

VOSclim Report – Implications for the VOS

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Report of the VOSClim Task Team

Future of VOSClim

The Task Team and its scientific advisers recommend that.....

- The 'Project' Status of VOSClim should be ended
- The benefits of VOSClim should be applied to the wider VOS
- The principles of the VOSClim data flow should apply to the whole VOS (subject to TT-DMVOS work)
- VOSClim should be fully integrated into the VOS Scheme as a separate category of VOS within the context of Pub 47 metadata



Report of the VOSClim Task Team

Implications for the VOS

- The Task Team on WMO Pub 47 have accepted the proposal to introduce VOSClim (VOS Climate Reference Ship) as a separate category of VOS within the context of Pub 47 metadata
- Criteria are therefore needed so that VOS operators and PMOs can determine which VOS can be upgraded to the new VOSClim category



Report of the VOSClm Task Team

Implications for the VOS

- The main criteria will of course be the requirement for ships to be able to collect the additional code elements that were set for the VOSClm project (*in delayed mode IMMT3 format, but possibly in real time in the future*)
- For ships equipped with TurboWin this is simply a matter of ticking a check box and requesting the observer to add a couple of extra items of information at each observation (*i.e. max height of deck cargo and difference between summer load line and water line*)



Report of the VOSClm Task Team

Implications for the VOS

additional VOSClm code elements..

- HDG Ship's heading; the direction to which the bow is pointing referenced to true North
- COG Ship's ground course; the direction the vessel actually moves over the fixed earth and referenced to True North
- SOG Ship's ground speed; the speed the vessel actually moves over the fixed earth.
- SLL Maximum height in meters of deck cargo above summer maximum load line.
- s_{Lhh} Departure of reference level (summer maximum load line) from actual sea level.
- RWD Relative wind direction in degrees off the bow
- RWS Relative wind speed reported in reported in either whole knots or whole units indicated by i_w (knots or m/s)



Report of the VOSClim Task Team

Proposed criteria for upgrading selected VOS to VOS Climate ships

- Observations should be [proven to be] of good [high] quality;
- How ? On basis of real time monitoring or subjective judgement
- Observations should be submitted on a regular basis – [ideally] [at least 300 observations per year];
- Some good manually reporting ships wont achieve 300 due to trading patterns
- The additional VOSClim elements [must] be available in the delayed mode observation, [and if possible should also be available in the real time message];
- Non negotiable (elements to be integrated into BUFR and real time messages)
- [Real time observations should be submitted in a timely fashion and within forecast model cut off times];
- How – all observations within HH+120 ?
- Meteorological Instruments should be in compliance with WMO Pub 8 standards etc and be routinely checked, replaced or re-calibrated to maintain data quality;
- How – do we need to develop a list of compliant instruments ?



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Proposed criteria for upgrading selected VOS to VOS Climate ships

Met Office

- Instruments and sensors should be well exposed and supported by digital images or basic drawings of the arrangements. Exposure should not adversely impact on the quality of the observations;
 - *Need for full metadata & somewhere to store the images*
- Metadata records should be maintained up to date in accordance with the latest version of WMO Pub 47, and should be submitted by National Met Services to WMO at quarterly intervals [together with the associated digital images required for VOSClim ships];
 - *Need for full metadata & somewhere to store the images*
- Delayed mode IMMT log files containing the additional VOSClim elements should be downloaded from manually reporting ships, and from AWS systems, at routine intervals [Ideally not exceeding every [6] months];
 - *Requires PMO visits or routine download by ships officers*
- Manually reporting ships [should] [must] be equipped with a suitable electronic logbook capable of coding and logging the delayed mode VOSClim elements;
 - *Non Negotiable*



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Implications for the VOS

Proposed criteria for upgrading selected VOS to VOS Climate ships

- VOSClim ships fitted with AWS systems [should] [must] be capable of logging [or, If possible, transmitting] the additional delayed mode VOSClim elements;
- Non Negotiable
- All visual and measured elements currently prescribed in the ship code message (FM-13) should be included, whenever possible;
- Negotiable?
- National Met Services that recruit VOS Climate ships, or upgrade existing VOS to VOSClim standards, [shall] ensure that delayed mode IMMT data containing the additional VOSClim elements is quality controlled and submitted to the GCC's on a quarterly basis;
- Non Negotiable?
- PMO Inspections of VOSClim ships should be undertaken on a regular basis [whenever possible] [ideally at [3] [6] monthly intervals].
- Negotiable - Would limit participation. Need for increased PMO Co-operation



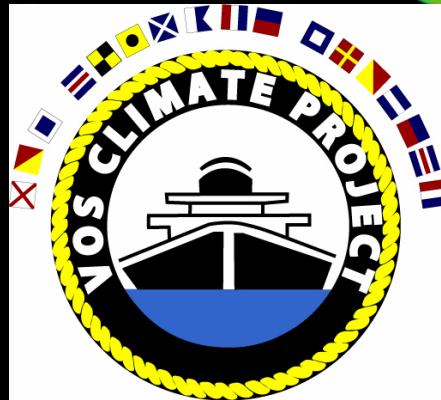
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Implications for the VOS

- From the Scientific analysis point of view the main aim should be to upgrade as many VOS to the new VOS Climate category as possible, and as soon as possible

[caveat – RTMC being able to continue to provide the associated model values with each observation and monitoring data, and the DAC (and ICOADS) willing to continue to act as the main data repository]

- Once the criteria have been agreed it is suggested that WMO should issue a formal letter to all VOS operators and PMOs urging them to upgrade ships at the earliest opportunity



Questions

