – investigate the distribution of wind profiler data on the GTS. See Action 2011-11-10

**ACTION: CMA**

**STATUS: OPEN (May 2014)**

**AP-3.4 Hourly Surface Observations** - All Country Reps to lobby with their National observation and dissemination areas to investigate making hourly (or higher frequency) surface data available on GTS.

**ACTION: All NMHSs**

**STATUS: OPEN (Oct 2015)**

**AP-3.6 Ozone soundings** (formerly Action 2011-11-13 3.6) - Centers to investigate the availability of this data for purposes of distribution on the GTS.

**Lead: Asia/Pacific Centers**

**STATUS: OPEN (May 2011)**

October 2012 update: ABoM has 3 stations sounding once per week but data not on GTS. There are also other countries collecting these data.

May 2014 Update: linked to shift to BUFR for all radiosonde data. Planned for next 12 months. Data to be made available in non-real time immediately.

JMA: JMA doesn’t have any plan to distribute its ozone sounding data on GTS.

**Update Oct 2015 –** still open

**AP-3.8 GB-GPS** - CMA to investigate provision of ground-based GPS data.

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

**AP-3.9 Australian Region SST Analysis** – investigate provision of these data to CMA.

**ACTION: BoM**

**STATUS: OPEN (May 2014)**

**AP-3.10 Australian buoy wave** - BoM to look into making wave buoy data available.

**ACTION: BoM**

**STATUS: OPEN (Oct 2015)**

**AP-3.12 Snow depth** - CMA to investigate availability of in situ snow depth data in real time on WIS. There is a specific, recently WMO-approved SNOW BUFR template for the exchange of snow-depth data.

**ACTION: CMA**

**STATUS: OPEN (Oct 2015)**

***European Data***

**Eu-1.2.2 METOP L1D** - KMA and BoM to consider using METOP data level-1B available on the GTS/GISC and create Level-1D locally with AAPP if timeliness of current data obtained from UK Met Office is an issue.

**ACTION: KMA, BoM**

**STATUS: OPEN (Oct 2015)**

**Eu-1.2 METOP A/B** - KMA to confirm whether all of its METOP A/B data requirements are met via the existing GTS/GISC distribution.

**ACTION: KMA**

**STATUS: OPEN (Oct 2015)**

**Eu-1.6 Aeolus** – Météo-France to request from ESA timely availability of Aeolus HLOS winds for assimilation in NRT.

**ACTION: Météo-France**

**STATUS: OPEN (Oct 2015)**

**Eu-1.9 Sentinel -** Follow up action to determine requirements for Sentinel series for all users. (Separate out different missions in spreadsheet)

**ACTION: All**

**STATUS: OPEN (May 2014)**

**EUMETSAT Current Status (Oct-2014):** Activities will start with Sentinel-3. For now, nothing is foreseen for Sentinel-1 or 2.

**NESDIS Response (Sept 2015):** For SST and ocean applications:

1) SAR level 1 data from Sentinel 1a and 1b for the high-resolution coastal winds application - STAR is already getting this data and processing it for product development.

2) Sentinel-3 SLSTR level-2 SSTs from EUMETSAT for use in the blended SST application.

3) Sentinel-3 OLCI

4) Sentinel-3 SRAL

For interpretative analyses:

Satellite Analysis Branch/NESDIS uses Sentinel 1a for oil detection and anticipates using Sentinel 1b even more so. Further they plan to utilize Sentinel 2 and Sentinel 3 for oil detection and fires.

**Update from Special Session on Sentinel Programme (Friday Oct. 9 2015)**

BOM plans to utilize Sentinel-3 OLCI data and host a regional data hub.

MSC plans to utilize Sentinel-1 SAR and Sentinel-3 SLSTR and OLCI data. Data from Sentinel-4 and -5 will be considered for air quality applications.

REQUIREMENT: Sentinel-3 SRAL and SLSTR data on GTS in NRT.

**Eu-1.9 Sentinel -** EUMETSAT to investigate the provision of Sentinel-3 SRAL and SLSTR data on GTS in NRT, with the European Commission, with assistance from WMO as appropriate.

**ACTION: EUMETSAT**

**STATUS: OPEN (Oct 2015)**

**Eu-1.9 Sentinel-3 SRAL and SLSTR data** – AP and NOAM Centres to consider incorporating requirements for Sentinel data. For distribution in NRT on GTS, as was done for ENVISAT.

**ACTION: AP and NOAM Centres**

**STATUS: OPEN (Oct 2015)**

**Eu-2.1.6 METEOSAT tropospheric humidity** – New action: NCEP/NCO requests that they be routed from NWS/TOC (still valid).

**ACTION: NOAA**

**STATUS: OPEN (May 2014)**

**EUMETSAT Current Status (Oct-2014):** we suggest to have this action on NOAA (instead of EUMETSAT), as the route needs to be updated on the US side.

**Eu-2.1.7 METEOSAT total ozone** – New action: NCEP/NCO requests that they be routed from NWS/TOC (still valid).

**ACTION: NOAA**

**STATUS: OPEN (May 2014)**

**EUMETSAT Current Status (Oct-2014):** we suggest to have this action on NOAA (instead of EUMETSAT), as the route needs to be updated on the US side.

**Eu-3.2 Surface Observations** - All to reiterate the requirement to exchange surface pressure observation with high frequency, hourly, and higher where available. Action on ECMWF to report at the next meeting on the evolution on the availability of hourly surface pressure observations, globally.

**ACTION: ALL, ECMWF**

**STATUS: OPEN (Oct 2015)**

**Eu-3.8.3 VAD Radar Winds** – clarify if there is still an issue with access to these data.

**ACTION: NOAA**

**STATUS: OPEN (May 2014)**

**Update Oct 2015:** They are on the GTS. Only received from Meteo-France. Need bulletin headers for other Countries.

**Eu-3.11 Ozone Soundings** – determine if there is still an unmet requirement for these data.

 **ACTION: NOAA and MSC**

**STATUS: OPEN (May 2014)**

**Eu-3.11 Ozone Soundings:** Enquire about availability of Ozone Soundings for validation.

**ACTION: ALL**

**STATUS: OPEN (Oct 2015)**

**Update Oct 2015:** Still needed for validation, not needed on GTS. Need a contact point.

***North American Data***

**NA-1.1.4 ATOVS AVHRR polar winds** (formerly Action 2010-10-05): The Bureau to consider the generation of polar AMVs from MODIS/VIIRS and distribution to the international community in near real time.

**Lead: BoM**

**STATUS: OPEN (Feb 2010)**

The Bureau has agreed to do this and has been added to the project plan; however, resources are constrained. Timing cannot be estimated at this time – Target: mid-2012. In progress.

May 2014 update: this work is still planned but hasn’t been done yet. There are issues with the reception systems at Casey and Davis – they will be replaced next SH summer (late 2015).

**Update Oct 2015 –** still open, could be done if required. Should be reflected in requirements document.

**NA-1.5.2 Terra/Aqua** MODIS polar winds–investigate possibility to improve timeliness of MODIS polar AMVs from CIMSS."

**ACTION: NESDIS**

**STATUS: OPEN (May 2014)**

**NA-1.5.3 AURA HIRDLS, MLS, OMI and TES** - NESDIS to investigate the availability of NRT MLS humidity (AURA).

**ACTION: NESDIS**

**STATUS: OPEN (Oct 2015)**

**NA-1.9.4 VIIRS Polar Winds** - NESDIS to investigate the possibility to improve timeliness of VIIRS polar winds.

**ACTION: NESDIS**

**STATUS: OPEN (Oct 2015)**

**NA-1.10 Aquarius and SMAP** radiances and surface products– New action: to investigate formats and availability from Aquarius and SMAP and report back to the group out of session.

**ACTION: NESDIS**

**STATUS: OPEN (May 2014)**

**NESDIS Response (Sept 2015):** SMAP data is in HDF5 format, and NESDIS is working to access and making available, SMAP data to support users' needs for soil moisture. Plan is to make it available on DDS. Follow-up needed for Aquarius.

**NA-1.12 OCO-2 Mission -** NESDIS to investigate the availability of SFC pressure product in NRT (from OCO-2 mission).

**ACTION: NESDIS**

**STATUS: OPEN (Oct 2015)**

**NA-1.15 Direct Broadcast L1B -** NESDIS to investigate distribution in NRT on GTS (in BUFR) of L1B sounder data from new Direct readout sites in U.S. via University of Wisconsin SSEC, for NOAA, NPP, METOP and AQUA satellites.

**ACTION: NESDIS**

**STATUS: OPEN (Oct 2015)**

**NA-3.7 Multi-sensor precipitation -** NESDIS to investigate improving timeliness of GPM IMERG product (Multi-sensor precipitation product).

**ACTION: NESDIS**

**STATUS: OPEN (Oct 2015)**

**NA-3.11 RADARSAT-2 products** - NESDIS, NWS and MSC to clarify requirements of Canadian Space Agency's RADARSAT-2 products: wind, wave & sea-ice.

**ACTION: NESDIS, NWS and MSC**

**STATUS: OPEN (Oct 2015)**

**NA-4.7 Soil temperature sensor data:** All Centres to investigate putting soil temperature and moisture observations on the GTS.

**ACTION: All Centres**

**STATUS: OPEN (Oct 2012)**

26 May 2014: Update from NESDIS: NESDIS has a soil moisture product available on the DDS in NetCDF4 and GRIB2 formats, but not on the GTS.

NOAA has no plans to put in situ soil moisture observations on the GTS. Other centres to provide an update at the next meeting.

**EUMETSAT Current Status (Oct-2014):** ASCAT SOMO data is on the GTS. Please refer to ASCAT Soil Moisture products in the Product Navigator:

<http://navigator.eumetsat.int/discovery/Start/Explore/Quick.do>

**Oct 2015:** KMA is not ready to put those data on the GTS yet due to the data quality validation.

**Update Oct 2015:** action is about in-situ measurement. Should be raised with the WMO ET-SBO. Remains open.

**NA-4.10 GB-GPS** -NWS to investigate new data feed and provide access information to the group (Ground-based GPS total column water vapour and Zenith Total Delay (ZTD) over N. America).

**ACTION: NWS**

**STATUS: OPEN (Oct 2015)**

 **NA-4.10 GB-GPS** - Users of data need to compare and validate new data feed during the overlap period for Ground-based GPS total column water vapour or Zenith Total Delay (ZTD) over N. America. NWS to notify NWP users about availability of the new data feed. To be coordinated by: Michelle Mainelli (NWS), Dave Offiler (UKMO) for Europe, and José Garcia for MSC.

**ACTION: NWS, UKMO, MSC**

**STATUS: OPEN (Oct 2015)**

**NA-4.11 Snow Depth sensor data –** investigate the possibility of distributing snow depth data in near real time.

**ACTION: NESDIS**

**STATUS: OPEN (May 2014)**

**NESDIS Response (Sept 2015):** NESDIS has the capability to develop a near real-time BUFR product for GTS dissemination. To allocate resources for this project, NESDIS requires an official requirement from a NOAA line office.

**NESDIS additional information (Sean Helfrich, Oct. 2015):** The in-situ observations that are in question are the US COOP and CoCoRaHs data. Furthermore, there are issues in how the SYNOP "missing report" is coded that generates "0" snow depth. At ASOS sites without snow depth instruments, this forces a "0" in locations that may have substantial amounts of snow.

**New action for NWS/NCEP to consider making a requirement to NESDIS for this data, on behalf of this group. Action is added below.**

**Action remains open.**

**NA-4.11 Snow Depth (in-situ)** - NOAA-NWS to investigate the possibility of distributing snow depth data in near real time from surface sites (Snow depth sensor data; non-synop). ECMWF is prepared to assist in providing justification.

**ACTION: NWS, ECMWF**

**STATUS: OPEN (Oct 2015)**

**NA-4.11 Snow Depth sensor data –** NWS/NCEP to consider making a requirement to NESDIS for this data, on behalf of this group.

**ACTION: NWS/NCEP**

**STATUS: OPEN (Oct 2014)**

**NA-4.12 Radiosonde Data** – New action: investigate JMA reports of erroneous geopotential height data within radiosonde (TEMP) BUFR records. **ACTION: NESDIS**

**STATUS: OPEN (May 2014)**

**NESDIS Response (Sept 2015): Via NWS/NCO –** The height errors in the BMT BUFR data for the U.S. were corrected about a year ago. The assumption is that the erroneous heights refer to the TUABUFR BUFR data. In that event, we suggest JMA to check if the BUFR data with the bad heights are also indicating missing values for latitude, longitude, and station elevation. If that is the case, then the data are processed by NWS/NCO Silver Spring’s TUABUFR processor. The goal is to cease TUABUFR processing due to many observed errors and since the same data are placed in BUFR by the BUFR Management Tool (BMT). (Both BUFR datasets are on the GTS).

To receive improved observations, NWS suggests JMA in the interim to pull the U.S. BMT BUFR raobs off the GTS rather than the U.S. TUABUFR raobs. However, some errors remain in latitude, longitude, and station elevation. It would be prudent to compare the BUFR metadata against the latitudes, longitudes, and elevations from the local station list that is used for TAC data. This checking process is used for all BUFR radiosonde data including the U.S. BMT data.

In the longer term, NWS is developing a methodology for the RRS to deliver high resolution radiosonde BUFR data to the GTS. The scope of the project includes:

1) Data will be encoded according to the WMO sanctioned 309052 BUFR sequence for high-resolution radiosonde data.

2) For each sounding, an initial file will be delivered once the sounding reaches 100mb, and a second, final file will be delivered once the sounding terminates. The final sounding will contain all of the data from balloon launch through termination.

3) Each file will be made available on the GTS at the same time as the corresponding TEMP messages. The file will replace any legacy BUFR data generated by any other internal NWS processes for the same sounding.

We anticipate the software development piece to be completed by early December and system testing occurring in the January - April 2016 timeframe. We are currently working with the NWS Observations Portfolio on when full deployment will occur.

**NA-4.14 VAD Radar Winds –** MSC to investigate if there are any VAD data from Canada (Canadian Radar).

**ACTION: MSC**

**STATUS: OPEN (Oct 2015)**

***General Action Items***

**GA-2015-1 Migration to BUFR** - All to discuss with your NWP centre’s observation department the implementation of the instructions issued by WMO in a letter to Permanent Representatives 25 September 2015, regarding the migration to BUFR. The idea is to stress the expected benefit from the use of the high-resolution BUFR radiosonde data in NWP, and to help ensure that the appropriate high priority is given to this work.

**ACTION: ALL NMHSs**

**STATUS: OPEN (Oct 2015)**

**GA-2015-2 Discussion on the documents for future meetings (format of requirements documents and update of the Terms of Reference)**

**ACTION: MSC, NOAA, BoM, KMA, Meteo-France, EUMETSAT**

**STATUS: OPEN (Oct 2015)**

**Context:**

The requirements document currently takes the form of a large spread sheet, organised by data type for satellite data and in-situ (non-satellite) data. There are three tabs, one for each region, thereby separating the requirements according to the region providing the data: North America, Asia-Pacific and Europe. Each tab has 50 to 100 entries.

The requirements document is updated ahead of each NAEDEX/APSDEU meeting. Each of the three NAEDEX/APSDEU regions updates the document separately, under the coordination of a regional lead. There are three types of update to be done:

1. Update the availability of observations from own region - any new satellites or other data types? Any new means of accessing data sets?
2. Update the NWP requirements for observations from the other two regions.
3. Update the status of observation access from the user’s perspective, for data from the other two regions.

The updated requirements document (its three updated versions) are reviewed by the NAEDEX/APSDEU meeting, and new actions are formulated. After the meeting the meeting host merges the requirements information into one single requirements spread sheet, to go forward to the next meeting.

The actions emanating from the requirements review are extracted from the requirements document and summarised in the Actions list. The NAEDEX/APSDEU meeting reviews and agrees all new actions. The actions from previous meetings are reviewed and updated. The updated consolidated Actions document is prepared by the meeting hosts to be handed over to the organisers of the next meeting.

The discussion highlighted a number of shortcomings arising from the current practice.

* The tasks to be completed in the period between meetings needs to be more clearly defined.
* The workflow needs to be defined and described.
* For non-satellite data there is a lot of repetition between the three tabs of the spread sheet. The suggestion was made to create a fourth tab, and to move and merge all non-satellite data requirements (across all 3 regions) there.
* Similarly, should the requirements for DBNet be gathered in one place?
* Some columns of the spread sheet are not regularly filled in. Are they needed? Some columns are interpreted and used differently by the three regions, which leads to inconsistency. We need to ask ourselves: What do we need to capture and communicate?
* Some issues could be resolved in the time between meetings, leaving the most significant and more demanding items to be tackled at the meeting itself.
* There is no dedicated secretariat for NAEDEX/APSDEU. We rely on contributions from the hosting organisation for each meeting. There is a need for a hand-over step from the current to the next host. There is a need for a place to store and provide access to our documents, hosting of an email-list, hosting a web page, et cetera.
* Excel spread sheets do not support 'track changes', which makes the management of multiple updates cumbersome.

A working group was assembled with the task to examine and address the issues listed above and to streamline the information gathering for the NAEDEX/APSDEU meetings going forward. Composition of the working group is:

* Agnes Lane, BoM, Asia-Pacific (Chair)
* Hyunjong Oh, KMA, Asia-Pacific
* Fred Branski, NOAA/NWS, North America
* John Paquette, NOAA/NESDIS, North America
* Jean-Francois Mahfouf, Meteo-France, Europe
* Simon Elliott, EUMETSAT, Europe

ToR of the working group is:

* Define the ToR of NAEDEX/APSDEU
* Determine what information needs to be gathered in support of the NAEDEX/APSDEU activities to further improve the global data exchange for NWP. Decide how to record the information.
* Determine the workflow for the information gathering, and the organisation of the work at and in between meetings.

Time line and roadmap:

1. Current host (Canada) to complete their work based on the current spread sheet, and actions document.
2. The working group to meet a few times as required (teleconf) with the aim to complete their work by end of the year, December 2015.
3. Support the hand over to the next host (Meteo-France), spring 2016, one year ahead of the next meeting.
4. Meteo-France to adopt the new process, as determined by the working group.
5. Communicate the new process to members. Members to follow the new work flow for the contributions in preparation for the next meeting, Spring 2017. Three documents are expected: 1) ToR, 2) Specification of the information to be gathered and 3) Workflow (including the hand-over between hosts).

**GA-2015-3 from DBNet session –** All centres to capture their User Requirements for, and usage of, Hyperspectral IR data (IASI and CrIS) collected by DBNet (EARS/RARS) stations, in particular with respect to channel selection. Information to be put in European data tab of spread sheet and provided to Mikael Rattenborg as soon as possible (information to be used at upcoming ITSC, 28 Oct – 03 Nov 2015).

**ACTION: All NWP Centres**

**STATUS: OPEN (Oct 2015)**

**GA-2015-4 New name for APSDEU/NAEDEX** – During the meeting some discussions were held concerning the name for this group, which now combines the APSDEU and the NAEDEX groups. A few names were considered and after voting the new name for the group is: **GODEX-NWP**, which stands for Global Observation Data Exchange for NWP. To be adopted for the next meeting.

**ACTION: Meteo-France**

**STATUS: OPEN (Oct 2015)**

**Action Items closed during Joint APSDEU-14/NAEDEX-26**

**APSDEU-NAEDEX Actions from May 2014 Meeting – Revised as of 7 October 2015**

***North American Data***

**1.1.4 AVHRR Polar Winds** - New action: timeliness of GTS data from NESDIS, and data from CIMSS, to be investigated

 **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):**

N19 AVHRR Polar Winds from NESDIS OSPO: 2-3 hours (time from middle image until availability of product)

N18 AVHRR Polar Winds from NESDIS OSPO: 3-4 hours

N15 AVHRR Polar Winds from NESDIS OSPO: 3-4 hours

N19 AVHRR Polar Winds from NESDIS CIMSS: 2-3 hours (not on GTS)

N18 AVHRR Polar Winds from NESDIS CIMSS: 4-5 hours (not on GTS)

Metop-B AVHRR Polar Winds from NESDIS CIMSS, UW: 2-3 hours (not on GTS)

Metop-A AVHRR Polar Winds from NESDIS CIMSS, UW: 3-4 hours (not on GTS)

S-NPP AMVs from band M15 are also available on the GTS via EUMETSAT dissemination.

**1.5.2 Terra/Aqua** – New action: investigate availability of MISR AMV products in NRT. **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** MISR CMV products are not available at OSPO. Archived CMVs can be accessed

from the NASA Atmospheric Science Data Center (ASDC) website: <https://eosweb.larc.nasa.gov/project/misr/cmv_new_table>.

**1.5.2 Terra/Aqua** – New action: investigate timeliness of MODIS polar AMVs from CIMSS." **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** About 4-5 hours.

**1.7 WINDSAT/Coriolis** – New action: investigate the reduction in availabilty of WINDSAT data reported by UKMO.

 **ACTION: NOAA**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** The Naval Research Laboratory (NRL) in Monterey, CA, generates and disseminates WINDSAT data to OSPO for further distribution. At times, there are issues with production of the files and/or the communication link between the two sites that either stops or delays data delivery to OSPO.

**1.7 WINDSAT/Coriolis** – New action: discuss requirements with member states and determine if there is a need for dissemination. **ACTION: EUMETSAT**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** due to the limited lifetime of the mission (end of life in 6 months), it has been classified as priority 3 (lowest) in the proposed 3rd Party Data Services by our Member States. Will probably not be implemented.

**1.9.2 Suomi-NPP** – New action: clarify what VIIRS data (bands, coverage) is available via the DDS. **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** Due to exceeded capacity on the existing ESPC network, expansion of VIIRS distribution cannot be achieved until the new ESPC network and the new NDE/PDA becomes operational. Once the new ESPC network is in place NESDIS will be able to provide service of new mission data that is significantly larger. That work is in progress and should be realized in 2nd Quarter CY16. On DDS, 3 channels (VIS, SW, LW) Alaska region coverage only, are available in AWIPS format.

**1.12 OCO** – New action: investigate formats and availability from OCO-2 and report back to the group out of session.

 **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Aug 2015):** OCO-2 Level 1a, Level 1b, and Level 2 data can be accessed from the NASA Goddard Earth Sciences Data and Information Services Center (GES DISC) at:[**http://disc.sci.gsfc.nasa.gov/uui/#/search/OCO+ACOS**](http://disc.sci.gsfc.nasa.gov/uui/#/search/OCO+ACOS)

**1.13 ISS Rapidscat** – New action: investigate with NASA the possibility of making these data available on the GTS for all users, and the potential for making the data available in near-real-time. **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** Rapidscat is operational at OSPO and the product is available on the GTS.

**3.7 Multi-sensor Precipitation Product** – New action: clarify what will be provided in terms of a multi-sensor rainfall product from GPM. **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** NESDIS currently has both GPM GPROF and IMERG data available on the DDS for user access.

**3.8 Space Weather Data** – New action: respond to the list of US-operated Space Weather satellites listed in the presentation given by UKMO at NAEDEX-APSDEU 2014. **ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response via NWS (Sept 2015):**

•L1 data from NOAA DSCOVR

Through SWPC the UKMO today has access to data from NASA ACE and will have access to NOAA DSCOVR once SWPC declares it operational for its use.

•Future coronograph data (NASA, ESA, wherever)

Today SWPC pulls these data directly from NASA for use in our operations; we assume the same is true for UKMO. If NOAA is to get an operational coronagraph, it is assumed that these data would be available to all from NOAA.

•NASA SunJammer (launch 2015). Obs at closer to the Sun than L1 (this is a research mission, but useful for proof of concept)

This mission was scrapped by NASA. There are no current plans for solar sail technology to provide space weather data closer to the sun than L1.

•GNSS RO –need data with latency of 15-30 mins. NOAA trying to set up network of ground stations for COSMIC II to achieve this

SWPC has the same latency requirement for these data, however it is unclear whether or not there will be a sufficient number of ground stations to meet this requirement. COSMIC-2 data will be provided to all from UCAR.

•SWARM –thermospheric density (currently few/no obs of this). Can exploit this with our recently written DA scheme. But need the SWARM data to be NRT

SWPC does not have access to these data at this point although they have requested it from ESA. SWPC would be happy to work with UKMO, and others in Europe, to encourage ESA to release these data publicly.

•GEO/LEO radiation monitor data (electron/proton flux) –only have GOES 13 and 15; other data are potentially available

Through SWPC the UKMO today has access to all GOES-NOP space weather data sets.

**4.1 NCEP Gridded SST Field** – New action: follow up on quality issues related to 1/12 degree gridded SST products and identify points of contact. **ACTION: NWS/NCO and Meteofrance**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** Via NWS/NCO – NWS points of contact are Robert Grumbine, NWS/NCEP/EMC, and Bert Katz, NWS/NCEP. To better respond, NWS is seeking clarification on issues observed.

**4.3** – **Conversion from sitename to tail number** -New action: advise KMA on how they (ECMWF) resolved the issue of converting from sitename to tail number.

**ACTION: ECMWF**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**ECMWF Response:** For AMDAR data the station identifier in the GTS message contains the tail number. For ACARS ("American AMDAR") the station identifier is an encrypted version of the tail number. But the encryption is unique, so it can be used to distinguish aeroplanes for the bias correction. For old-style AIREP the station identifier contains the route and does not identify the aeroplane. At ECMWF we only bias correct AMDAR and ACARS at the moment due to this issue. We are testing a correction where all AIREP will get the same bias correction. This is likely better than not doing a bias correction. The AIREP are only 5% of the data volume, but they are concentrated in the north-Atlantic region, where they in some areas provide 50% of the data. An alternative is to blacklist AIREP data.

***European Data***

**1.2 METOP** – New action: investigate the availability of real-time Microwave Integrated Retrieval System (MIRS) v2.0 products from METOP-A.

**ACTION: NESDIS**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**Update Oct 2015:** Available on NESDIS DDS.

***Asia-Pacific Data***

**1.4 HY-2A Altimetry, scatterometer, microwave** – New action: provide details of POC within SOA/NSOAS to participants. Dissemination via GTS and CMACast is not planned.

**ACTION: EUMETSAT**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**Update Oct 2015:** data is available on Eumetcast.

**EUMETSAT Current Status (Oct-2014):** the POC was provided by Simon during the meeting, and would be:

Dr LIN Mingsen, Dy Director of NSOAS, mslin@nsoas.gov.cn

**1.7 GCOM AMSR-2 BUFR Radiances** – new action: provide an update on the POC in JAXA for this data.

 **ACTION: JMA**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**Update Oct 2015 –** POC at JAXA is Mr. ITO, Norimasa

 **Email:** **ito.norimasa@jaxa.jp****.**

**1.8 HY-1B Ocean Colour** – New action: report back at the next meeting on progress related to HY-1B data.

**ACTION: EUMETSAT**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** Simon provided sample data to MyOcean, feedback from them is pending.

2.2 **Fengyun-2 AMVs –** new action: investigate the dissemination of FY-2 AMVs via the GTS. **ACTION: CMA**

**STATUS: ~~OPEN (May 2014)~~ CLOSED (Oct 2015)**

**Update Oct 2015:** data is available on the GTS.

**Actions from NAEDEX-23, May 2011.**

**N.1.5.2** - NESDIS to investigate if combined TERRA-AQUA MODIS AMVs are available on the GTS.

**ACTION: NESDIS**

26 May 2014: NESDIS Update - STAR, NESDIS’s product developer, is working on updating the software code for AMV production. In July 2014, STAR plans to brief NESDIS management on product development status. We’ll provide another update at that time.

**STATUS: ~~OPEN (May 2011)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** Due to the failed water vapor channel on TERRA, the project has been terminated.

**N.4.9 All Buoy Data** – NWS/CIO to provide status on putting data in BUFR with all Meta data.

**ACTION: NWS/CIO**

NWS report that there is no update at this time (Nov 2012).

26 May 2014: U.S. has not moved forward with migrating to the buoy data to BUFR. Fred will ping TOC on their status of the migration to BUFR efforts.

**STATUS: OPEN (ask Fred to confirm status)**

**N.4.10 Ground-based GPS** – NWS/CIO to contact NOAA/ESRL on format of data and provide most optimal access for availability.

**ACTION: NWS/CIO**

Met Office report that work is ongoing at UCAR to put whole US network into BUFR but BUFR is still not WMO compliant (Nov 2012). Data had been available to up to January 2014 but was ceased due to a coding issue that has not yet been resolved.

26 May 2014: NOAA will check with UCAR and provide an update. (Action: Jean-François to follow up on this issue from the European side).

**STATUS: ~~OPEN (May 2011)~~ CLOSED (Oct 2015)**

**Update Oct 2015:** data is received in BUFR.

**E.3.9 –** NWS/CIO & EUMETSAT investigate the timeliness of this space weather data. [Previously numbered N.1.2.9]

**ACTION: NWS/CIO and EUMETSAT**

26 May 2014: This relates to SEM data from Metop. Michelle Mainelli and Simon Elliott to follow up – if this is no longer an issue the Action may be closed.

**STATUS: ~~OPEN (May 2011)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** for us the action is still open, on Michelle and Simon to discuss. We’ll keep you informed.

**Update Oct 2015:** Simon discussed with Michelle.

**Actions from NAEDEX-24, October 2012.**

**N.1.7 -** NESDIS/NWS to investigate improving the timeliness of C-NOFS data.

**ACTION: NESDIS**

26 May 2014: Update from NESDIS - NESDIS believes updates to its networks and data distribution systems have improved the timeliness of CNOF/S data. NWS/NCEP/EMC currently uses CNOF/S GPSRO data for its operations.

28 May 2014: members have reported that data is no longer available on the GTS. Clarification is required in whether there are still issues relating to data access. If not, action can be closed.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** Looking at our records, there was one incident when data were available after the standard maximum of three hours from real-time since October 2014. We believe timeliness of the data has been optimized. NCEP may know if the data are being provided on the GTS.

**N.4.2** Met Office to use FSO to show impacts for US and new Canadian profilers.

**ACTION: Met Office**

28 May 2014: request was related to maintenance regime for profilers and to demonstrate the utility of the data in NWP. MeteoFrance have indicated that FSO impacts are very small and that data quantity from the US profilers appears to be reducing over time. Given the prospects for the network’s future, NOAA to confirm the need for this work. If not required, then the Action may be closed.

Canadian network is small. Impacts on MSC forecasts are small, but positive.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**Update Oct 2015**: no longer required

**N.4.10 -** Met Office to follow up BUFR format issues of US ground based GPS with NOAA/ESRL.

**ACTION: Met Office/NOAA-ESRL**

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

Met Office provided software to NOAA to do the BUFR encoding correctly. NOAA doesn’t have resources until FY 2013 to implement.

See Action N.4.10 under NAEDEX-23 above.

**N.1.7 -** EUMETSAT to continue to investigate real time access to AMSR-2 data. [Previously numbered N.5.7]

**ACTION: EUMETSAT**

26 May 2014: EUMETSAT have signed an agreement with JAXA and data are available to members states in real time via EUMETCast.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** we need to check if the SST is included in the agreement.

**Update Oct 2015:** Data available from JAXA server and EUMETCAST.

**A.1.4 -** EUMETSAT to continue to investigate access to HY-2 data. [Previously numbered N.5.9]

**ACTION: EUMETSAT**

26 May 2014: EUMETSAT have signed an agreement with NSOAS (part of SOA) and data will be available to member states via EUMETCast. Data latency is anticipated to be between 1 and 12 hours. EUMETSAT are working with NSOAS to improve latency through a downlink in northern Europe.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** Data is not yet flowing (not received regularly yet).

**Update Oct. 2015:** Scat is stopped; radiometer is fine; altimeter: every alternate line is fine. Data is made available to member states.

**NAEDEX\_2012\_NA\_3.4.2:** To monitor AMDAR panel discussions.

**ACTION: NWS**

26 May 2014: Update from NWS/CIO – Fred will prepare a report out from the recent AMDAR related meetings.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**Update Oct 2015 –** AMDAR meetings reports available from WMO.

**NAEDEX\_2012\_GENERAL:** Continue to pursue access to Electro-L2 data. [Previously unnumbered 2012 General]

**ACTION: EUMETSAT**

26 May 2014: Update from NWS/CIO – This should be added to requirements spreadsheet in European section and action re-numbered appropriately.

EUMETSAT have built up some experience in gaining access to Roshydromet satellite data. Data from Electro-L N1 was on EUMETCast whilst satellite was operating.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**Update Oct 2015 –** should be added to requirements spreadsheet.

**Actions from APSDEU-12, October 2012**

**Action 2011-11-02:** In reference to global FY3 microwave sounding data – Explore getting the data accessible to North America. Simon Elliott to raise with the GEONETCAST implementation group.

**Lead: EUMETSAT**

October 2012 update: This was done but prior to new agreement between CMA and EUMETSAT. This includes FY3C and is not instrument specific. EUMETSAT haven’t progressed in terms of getting the data and distributing it. It will be discussed at CGMS.

May 2014 Update: EUMETSAT have a new agreement with CMA that covers FY-3C. There is no technical reason this cannot occur but agreement between NOAA and CMA is required.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** Simon will coordinate.

**Update Oct 2015 –** closed. Discussions on-going.

**Action 2011-11-10 3.1 Wind Profiler Data:** Bureau and KMA to investigate the availability of Australian and Korean wind profiler data.

**Lead: Bureau and KMA**

October 2012 update : No progress on ABoM side. KMA has positive impact from these data but they are not on GTS. After quality control, the data may go on the GTS if requested.

May 2014 Update: KMA have 8 profilers. Data is being input to NWP systems. Limited GTS bandwidth is an issue so some work is required within KMA. Update to be provided at next meeting. BoM sites (12) should be available by the next meeting

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**Update Oct 2015 –** Data will be available once evaluated.

**Action General 4.x –** All Centers to investigate the planning to migrate away from providing data via FTP due to security risks.

**Lead: NWS/CIO**

**23 October 2012: Ongoing activity. The wording on this action ought to be more specific regarding ftp, sftp and ftps.**

26 May 2014: NESDIS Update: The Data Distribution System (DDS) uses FTP for pull users and FTP or FTPS for push users.

NPOESS Data Exploitation (NDE) system uses FTPS for both push or pull.

Product Distribution and Access (PDA) system will allow FTPS or SFTP. Users who use SFTP will be given a lower overall data volume than FTPS method of transmission.

All NESDIS data distribution systems are effectively protected.

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**NESDIS Response (Sept 2015):** PDA update provided in slides.

**Update Oct 2015** – closed.

**APSDEU\_2012\_GENERAL -** Only 21 out of 90 Chinese radiosonde stations report significant levels. CMA to investigate for all stations to report significant levels

**ACTION: CMA**

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

26 May 2014: OPEN - CMA report that most stations are now reporting significant levels. CMA will report on the transition to BUFR which would negate the requirement for significant level data.

**APSDEU\_2012\_GENERAL - Investigate where on the GTS circuits the METOP datasets are getting blocked for the Asian region**

**ACTION: CMA, KMA, JMA, BoM, EUMETSAT, Met Office**

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** please keep action open on Simon.

**Update Oct 2015 –** no longer an issue.

**APSDEU\_2012\_GENERAL - Investigate getting hourly Meteosat-IODC data on CMACAST.**

**ACTION: CMA, EUMETSAT**

**STATUS: ~~OPEN (Oct 2012)~~ CLOSED (Oct 2015)**

**EUMETSAT Current Status (Oct-2014):** Please keep open, Simon will follow-up. Currently the end of M-7 lifetime is 2017.

**Update Oct 2015 –** closed.

Points of Contact for information

I.1 POC at Met Office

Roger Saunders

VAD winds: Myles Turp (Myles.Turp@metoffice.gov.uk)

Further information can be found at: <http://www.metoffice.gov.uk/research/interproj/cwinde/wradar/index.html>

[http://www.metoffice.gov.uk/research/interproj/cwinde/index.html](http://www.metoffice.com/research/interproj/cwinde/index.html)

ATOVS: Nigel Atkinson

TELECOMS: Chris Little

I.2 POC at NOAA/NESDIS

NESDIS Office of Satellite and Product Operations: John Paquette, Vince Tabor

NOAA-NESDIS Office of International and Interagency Affairs: Derek Hanson

Existing NESDIS ESPC DDS and NDE users with questions should contact:

Donna McNamara (Data Access Manager) donna.mcnamara@noaa.gov

Chris Sisko (JPSS Data Operations Manager) chris.a.sisko@noaa.gov

Matt Seybold (GOES-R Data Operations Manager) matthew.seybold@noaa.gov

New users with questions should contact:

NESDIS Satellite User Services NESDIS.Data.Access@noaa.gov

I.3 POC at NOAA/NWS/NCEP

Michelle Mainelli (Michelle.mainelli@noaa.gov )

Sea-ice analysis: Robert Grumbine

SST analysis: Hendrik Tolman

MDCRS: Bradley Ballish

I.4 POC at ECMWF

Erik Andersson,

Satellite data: STEPHEN ENGLISH Gridded products: Dragan Jokic

Observation data formats: Ioannis Mallas

I.5 POC at NOAA/NWS IA

Fred Branski fred.branski@noaa.gov

I.6 POC at NOAA/NWS OPS

TBD

I.7 POC at EUMETSAT

Kenneth Holmlund,

Simon Elliott

I.8 POC at MSC

Simon Pellerin simon.pellerin@ec.gc.ca

Gridded outputs and formats: Yves Pelletier

I.9 POC at Meteo France

Jean-Francois Mahfouf

Herve Roquet

I.10 POC at WMO

Jerome Lafeuille, Mikael Rattenborg

Add Stephan Bojinski.

I.11 POC at DWD

Alexander Cress

Robin Faulwetter

I.12 POC at JMA/JAXA

GCOM AMSR-2, Mr. ITO, Norimasa, ito.norimasa@jaxa.jp

Other satellite data, Mr. FUJIMOTO, Nobuyoshi, fujimoto.nobuyoshi@jaxa.jp

**Resources:**

**WMO Data Access and Software Tools:**

[**http://www.wmo.int/pages/prog/sat/accessandtools\_en.php**](http://www.wmo.int/pages/prog/sat/accessandtools_en.php)

**WMO Observing Systems Capability Analysis and Review Tool (OSCAR) Space-based home page:**

[**http://www.wmo-sat.info/oscar/spacecapabilities**](http://www.wmo-sat.info/oscar/spacecapabilities)

**WMO OSCAR List of All Satellite Programmes:**

[**http://www.wmo-sat.info/oscar/satelliteprogrammes**](http://www.wmo-sat.info/oscar/satelliteprogrammes)

**WMO Satellite User Readiness Navigator (SATURN):**

[**http://www.wmo-sat.info/satellite-user-readiness**](http://www.wmo-sat.info/satellite-user-readiness)