

WORLD METEOROLOGICAL ORGANIZATION

---

INTERGOVERNMENTAL OCEANOGRAPHIC  
COMMISSION (OF UNESCO)

---

JOINT WMO/IOC TECHNICAL COMMISSION FOR  
OCEANOGRAPHY AND MARINE METEOROLOGY  
(JCOMM)

SHIP OBSERVATIONS TEAM (SOT)

SEVENTH SESSION

VICTORIA, CANADA, 22-26 APRIL 2013

SOT-7/ Doc. 9.1.2  
(21.03.2013)

---

ITEM: 9.1.2

Original: ENGLISH

## REAL-TIME MONITORING CENTRE (RTMC) FOR THE VOS CLIMATE (VOSCLIM) DATA MONITORING REPORT

*(Submitted by Colin Parrett (United Kingdom), RTMC)*

---

### Summary and purpose of the document

This document provides a status report on the progress made by the VOSClim data Real Time Monitoring Centre (RTMC) since SOT-6.

---

### ACTION PROPOSED

The Team will review the information contained in this report, and comment and make decisions or recommendations as appropriate. See part A for the details of recommended actions.

- 
- Appendices:**
- A. VOSClim suspect ships in February 2013
  - B. Monitoring criteria for VOSClim suspect ships
  - C. Proposed new monitoring criteria for VOSClim suspect ships

**- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT**

**9.1.2 Real-Time Monitoring Centre (RTMC) for the VOSClim project monitoring report**

9.1.2.1 Ms Sarah North reported on the activities of the Real-Time Monitoring Centre (RTMC) for the VOS Climate (VOSClim) data, which is operated by the Met Office, United Kingdom. The RTMC continues to produce monthly suspect lists and monitoring statistics for all project ships, using the ship lists maintained on the VOSClim website. An example of the suspect list for February 2013 can be seen in *Appendix A* and the monitoring criteria are given in *Appendix B*.

9.1.2.2 Following action 102 from SOT-6, regarding tightening the suspect criteria for VOSClim ships, the Met Office suggested new values shown in *Appendix C*, with tighter criteria for automatic ships. The Team agreed that these values were set at appropriate levels.

9.1.2.3 The Team noted that, as requested at SOT-6, the Met Office has been sending the VOSClim suspect lists and the lists of statistics to the JCOMMOPS mailing lists (PMO and VOS) since mid-2011.

9.1.2.4 The Team also noted that, as agreed at SOT-6, the Met Office had extended the BUFR data sent to the Data Assembly Center (DAC) in 2011, from just the VOSClim ship data, to encompass all ship and buoy reports and their co-located model field values. The Met Office continues to put a backup copy of the daily VOSClim BUFR data onto their FTP server, so that it is available for the DAC to access in case of problems with the GTS data.

**The meeting decided on the following action items:**

- (i) RTMC to start using the new monitoring criteria (**action; RTMC; January 2014**);
- (ii) PMOs to contact ships on monthly suspect lists to rectify any problems (**action; PMOs; ongoing**).

---

Appendices: 3

## APPENDIX A

## VOSCLIM SUSPECT SHIPS IN FEBRUARY 2013

---

Callsign	Element	NumObs	%GE	StdDvn	Bias	RMS
9HA2415	PMSL	37	0	1.2	2.5	2.7
A8JR6	PMSL	32	3	2.3	2.5	3.4
PCAW	PMSL	46	0	0.6	-6.8	6.9
VAAZ	T	124	84	3.7	-12.4	12.9
VOLG	T	353	39	1.1	-0.5	1.2
ZQDI9	T	60	0	2.0	2.3	3.1
CG3029	RH	114	0	9.8	16.6	19.3
CGBN	RH	61	0	10.2	19.0	21.6
D5BR6	RH	44	0	9.9	13.8	17.0
MZFC6	RH	60	0	11.0	15.5	19.0
OXHY2	RH	47	0	15.6	12.2	19.8
VAAZ	RH	71	0	7.3	29.8	30.7
VRYO3	RH	103	0	9.6	23.3	25.2
ZCDU9	RH	53	0	6.8	14.2	15.7
MSTM6	SPEED	57	11	4.2	0.9	4.3
OYVL2	SPEED	20	10	3.2	-0.2	3.2
VAAP	SPEED	256	16	5.4	5.2	7.5
9HA2415	DIRN.	25	0	66.9	-3.0	66.9
LAI5	DIRN.	31	6	68.2	-54.3	87.2
LAMG7	DIRN.	23	0	34.2	-31.1	46.2
MYSU5	DIRN.	26	0	88.9	-25.6	92.5
MZIU7	DIRN.	23	0	63.5	-4.0	63.7
VAAP	DIRN.	180	22	96.2	41.7	104.9
WBP3210	DIRN.	124	1	62.7	-0.6	62.7
WCX7445	DIRN.	59	0	51.7	34.3	62.0
ZCBU5	DIRN.	25	0	120.4	14.3	121.3
A8IP3	SST	27	0	2.0	-2.6	3.2
C6I09	SST	30	7	3.2	2.4	4.0
C6RM7	SST	26	0	1.4	-2.0	2.5
C6YT4	SST	30	3	1.2	2.6	2.9
CGBY	SST	169	0	0.6	2.2	2.3
CGCX	SST	331	0	1.0	2.1	2.4
D5BR6	SST	41	7	2.6	-2.3	3.5
MCLJ8	SST	22	0	1.1	-3.4	3.5
PCAW	SST	46	0	0.7	-2.7	2.7
VRJC9	SST	61	0	0.8	2.6	2.7
VRKJ7	SST	32	0	0.9	2.0	2.2
WBP3210	SST	209	0	1.2	2.3	2.6
WFLG	SST	46	0	1.1	-3.1	3.3
ZQAY4	SST	67	0	0.7	2.1	2.2

**APPENDIX B****MONITORING CRITERIA FOR VOSCLIM SUSPECT SHIPS**

1. For each ship and each variable there should be at least 20 reports during the period (if there are fewer reports the statistics may be unreliable and no action is needed).
2. Then, either:
  - a) The number of gross errors should exceed 10% of the number of observation reports (where the observation-background (o-b) limits for individual gross errors are shown in column 4 of the following table); or,
  - b) One of the limits shown in columns 2 and 3 in the table should be exceeded for either:
    - (i) the mean value of o-b over the period (absolute value), or
    - (ii) the standard deviation of o-b over the period

(1) Variable	(2) Mean o-b limit	(3) Std. Dev. o- b limit	(4) Gross error limit
Pressure (hPa)	2.5	5.0	15.0
Wind speed (m/s)	5.0	10.0	25.0
Wind direction (degrees)	30.0	60.0	150.0
Air Temperature ( <sup>0</sup> C)	2.0	4.0	10.0
Relative humidity (%)	12.0	20.0	50.0
Sea surface temp. ( <sup>0</sup> C)	2.0	4.0	10.0

3. If either of the limits on o-b statistics in columns 2 and 3 are exceeded the project ship's observations will be considered 'suspect' and corrective action will need to be taken (e.g. by the Port Met Officers). Column 4 contains the o-b limits for each ship observation beyond which the observation will be considered to be a 'gross error'.

## APPENDIX C

## PROPOSED NEW MONITORING CRITERIA FOR VOSCLIM SUSPECT SHIPS

1. For each ship and each variable there should be at least **15** reports for **manual** ships and **50** reports for **automatic** ships during the period (if there are fewer reports the statistics may be unreliable and no action is needed).
2. Then, either:
  - a) The number of gross errors should exceed 10% of the number of observation reports (where the observation-background (o-b) limits for individual gross errors are shown in column 4 of the following table); or,
  - b) One of the limits shown in columns 2 and 3 in the following tables should be exceeded for either:
    - (i) the mean value of o-b over the period (absolute value), or
    - (ii) the standard deviation of o-b over the period

(1) <b><u>Manual Ships</u></b> Variable	(2) Mean o-b limit	(3) Std. Dev. o- b limit	(4) Gross error limit
Pressure (hPa)	2.0	4.0	15.0
Wind speed (m/s)	4.0	10.0	25.0
Wind direction (degrees)	25.0	60.0	150.0
Air Temperature ( <sup>o</sup> C)	2.0	4.0	10.0
Relative humidity (%)	12.0	20.0	50.0
Sea surface temp. ( <sup>o</sup> C)	2.0	4.0	10.0

(1) <b><u>Automatic Ships</u></b> Variable	(2) Mean o-b limit	(3) Std. Dev. o- b limit	(4) Gross error limit
Pressure (hPa)	1.5	3.0	15.0
Wind speed (m/s)	4.0	10.0	25.0
Wind direction (degrees)	20.0	50.0	150.0
Air Temperature ( <sup>o</sup> C)	1.5	3.0	10.0
Relative humidity (%)	10.0	15.0	50.0
Sea surface temp. ( <sup>o</sup> C)	1.5	3.0	10.0

3. If either of the limits on o-b statistics in columns 2 and 3 are exceeded the project ship's observations will be considered 'suspect' and corrective action will need to be taken (e.g. by the Port Met Officers). Column 4 contains the o-b limits for each ship observation beyond which the observation will be considered to be a 'gross error'.