Task Team on Data Management Report

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Receive and Review Reports from the Data Management Centers

- SOC Meteo-France and GDAC-DB-ISDM continued to work toward the implementation of a routine procedure to compare GTS Bulletin Headers and overall message counts between the two centres. Initial comparisons identified a few inconsistencies in the ISDM data stream that were quickly resolved by Environment Canada and Washington.
- Work is on-going at Meteo-France to develop a platform monitoring application that will use the agreed upon exchange report formats for both FM18-BUOY code and BUFR message data streams. This could be extended to BATHY, TESAC, SHIP, TRACKOB and WAVEOB data.

Table Driven coding requirements for data buoy observations

- At DBCP-28 the Panel reaffirmed that separate BUFR templates should be defined for drifting and moored buoys. The proposed templates were circulated to TT-MB and TT-DM in December 2012 and a few amendments were made. They are fast-tracked for operational acceptance by May 2014.

  => See DBCP-29-Doc-11.2 Appendix A

  => Announcement to be done in advance in the WWW Operational Newsletter

Real Time Distribution of Data

- The DAC continues to distribute and monitor all data from AOML's drifters on the GTS. AOML-DAC insured that all drifters in the array, were placed on the GTS as soon as deployed. The DAC takes immediate action after recommendations from the QC centres are received regarding suspicious data on the GTS.
- The DAC at AOML encountered problems with a few drifters from a manufacturer not reporting on the GTS after their insertion. The observation time value was wrong. CLS used the time of the Argos satellite pass instead to roughly correct the problem.

- Meteo-France reported the first 37 Argos SVP-B drifters deployed for SPURS by the end of 2012, reported many wrong data onto the GTS for several weeks. The checksum was not taken into account to filter communication errors. In addition, observation times were not correctly computed. Meteo-France worked with CLS to fix these problems.
- Meteo-France continues to report Iridium buoy data on to the GTS in FM18-BUOY and FM94-BUFR formats for E-SURFMAR and its partners. In mid-August, Meteo-France processed the data of 225 Iridium buoys: 186 SVP-B, 34SVP, 11 SVP-BS (salinity) and 3 SVP-BTC (thermistor chain).
- Some buoys have a 7-digit WMO ID not convertible to a 5-digit one, the data from these buoys are sent in BUFR only. For the moment, this only concerns SVP drifters but it will also concern other type of drifters in the future. GTS data users must be aware of that.
- The TC reported that JCOMMOPS has not yet migrated to using 7 digit WMO numbers in its current operations. They are very close to implementing the new database and web structure and it will be included in the new design. Meanwhile, buoys having 7-digit WMO numbers not convertible to 5-digit ones are not considered.

- The DAC reported that many drifters, originally placed in the manufacturers test programs, remained in such programs, even after deployment. This problem was discovered when the DAC was looking for data to check if certain drifters were transmitting successfully after deployment. The DAC urges manufacturers to please ***transfer the drifters out of their programs when testing is completed*** to ensure data is being collected at the DAC center, without interruption. The DAC thanks CLS-America for providing the data from the manufacturer's testing program.
- DAC and TC crossed checked and looked at the differences in the number of drifters reported in the JCOMMOPS maps in the month of June (larger # of drifters)versus the GDP array status map for June 24, 2013.
  - Most of the differences were due to the fact that many drifters died at the beginning of June, those were counted in the JCOMMOPS map (monthly map) and not in the June 24 status array map, which is just a snap shot of that day.
  - Second largest number were Ice buoys, deployed on ice or without drogues (IABP), Environment Canada, or Ignatius Rigor
  - Grounded buoys not being counted by the DAC status array

GTS processing enhancements and operations at CLS

- GTS BUFR version upgraded to V4 on September 18, 2012 on both CLS processing centers (France and US).
- Both Alphanumeric (BUOY, TESAC, SYNOP, SHIP) AND BUFR bulletins are produced for each observation reported by ocean & meteorological platforms.
- Around 1000 active GTS platforms are processed every day at CLS & CLS America including 700 to 900 drifting buoys. An average of 25 000 GTS BUFR bulletins displayed per day into the GTS
- GTS delays in May 2013, have been added with slowdown on the entire Argos data processing at CLS due to a disk bay issue between May-27 and May-30 (solved now). Several GTS backup happened during this period due to CLS America architecture maintenance and the CLS France issues on disk bay. Consequently, some old bulletins have been resent onto the GTS (duplicates) end of May. Procedures and hardware solutions have been setup to avoid this kind of issue.

Delayed Mode Distribution and Archiving of Data

- ISDM and DAC at AOML agreed to use the ISDM processing systems to reformat and submit the AOML quality controlled interpolated SVP data to NODC as is done for the ISDM GTS buoy data. After ISDM receives and processes AOML SVP data submission it should be straightforward for ISDM to use their existing procedures to submit both the SVP and GTS data products to NODC. AOML has already sent ISDM the link to the web page where the entire dataset of the interpolated QC data resides
- The DAC is working on the next submission to ISDM that will contain data through December 2012 (all 3 levels of processing). The most recent QC interpolated drifter dataset updated through June 2013,can be downloaded from the AOML web page at:
  www.aoml.noaa.gov/phod/dac/dacdata.php.
- Following the last ETMC meeting, Sylvain de Margerie, director of GDAC-DB-ISDM and Dr. Lin director of National Marine Data and Information Service (NMDIS), State Oceanic Administration (SOA), China, initiated a project to look into the integration of meta-data with data for improved DBCP products. This project has begun with Dr. Yu Ting (Julia) initial proposal for suitable meta-data fields for buoy data.

- Methodology and results from an automatic drogue presence reassessment was published in the /Journal of Atmospheric and Oceanic Technology/ (Lumpkin, R., S. Grodsky, M.-H. Rio, L. Centurioni, J. Carton and D. Lee, 2013: Removing spurious low-frequency variability in surface drifter velocities/. J. Atmos. Oceanic Techn/., *30* (2), 353—360, doi:10.1175/JTECH-D-12-00139.1). This article also described the criteria used for a full manual reevaluation of drogue presence completed during the intersessional period by the drifter DAC.

- The GDP monitors the lifetime statistics of drifters from different manufacturers on a year-by-year basis; results are given in the GDP report, and actions taken to improve lifetimes are given in the report from the Task Team on Best Practices. During the intersessional period, the GDP monitored changes in the composition of the global drifter array on a weekly basis, in order to assess the value of recent manufacturing changes.

- In France the delayed mode data processing for salinity drifters is ensured by LOCEAN (Gilles Reverdin’s team).

- Meteo-France continues to archive GTS data for all surface marine platforms (moored and drifting buoys, VOS ships and shipborne AWS) as well as Iridium buoy data received and processed by the French met service

- AOML continues to directly receive data from iridium drifters processed by Meteo-France on a weekly basis

Format Issues

- Meteo-France maintains a list and description of Iridium drifters recommended formats, available at: http://esurfmar.meteo.fr/doc/o/db/others/DB_Iridium_formats.pdf
- Data formats #002 (for SVP-B deployed on sea ice), #031 and #032 (for SVP-BTC drifters), were added to the list during the intersessional period. These two latter should replace data format #030 which should be no longer used.
- Some manufacturers continue to send inaccurate specification sheets, by either cutting or pasting without checking them first, or with incomplete information. The DAC needs the details provided in the specification sheets to correctly process all types of drifters in a timely manner, and assumes the information provided in the spec sheets is accurate.

Review all relevant JCOMM Publications

- The TC reports that the document titled: "*An Oceanographer's and Marine Meteorologist's Cookbook for Submitting Data in Real Time and In Delayed Mode*" has not been finalized. The next step will be to work closely with experts to fill in certain missing sections but there has not been time to focus on this action. The TC will meet with Bob Keeley in Silver Springs and perhaps can move forward on this item. Once it is in a more complete state, it will be circulated to the TT-DM team for review, before its final submission.

Action Items Completed

- Regarding DBCP-28 action item No. 49 (i.e. to have a methodology to compare non-GTS buoy data with Ocean models, open to anyone via the web) has been eliminated from the action list.
- Two new columns have been added to the GDP/DAC: List and Details of all Buoys in Database on the web to show latitude and longitude of where drifters lost their drogues.
  (www.aoml.noaa.gov/phod/dac/dirall.html)

New Action Items

1. Move forward to complete, review and publish the document “An Oceanographer’s Marine Meteorologist’s Cookbook for submitting Data in Real Time and In Delayed Mode
2. The conversion to use 7-digits numbers instead of the 5-digit numbers must continue until all cross-reference lists are changed.
3. SOC Meteo-France and GDAC-DB_ISDM continue to work toward the implementation of a routine procedure to compare GTS Bulletin Headers between the two centers.

Thanks to all who provided input to this report