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(JCOMM)

SHIP OBSERVATIONS TEAM (SOT)

EIGHTH SESSION

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ITEM: 10.1.2

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REAL-TIME MONITORING CENTRE (RTMC) FOR THE VOSCLIM DATA

(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 VOSClm data Real Time Monitoring Centre (RTMC) since SOT-7.

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.

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- Appendices:**
- A.** VOSClm suspect ships in February 2015
 - B.** Monitoring criteria for VOSClm suspect ships
 - C.** Number of VOSClm ships reporting 2010-2014 by variable
 - D.** Number of VOSClm ships reporting pressure and percentage suspect

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT**10.1.2 Real-Time Monitoring Centre (RTMC) for the VOSClim data monitoring report**

10.1.2.1 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 active VOSClim ship list maintained on the E-SURFMAR ftp site (previously on the VOSClim website).

10.1.2.2 An example of the suspect list for February 2015 can be seen in *Appendix A* and the monitoring criteria are given in *Appendix B*. The number of active VOSClim ships is steadily increasing, as seen in *Appendix C*, which shows the numbers of ships reporting at least 5 reports for each of the 6 variables that are monitored in the month of December for the last 5 years.

10.1.2.3. Following action 108 from SOT-7, the suspect criteria for VOSClim ships were tightened in January 2015 to the new values for manual ships shown in *Appendix B*. The tighter criteria agreed for automated ships have not yet been implemented, due to pressure of other work, for which the Met Office apologizes. (Action: RTMC to start using the new monitoring criteria for automated ships.)

10.1.2.4. The Team noted that the Met Office continues to send the VOSClim suspect lists and the lists of statistics to the JCOMMOPS mailing lists (PMO and VOS). There were 6 ships on the VOSClim suspect list in February 2015, which is 1.8% of the 335 VOSClim ships reporting pressure. The KPI for less than 3% of VOSClim class ships to be flagged on the suspect list for air pressure (action 77) has been met in each month over the last 3 years, as shown in *Appendix D*.

10.1.2.5. Regarding action item 76, in February 2015 there were 335 VOSClim ships out of a total of 1526 VOS ships reporting at least 5 pressure values during the month in real time (within about 6 hours of 00, 06, 12 or 18 UTC). So 22% of VOS ships are also VOSClim by this measure, close to the KPI for 25% of the global active VOS to be upgraded to VOSClim by SOT-8 and similar to the value 2 years ago; although delayed-mode reports are not included in this percentage. (The number of active VOSClim ships listed on E-SURFMAR in February was 491, compared to 3073 active VOS, i.e. just 16.0% of VOS ships are VOSClim by this measure.)

10.1.2.6. In February 2015, 97.5% of VOSClim reports were received within 120 minutes, which exceeded the KPI for at least 95% to be received within 120 minutes (action item 78).

10.1.2.7. The Team also noted that the Met Office continues to send all ship and buoy reports and their co-located model field values to the Data Assembly Center (DAC) and puts a backup copy of the daily 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 BUFR data was upgraded in May 2014 to include some extra variables (e.g. wave height) and the BUFR version was upgraded from 3 to version 4.

10.1.2.8. The Team decided on the following action items:

- (i) RTMC to start using the new monitoring criteria for automated ships (**action; RTMC; Jul. 2015**); and
- (ii) PMOs to contact ships on monthly suspect lists to rectify any problems (**action; PMOs; ongoing**).

Appendices: 4

APPENDIX A

VOSclim suspect ships in February 2015

Callsign	Element	NumObs	%GE	StdDvn	Bias	RMS
C6AV5	PMSL	26	0	1.0	2.6	2.8
OYGR2	PMSL	17	0	4.9	0.3	4.9
PCIH	PMSL	34	0	0.8	-2.0	2.1
TBWUK74	PMSL	30	0	0.5	-4.3	4.3
VOCJ	PMSL	84	10	0.8	-0.4	0.9
VRDW2	PMSL	38	0	2.9	2.3	3.7
2EZE5	T	26	0	2.4	2.9	3.8
BATEU07	T	276	11	0.6	0.0	0.6
CGHL	T	132	0	2.9	-2.0	3.5
PBBB	T	22	0	1.7	2.5	3.0
PDHO	T	40	0	2.1	2.8	3.5
2AUO5	RH	82	0	11.6	14.3	18.5
8PSH	RH	121	0	6.0	13.5	14.7
C6AV5	RH	27	0	12.3	18.0	21.8
DCUJ2	RH	26	0	14.2	-15.4	20.9
DDVK2	RH	72	0	8.7	-13.2	15.8
DQVM	RH	22	0	16.1	13.8	21.2
MYMY6	RH	20	0	4.3	14.6	15.2
OXOS2	RH	25	0	14.2	12.4	18.8
OZCZ2	RH	34	0	13.8	17.4	22.2
PJHA	RH	19	0	8.2	17.2	19.1
TBWUK52	RH	21	0	8.7	28.3	29.6
VCBT	RH	15	0	8.1	29.5	30.6
VCBW	RH	135	5	17.1	-21.7	27.6
ZCDN9	RH	65	0	18.5	-18.5	26.2
ZCEF3	RH	83	0	13.0	-12.7	18.2
DQVM	SPEED	29	0	2.4	-4.4	5.0
MGRL4	SPEED	20	15	3.1	0.1	3.1
VRDW2	SPEED	38	0	5.1	5.5	7.5
C6AV5	DIRN	19	0	58.6	66.9	89.0
C6CU6	DIRN	19	0	35.0	-30.7	46.5
C6NI8	DIRN	39	0	30.6	44.5	54.1
LXSQ	DIRN	16	0	11.9	27.4	29.9
MYSU5	DIRN	15	0	78.0	-29.1	83.3
OZDB2	DIRN	27	0	92.7	10.3	93.3
PBHZ	DIRN	39	0	109.8	0.6	109.8
VRJC9	DIRN	51	0	67.5	29.2	73.5
ZCBP5	DIRN	28	0	25.6	-25.1	35.9
2FGX5	SST	25	0	0.4	2.2	2.2
C6TQ3	SST	31	0	2.0	-2.9	3.5
CGBY	SST	184	0	0.6	2.5	2.6
DJBF2	SST	53	0	0.6	-2.4	2.5
LAMG7	SST	79	0	3.0	-2.5	3.9
TBWUK70	SST	28	0	1.6	-2.4	2.9
V7OE6	SST	35	0	2.4	-2.0	3.1
VCBW	SST	127	0	0.7	2.3	2.4
VCRG	SST	57	0	1.5	3.3	3.6
VRDW2	SST	39	0	0.9	-2.0	2.3
VRJC9	SST	107	0	1.2	2.7	3.0
VRLI7	SST	33	0	0.7	2.4	2.5

APPENDIX B

MONITORING CRITERIA FOR VOSCLIM SUSPECT SHIPS

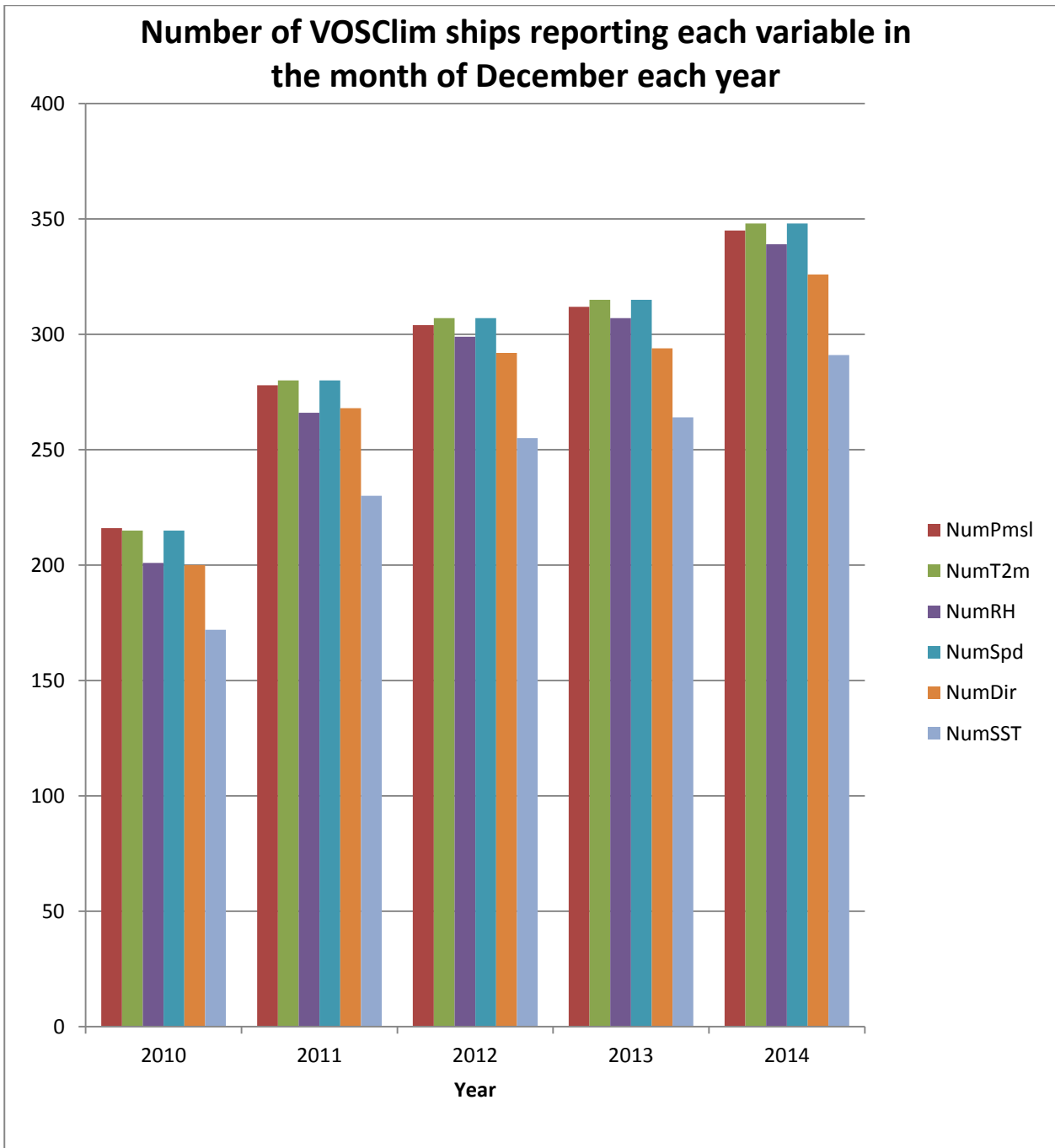
1. For each ship and each variable there should be at least **15** reports for **manual** ships and **50** reports for **automatic** ships during the period (if there are fewer reports the statistics may be unreliable and no action is needed).
2. Then, either:
 - a) The number of gross errors should 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) Manual Ships 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 ($^{\circ}$ C)	2.0	4.0	10.0
Relative humidity (%)	12.0	20.0	50.0
Sea surface temp. ($^{\circ}$ C)	2.0	4.0	10.0

(1) Automatic Ships 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 ($^{\circ}$ C)	1.5	3.0	10.0
Relative humidity (%)	10.0	15.0	50.0
Sea surface temp. ($^{\circ}$ 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'.

APPENDIX C



APPENDIX D

Number of VOSCLim ships reporting pressure and 'suspect' percentage each month

