META-T

Water Temperature Metadata Pilot Project

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Contents

This presentation covers the following areas

- Background and purpose of META-T
- What has been achieved so far
- What are the next steps
- Questions and answers

Background

- Established by JCOMM workshop, March 2006
- Aims to investigate and recommend the use of metadata to improve the quality and usefulness of ocean temperature information, particularly in real-time
- Consider the wide variety of activities metadata is needed for
- Address the problems with availability of metadata (currently very limited)

Why do we need instrument metadata?

- Understand the measurements made
  - Characteristics of the instruments
  - Accuracy, resolution
- Understand the conditions under which the measurements are made
  - Platform siting
  - Installation of the instruments (e.g. height)
  - Data processing methods
- Understand the instruments which made the measurements
  - Calibration information
  - Manufacturer information (e.g. batches)

What data-types are being considered?

Categorised data-streams under META-T

- Argo
- SOOP (XBT)
- VOS
- Drifters
- Moored buoys

To be addressed

- OceanSITES
- Tide Gauges
- ODAS
- Research Vessels

Work completed (summary)

- Categories defined
- User requirements matrix has been agreed by META-T and published on the website (example 1)
- Categorisation of metadata and requirements is also available on the website (example 2)
- Centres to host / serve metadata identified (NDBC, NOAA and NMDIS, China)
- The VOS data-stream group has proposed a BUFR template for the real-time SST metadata
- The XBT fall-rate workshop have drafted a categorisation for the XBT data-stream

Categorisation (agreed)

1. Real-time with observation (push)
   a. From observing platform / equipment
   b. Added before GTS transmission

- Near real-time via metadata servers (pull)

- Delayed-mode

Requirements by user group (example 1)

	Category 1	Category 2	Category 3
NWP	(SST related only) • Platform type • Instrument type • Instrument height/depth • Quality information • Data QC'ed indicator (y/n) • Data modified indicator (y/n) • Sampling intervals and schemes • Averaging schemes • Unique tag	Any metadata useful for programme management • Operational state of platform • Assumed instrument performance/resolution/precision • Platform characteristics • Instrument calibration status • Instrument location information • Instrument behaviour • Type of algorithm used to convert the data • Period of validity of metadata • Information regarding data centre processing the data • Location of further information • Data management information • Housekeeping parameter • Data telecommunication system	• Operator of platform or instrument • Global programme

User groups considered

- data assimilation and ocean field analysis
- ocean modelling
- ocean modelling validation
- climate forecasting
- seasonal to decadal climate variability
- numerical weather predication
- satellite calibration
- satellite validation
- SST analysis
- operational activities (e.g. weather forecasters, disaster response)'
- quality assurance activities serving above applications
- diagnostics for platform operators.

General categorisation (example - Category 2)

- Platform characteristics (e.g. size, dimensions, manufacturer)
- Assumed instrument performance/resolution/precision
- Instrument calibration status
- Instrument location information
- Period of validity of metadata
- Information regarding data centre processing the data
- Location of further information (e.g. photos, drawings)
- Data management information (e.g. creation date, update date)
- Data telecommunication system (e.g. Argos, Iridium, ode 41)
- Type of algorithm used to convert the data

Access to metadata?

- Publication 47 (Voluntary Observing Ships)
  - Available through WMO server to WMO members
- ODAS metadata database (Ocean Data Acquisition Systems as moored and drifting buoys, offshore platforms, etc), held by NMDIS, China
- Often metadata is lost or in paper format only
- CLIMAR should recommend regular submissions of metadata and promote use of metadata
- CLIMAR should encourage development of tools to access metadata

Next steps

- Replicate the BUFR template for VOS and work done on XBT for other data-streams, submit recommendations to Task Team on Table Driven Codes
- Set up the link between the agreed metadata servers in NDBC, NOAA and NMDIS, China
- Encourage the development of tools to access the metadata
- Actively trial the new process using one of the data streams (?)

Questions & answers

http://marinemetadata.org/meta-t