TT-MB report to DBCP-XXVI

Moored Buoy Metadata

- Initial priority for the Task Team is on documenting the existing moored buoy systems operated by participants
- At present there is little or no collection of the relevant information (metadata) on the various moored buoy systems

Information needed

- From a practitioners perspective:
  - what measurements are made and which sensors are used (e.g. for wind and waves)
  - what hulls are used
  - what sort of mooring and water depth
  - what communications are used (Meteosat, Iridium etc)
  - commercial off-the shelf systems or bespoke systems developed by operators
  - ……..

Information needed

- From a data users perspective
  - what height(s) (or depths) the measurements are made at
  - how often the are data reported
  - what sampling period(s) are employed
  - are any corrections made (e.g. are winds adjusted to a nominal 10m height)
  - ……..

Metadata

- Since DBCP-25 the details of the metadata suggested to be collected were refined by
  - ensuring consistency with agreed OceanSITES metadata
  - defining Meta-T categories (which indicate whether the information should be distributed with the observation report)
  - better specification of sampling/reporting times
  - Include a metadata validity period record thus enabling a new metadata record to be specified when details (e.g. sensors) change
- Particular attention has been paid to the metadata needing to be reported for wave measurements in connection with the Pilot Project on Wave measurement Evaluation and Testing (PP-WET)
- Version 5.a. of the draft metadata specification circulated in early July 2010 for of final iteration to agree an initial specification

Metadata examples

- Environment Canada and UK Met Office have subsequently compiled much of the metadata (via an Excel spreadsheet and convertible to csv format) that would be required

- Environment Canada

- Met Office

Metadata

- First step is for DBCP to accept the present content as the metadata needing to be collected (V1)
- Spreadsheets unlikely to be the best way for operators to collect and maintain such data in the longer term

Role of JCOMMOPS

- Suggested at DBDP-24 that JCOMMOPS could collect moored buoy metadata directly from platform operators
  - web-interface similar to the Argo notification system (which is intuitive and easy to use)?
  - file upload?
- JCOMMOPS could then periodically forward metadata to the JCOMM ODAS Metadata Centre (long-term repository)

DMCG-4

- Note the JCOMM Data Management Coordination Group (DMCG-4) meeting in April 2010 proposed that DBCP take on responsibility for metadata from automated rigs and platforms (SOT for manual observations from rigs and platforms)
- Will likely require some further changes (additions) to the metadata specification to accommodate this
- DMCG-4 reiterated the need for JCOMMOPS to make sure metadata are routinely collected and regularly submitted to the appropriate archive.
- DCMG-4 also proposed to rename the existing ODAS metadata format into “Required ocean observing platform platform/instrument metadata content”
- DCMG-4 recognized the work being done on metadata by the TT-MB and encouraged the DBCP to continue the work

Publications

- TT members provided inputs to, and comments on, the update to Section 4.3 (Moored Buoys) of WMO Publication No. 8 (Guide to Meteorological Instruments and Methods of Observation), Part II (Observing Systems), Chapter 4 (Marine Observations)

Moored buoy technology developments

- Environment Canada (47 units) using the Watchman100 “payload” provided by AXYS Technologies Inc. Canada is working at enhancing satellite telemetry through SatLink2 GOES transmitters and increasing reliability of antennas. Canada has also deployed 2 Datawell MarkIII wave rider buoys in support of the PP-WET project and equipped two other buoys with a TRIAXYS sensor
- NOAA’s enhancement of the tropical Moored Buoy Array (shore data processing, web site, data logger, iridium data collection, subsurface conductivity/ temperature (CT) sensors, and the compass for measurement of wind direction). Refreshed buoy systems have been designed, fabricated, integrated, deployed and tested. Intercomparisons will continue to be made for the new design
- Some ATLAS moorings in RAMA have been modified to inhibit vandals from boarding the buoy. While proving successful at keeping moorings in place (3 of 4 moorings deployed have been recovered and 2 are presently operating) and producing sustained subsurface measurements, an adequate method of inhibiting vandalism upon surface met sensors has not yet been found

Moored buoy technology developments

- The NOAA/NWS National Data Buoy Center is implementing an Ocean Sensor Calibration Laboratory to calibrate conductivity sensors and sub-surface temperature sensors
- The United Kingdom using both Iridium and DCP data telecommunication, and investigating using high data rate digital Meteosat DCPs in the future
- The United Kingdom now using dual Gill Windsonic anemometers on all new replacement buoy deployments
- The United Kingdom operating a Triaxys wave system on the K5 buoy, and plans to introduce this system on other buoys. Recommendations from the PP-WET with regard to the transmission of the “first-5 parameter” will be followed
- A new OceanSITES surface buoy (WMO#62442, PAP) was deployed by the UK and is based on the K-series design modified to accommodate sub-surface data

- Have an opportunity after today’s meeting (1800-1900) to discuss issues and any follow-on from today’s discussions