OceanSITES Physical/Meteorological QC

Background

We agreed to work on a way to fill uniformly the QC flags by providing guidelines to Real Time operators… There should be an OceanSITES real-time QC manual that will be initiated from the Mersea document. The following working group was set up on this subject (Action PMEL, MBARI, Coriolis, NOC, Jamstec)

It was decided that first step for delayed mode QC was for each operator to document their procedure and make them available on OceanSITES WWW site (Action all Pls)
OceanSITES Physical/Meteorological QC

Codes

0 No QC was performed
1 Good data
2 Probably good data
3 Bad data that are potentially correctable
4 Bad data
5 Value changed
6 Not used
7 Not used
8 Interpolated value
9 Missing value
OceanSITES Physical/Meteorological QC

Overview

• The OceanSITES QC policy should be general in nature, leaving the choice of specific implementation strategies up to data providers based on their system configuration and available resources.
• Data providers should document their QC procedures on their public web site. OceanSITES web site should provide the documentation or a link to it.
• Data files should include OceanSITES QC codes. Documentation may include specific interpretation of codes.
• Automatic processing will provide efficiency, but some manual (human) checks are also required.
OceanSITES Physical/Meteorological QC Measurements

- Wind speed and direction (or U/V)
- Air temperature
- Relative or specific humidity
- Precipitation
- Short wave radiation
- Long wave radiation
- Barometric pressure
- Water temperature
- Salinity
- Water velocity
- Pressure/depth
- …
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Real Time (at acquisition) Procedures

- Telemetry confirmation (Mooring ID, Checksum…)
- Location confirmation (horizontal and vertical) and status (i.e., moored or drifting)
- Data value confirmed within accepted physical range
- Data varies as expected with time (not constant value)
- Sample time within accepted clock accuracy
- Data consistent with collocated or nearby measurements, or climatology
- Confirmation of system health and proper function (engineering metadata)
- Identification of data quality
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*Vocabulary*

“Real time” vs. “Delayed Mode”

Data Set Acquisition Method
- Telemetered (subset, average)
- Internally recorded (more complete)

Procedure Frequency
- At Acquisition
- Periodically or post-recovery
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Delayed Mode (weekly/monthly/mooring recovery) Procedures

- Real time procedures where applicable (e.g., delay data come via different source, RAM vs. satellite, or different resolution, 10-min vs. daily)
- Clock drift
- Visual inspection for bias trends, spikes, noise, etc.
- Sensor calibration drift
- Instrumentation condition at recovery
- Comparison with information not available in real time (model reanalysis, satellite, CTD, XBT, ARGO, drifters, etc.)
- User feedback