



Upgrading VOS to VOSCLim

UK Initiative

Sarah North – PMO IV Conference



Met Office

Upgrading VOS to VOSCLim

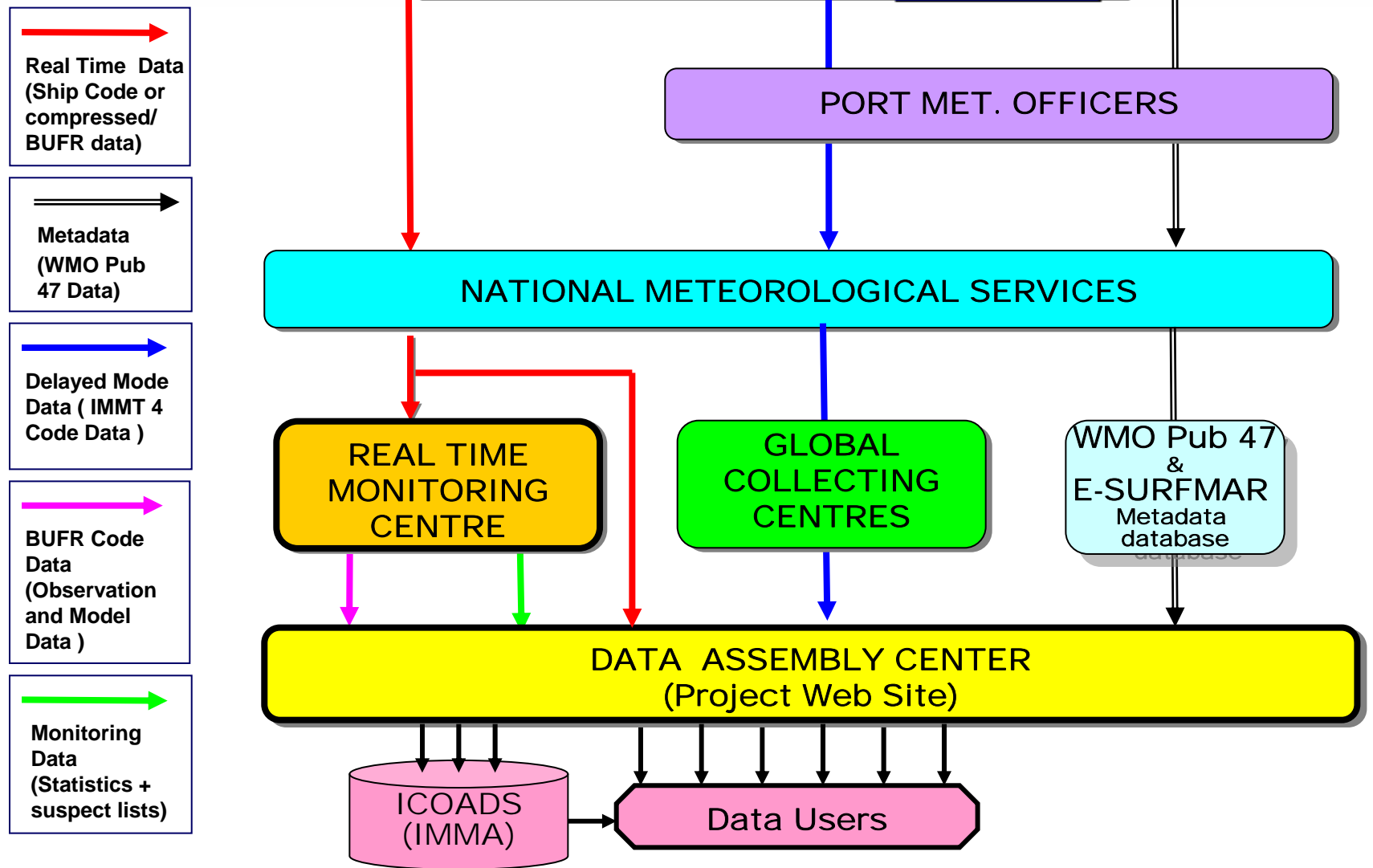
Background

- Observations from the VOS not only provide vital input to NWP models, but are also increasingly important for improving the quality of climate models.
- Recognising the need for a high quality marine meteorological data set to assist with climate studies, the WMO initiated the international VOS Climate (VOSCLim) Project. VOSCLim data also acts as a reference data set for the wider VOS fleet and can also be used to provide ground truth for calibrating satellite observations.
- In view of the success of the VOSCLim project JCOMM decided to integrate VOS Climate ships as a new class of observing ship within the wider International VOS Scheme.



<http://www.ncdc.noaa.gov/oa/climate/vosclim/vosclim.html>

VOS CLIMATE SHIP OBSERVATIONS





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UK Plans

- The Met Office has decided to take a proactive role by enhancing the volume of available VOS climate data and associated metadata, provided by UK observing ships.
- To achieve this objective a 3 year implementation plan has been proposed to re-balance the UK manual observing fleet to focus on the higher VOS climate standards
- An initial target has already been set - **and now reached** - for a mean of 50 UK observing ships to be actively participating as VOS Climate class ships during FY 2010-11 (**a ship being considered as active if it produces an average of 20 observations per month**).



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UK Plans

- The aim is to move to a core UK fleet of 200 actively reporting VOS Climate standard ships within a 3 year time frame - to replace the existing 'Selected' class ships
- UK PMO's are progressively upgrading existing ships that can demonstrate that they will produce observations of sufficient number and quality, and will recruit suitable new observing ships where necessary.
- Ships that fail to meet the required criteria for climate observing, or which fail to submit the required number of observations, are being progressively withdrawn



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UK Plans

- The manually reporting UK fleet will reduce from 320 'Selected' VOS to 200 'VOSCLim' - all equipped with TurboWin logbooks
- This manually reporting VOSCLim fleet will compliment, and add value to the shipborne Automatic Weather Stations (AWS). **In 3 years time we aim to have deployed ~ 50 autonomous shipborne AWS systems providing hourly observations**
- VOSCLim ships provide the full range of ship coded weather reports, including the visual observations of sea state, ice conditions, cloud and past/present weather that are not available from the majority of AWS. **Ships fitted with AWS sensors will only be considered for VOSCLim if they have a facility for manually adding the visually observed elements.**



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VOSCLIM Definition

*A mobile ship station equipped with sufficient certified meteorological instruments for making observations, transmits regular and timely weather reports, enters the observations in an International Maritime Meteorological Tape (IMMT) compliant electronic logbook and has a proven record of providing high quality observations. A VOSCLim ship should have at least a barometer, a thermometer to measure SST, a psychrometer (for air temperature and humidity), a barograph and possibly an anemometer. The full range of metadata must be maintained in WMO No. 47, ideally including the full suite of digital images, sketches and drawings must be available, and the delayed-mode IMMT data must be submitted to the Global Collecting Centres (GCCs) according to the procedures described in Chapter 3 of this guide. **It is highly desirable for a VOSCLim ship to be inspected at less than six monthly intervals.***



Upgrading VOS to VOSCLim

Concept of Remote PMO Inspections

- Each PMO is assigned responsibility for a certain number of VOS where possible on a company basis
- On a rotational monthly basis each PMO will contact their assigned ships - either by a visit if the ship visits a UK port, or by email if it doesn't
- Remote inspections do not take the place of physical inspections when a ship is in port



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Concept of Remote PMO Inspections

Each month the PMO will perform the following actions for their assigned ships

- Identify ships considered suitable for upgrade to VOSClim.
- Schedule review of up to 25 allocated ships each month (*aiming to review and provide feedback to all allocated ships on a quarterly basis*)
- Check the number of observations from each allocated ship with a view to achieving a target of 350 obs/ship (provide feedback as necessary)
- Provide basic monitoring feedback to each allocated ship examined during the month - highlight any issues related to data quality, observation timeliness, position errors, and observation numbers.
- Check the last inspection dates for allocated ships. If a ship operating overseas has not been inspected in the last 6 months, send an email requesting an inspection at the next port served by a PMO (*liaise with overseas PMOs as necessary*).
- Check that the Pub 47 metadata record on E-SURFMAR database is present and up to date for all allocated ships. Request download if not available.
- Check that allocated ships are listed correctly on Dirkzwager S2R. Add 'Assistance Required' requests when appropriate
- When monthly feedback/monitoring reveals a problem with the met instruments, arrange for replacement instruments or stationery to be sent to ships operating overseas



Upgrading VOS to VOSClim

Concept of Remote PMO Inspections

Each month the PMO will perform the following actions for their assigned ships..

- Check monthly QC monitoring lists and send follow up emails to any ships that have been flagged as suspect
- Send routine email to ships that have not been inspected in last 6 months requesting that they download all TurboWin logs
- Provide monitoring feedback to the owner/manager of the allocated shipping company on the performance of the ships in their fleets (in liaison with HQ)
- Despatch or present awards to observers and Excellent Award certificates to top performing ships
- Email all ships that have not been inspected during the previous year to request a muster form check list be completed detailing the condition of the instruments
- Arrange annual visit to UK based shipowners to discuss fleet performance over last year (*aiming for Jan-Mar meetings*)
- Email to be sent to all ships that have failed to submit any observations during the previous year requesting recovery of instruments and advising of withdrawal from VOS fleet

Questions



Do we need an international inspection system ? - Discuss