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

SHIP OBSERVATIONS TEAM (SOT)

SEVENTH SESSION

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REPORT BY THE VOSP ACTING CHAIRPERSON

(Submitted by Sarah North (United Kingdom), acting VOSP Chairperson)

Summary and purpose of the document

This document contains a brief report by the acting VOS Panel Chairperson during the last intersessional period and highlights some of the significant issues for consideration by the VOS Panel.

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. VOS Panel Terms of Reference
B. List of ships that operated in Antarctica during the 2012/13 season

- A - DRAFT TEXT FOR INCLUSION IN THE FINAL REPORT

7.1.1.1 The acting Voluntary Observing Ship (VOS) Panel (VOSP) Chairperson, Ms Sarah North (United Kingdom), opened the eighth Session of the VOS Panel. She reported on activities undertaken during the last intersessional period by her predecessor, Ms Julie Fletcher (New Zealand) during the period April 2011 to September 2012, and by herself during the period January 2013 to April 2013.

7.1.1.2. Ms North commented that the VOS scheme was going through a period of considerable change with several VOS operators deciding to substantially increase the level of automation of their ships and, in parallel, reducing the size of their manually reporting fleets. This would inevitably have an impact and the number of manually reporting ships actively participating in the Scheme was already in decline. Whilst the quality and number of observations was set to rise with the automatic systems transmitting hourly data, the range of parameters was likely to decrease with fewer observers reporting the traditional visual elements.

7.1.1.3. The financial pressures being experienced by National Meteorological Services in recent years were also having an impact on the ability to fully resource and re-supply observing ships with the instruments necessary to make and transmit their observations. On a cost per observation basis it could be substantially cheaper and cost effective to maintain an automatic fleet.

7.1.1.4. As a consequence of such changes it was also likely that the traditional Port Meteorological Officers role would change to reflect the growing need for technical skills to maintain and repair automated systems. This in turn would have an impact on the availability of traditional PMOs to inspect ships recruited by overseas VOS operators.

7.1.1.5. Despite these pressures the VOSP Chair reported that the availability of pressure observations continued to rise year on year. Similarly the number of ships recruited to VOSclim class continued to rise, although more effort was needed in this area to ensure a sufficient volume of observations to permit meaningful climate studies. The VOS chair was pleased to report that the KPI targets set at the last session had been met.

7.1.1.6. In discussing this issue the VOSP Chair suggested that there was a need to develop smarter metrics to accurately assess the quality of the observed parameters at both the national and international level. For instance, bearing in mind that air pressure Root Mean Square (RMS) values for automatic systems were currently substantially better than those being reported by manual observers, she proposed that such information on air pressure quality should be made available to future SOT sessions in order to help determine the most appropriate instruments to be used and the best practices to follow (**action; RSMC; SOT 8**).

7.1.1.7. Because the nature of traditional PMO and VOS operations is undergoing change the VOS Chair suggested that more clearly defined metrics were needed in order to be able to analyse the true status of the VOS Scheme. In this respect she proposed that the VOS component of the annual SOT reports should be enhanced to capture more information on Port Meteorological Officer (PMO) inspection activities and to distinguish clearly between the number of manned and automated observations. The report could also be used to capture information on the transmission systems used for sending manual VOS observations e.g. the numbers of ships using email or Code 41. Such changes combined with the recent appointment of a new SOT coordinator at the JCOMM *in situ* Observations Programme Support Centre (JCOMMOPS) opened up the possibility of compiling metrics and graphs which would allow the SOT community to have a clearer snapshot of the actual status of the VOS thereby assisting with strategies for the future evolution of VOS operations. The Panel agreed with the proposal that the VOS report should be revised in readiness for the 2013 Report (**action; VOSP & SOT Chairs; SOT TC; Nov. 2013**).

7.1.1.8. In addition to compiling metrics based upon the annual national VOS reports there was a need to have up to date maps showing the monthly network status, density and geographical distribution of VOS, VOS Climate (VOSclim) and Automatic Weather Station (AWS)

observations in order to be able to better target the efforts of VOS operators in the future. It was noted that JCOMMOPS were already developing such improved tools for the VOS community and it was hoped that these would soon be available on a permanent JCOMMOPS web page (**action; SOT TC; ASAP**).

7.1.1.9. The VOSP Chair also reported that the level of information being reported in the 2012 annual VOS reports was very variable, and encouraged VOS Focal points to endeavour assign time to complete the 2013 reports to the best of their ability, including information that could be of interest to their VOS colleagues in other countries (**action; VOS Focal Points; Mar. 2014**).

7.1.1.10. Although take up to Ancillary Pilot Project had so far been very slow the VOSP Chair suggested that it offered an opportunity to significantly enhance the volume of marine observations, particularly in data sparse areas, although it was recognized that the quality of observations was likely to suffer as a consequence. Whilst having an Ancillary self-monitoring support fleet would reduce the pressure on PMO resources it would still need some oversight to ensure it is operating in accordance with the expected standards. The SOT Coordinator could have a role to play in this regard e.g. checking that metadata is being collected and that the companies concerned are providing feedback on data quality. *[This will be further considered under agenda item 7.3.1]*

7.1.1.11. The VOS Chair also stressed the need to recruit VOS to fill data voids. One notable such area was the Southern Oceans and Antarctica. Traditionally only a few research ships were providing consistent data in such areas and there were limited opportunities for recruitment and inspection of other ships operating in this area. In this respect the Panels attention was drawn to the website maintained by the Scientific Community on Antarctic Research (SCAR) Expert Operational Meteorology in the Antarctic¹, which lists the names and call signs of ships that are known to have made meteorological observations in Antarctica during the 2012/13 season. In addition the website lists ships, yachts and launches that are known, or suspected, to have visited Antarctic waters but which didn't submit any weather observations (Appendix B). The VOS Chair encouraged the VOS Panel Focal Points to make determined efforts to recruit ships that operate in these waters to the VOS Scheme or to consider installing AWS systems on suitable ships (**action; VOS FPs and PMOs; ongoing**).

7.1.1.12. Another initiative that had potential to enhance observations in data sparse areas was the VOS Drifter donation programme which aimed to encourage the development of new VOS programmes based in developing countries. Although take up to this programme had been initially disappointing some new opportunities had recently arisen, particularly in connection with the Pacific Partnership 2013 Mission. *[A status report on this initiative will be made under agenda item 7.2.7]*

7.1.1.13. The VOSP Chair reported that the range and capability of VOS quality monitoring tools had continued to improve over the last few years making it much easier for PMOs to provide prompt feedback to observers. However there remained scope for further improvements. In particular there was scope to redevelop the JCOMMOPS Quality Information Relay (QIR) feedback mechanism which was under-utilised at present. The SOT Technical Coordinator (TC) was invited to consider how this system, and its interface, could be improved as a feedback service to report systematic coding or transmission problems (**action; SOT TC; end 2013**).

7.1.1.14. The VOSP Chair also suggested that this was an appropriate time to further the aims of the VOS within the International Maritime Organisation (IMO). Recent developments within IMO to develop an e-navigation strategy was likely to open up the possibility of meteorological data being integrated more closely with ships systems, such as the use of Automatic Identification System (AIS) to transmit meteorological observations.

7.1.1.15. The meeting made the following recommendations:

1 http://www.antarctica.ac.uk/met/jds/met/SCAR_oma.htm

- (i) That the VOS report should be revised to include PMO activity information and other metrics that will be helpful in monitoring VOS performance and formulating future SOT decisions (**action; VOSP & SOT Chairs, SOT TC; Nov. 2013**); and
- (ii) That the SOT Coordinator should oversee the performance of the Ancillary VOS (e.g. checking that metadata is being collected and that the companies concerned are providing feedback on data quality) so that a decision can be made on the need for a new Ancillary Class at SOT-8 (**action; SOT Coordinator; end 2013**).

- B - BACKGROUND INFORMATION

Sadly the sudden demise of our dear friend and colleague and previous VOS chair made it difficult to compile a report on her activities post SOT 6. With Julie's kind blessing, I agreed to act as Chair for this current session.

1. Significant Tasks undertaken by the Acting VOS Chair during the intersessional period:

- (i) I represented SOT at the WOC at the World Ocean Council (WOC) Smart Ocean/Smart Industries Workshop, (UNESCO-IOC, Paris, and 12-13 December 2011). The meeting brought together more than 70 representatives from a range of ocean industries, along with representatives from government agencies, intergovernmental organizations and academic institutions involved in ocean and climate observations. I also attended an informal follow up meeting with WOC at the Oceanology Conference (London 15 March 2011);
- (ii) I represented the SOT Chair in a teleconference aimed at navigating the future of JCOMMOPS, to ensure the constituent panels continue see value in engaging in JCOMMOPS and its infrastructure for sustained ocean observations. The meeting also addressed JCOMMOPS staff resource issues and the proposed relocation of JCOMMOPS to Brest;
- (iii) I made a presentation to shipowner associations at the International Chamber of Shipping (ICS) in London (5 July 2011) seeking increased participation in the VOS Scheme and, in particular, seeking their support for the SOT generic Ship design recommendations;
- (iv) I attended a meeting with Inmarsat and IMSO representatives at IMSO HQ in London on 20 October 2011 to consider, inter alia, the future of Inmarsat two digit Special Access Codes; and
- (v) I extracted the ship AWS and electronic logbook information from the national Annual SOT and VOS reports to gather trends on the increasing use of automation.

2. I also actively participated in several Task Teams as described below:

(i.) Task Team on VOS Recruitment and Programme Promotion:

As Acting Chair of this Task Team I compiled a comprehensive report and proposed several new initiatives to help promote the VOS Scheme. This involved;

- a) Liaising with the Secretary General of ICS to encourage shipowner involvement in the Generic Ship Design Recommendations;
- b) Liaising with the VOSCLIM FP , DAC and VOSCLIM Scientific Advisers regarding

- upgrading of VOS to higher VOSClim standard;
- c) Providing input the new VOS Brochure; and
- d) Proposing various new initiatives e.g. VOS Brochure, VOS Questionnaire, use of social media to promote the VOS etc.;

(ii.) Task Team on Instrument Standards:

Assisting with revision of sections of WMO Pub No 8 and provision of national input;

(iii.) Task Team on Satellite Communication Systems:

Provided input to the TT Chair on Inmarsat proposals to discontinue Special Access codes etc.;

(iv.) Task Team on Metadata for WMO Publication No. 47:

Made several proposals for amendments to metadata fields e.g. humidity sensor calibration dates;

(v.) Task Team on Callsign Masking and Encoding:

Provided input when requested;

(vi.) Task Team on the Automated Shipboard Aerological Programme:

Input provided through membership of the E-ASAP.

3. In addition to the above, numerous significant Tasks undertaken by the previous VOS Chair, Julie Fletcher, during the intersessional period including participation on the Task Team on VOS Recruitment and Programme Promotion, the Task Team on Instrument Standard, and the Task Team on Metadata for WMO no 47.

Julie was instrumental in setting up the VOS Ancillary Pilot Project and also acted as Chair of the VOS Drifter Donation (VOS-DP) Programme Evaluation Committee. She also took the lead role in updating the VOS Brochure and provided input to the Review of WMO Publication No 8, Part II, Chapter 4, Marine Observations.

Julie also participated in the Joint WMO-IACS/IMO Conference on Extreme Seas: Improving Wave Observations, Maritime Safety and Ship Design (WMO Geneva 4 – 5 October 2011); and

4. A review of the status of actions assigned to the VOSP Chair at SOT-6 will be made at the meeting.

APPENDIX A

VOS PANEL TERMS OF REFERENCE

(Excerpt of Annex to Resolution 3 (JCOMM-4), Terms of Reference and General Membership of the Coordination Group and Teams of the Observation Programme Area)

The Voluntary Observing Ship (VOS) Panel shall:

- (a) Review, recommend and coordinate the implementation of new and improved specialized shipboard meteorological instrumentation, siting and observing practices, as well as of associated software;
 - (b) Support the development and maintenance of new pilot projects;
 - (c) Oversee the upgrade of ships to VOSClim standard, and encourage other new ships to be recruited to the VOSClim class;
 - (d) Develop and implement activities to enhance ship recruitment, including promotional brochures and training videos;
 - (e) Prepare annually a report on the status of VOS operations, data availability and data quality.
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APPENDIX B

List of ships that operated in Antarctica during the 2012/13 season, with call signs and names.

The SCAR and WMO request that all ships operating in Antarctic waters should make meteorological observations and report them on the GTS.

The following ships, which entered Antarctic waters in 2012/2013, made meteorological reports, they may have reported from outside Antarctic waters after the date given here. For most ships the 2012 season begins in November or December. Country is the country of recruitment to the VOS, or where not known of registration. Monitoring is manual and may miss some ships.

Call sign	Name	Country	Arrive	Depart	latest obs
9HJD9	Celebrity Infinity (Tourist)	USA	2013 February		2013 February
C6JC3	Bremen (Tourist)	Germany	2012 November	2013 February	2012 December
C6TE3	Orion (Tourist)	Bahamas	2013 January		2013 February
CCAQ	Aquiles (Supply)	Chile	2013 February		2013 February
CCOV	Oscar Viel (Supply)	Chile	2013 January		2013 February
DBLK	RV Polarstern (Research)	Germany	2012 December		2013 February
FHZI	L' Astrolabe (Supply)	France	2012 October		2013 February
FLSY	Le Boreal (Tourist)	France	2012 December		2013 February
GXRK	HMS Protector (Hydrographic)	UK	2012 November		2013 February (5)
JPAT	Umitaka Maru (Fisheries research)	Japan	2013 January		2013 January
OXGN2	Mary Arctica (Containership)	Denmark	2012 December		2013 January
PBGH	Prinsendam (Tourist)	Netherlands	2013 February		2013 February
PBQK	Plancius (Tourist)	Netherlands	2012 November		2013 February
PDZS	Europa (Ice strengthened tall ship)	Netherlands	2012 December		2013 February (8)
PHEO	Veendam (Tourist)	Netherlands	2013 January		2013 February
UCKZ	Akademik Fedorov (Research)	Russia	2012 December		2013 February
VNAA	RV Aurora Australis (Supply)	Australia	2012 September		2013 February
WBP3210	Nathaniel B. Palmer (Oceanographic)	USA	2012 August		2013 February
WCX7445	Laurence M. Gould (Oceanographic)	USA	2012 June		2013 February
WDG4379	Ocean Giant (Cargo)	USA	2013 February		2013 February
WHKM	Maersk Peary (Oil Tanker)	USA	2013 February	2013 February	2013 February
ZDLP	RRS James Clark Ross (Research)	UK	2012 November		2013 February (7)
ZDLS1	RRS Ernest Shackleton (Supply)	UK	2012 December	2013 January	2013 February (4)
ZMFR	RV Tangaroa (Research)	New Zealand	2013 February		2013 February
ZSNO	SA Agulhas II (Supply)	South Africa	2012 December		2013 February

1. Reports via yotreps, not in WMO format.
3. No Antarctic reports, but ship's track suggests that she entered Antarctic waters.
4. AWS transmits with call sign AMOUK01
5. AWS transmits with call sign AMOUK20
6. AWS transmits with call sign BATEU00
7. AWS transmits with call sign AMOUK40
8. AWS transmits with call sign OSCFR05

The following ships, yachts and launches are known or suspected to have visited Antarctic waters in 2012/2013, but no reports were received (most records are via Palmer AIS) :

Call sign	Name	Country	Arrive/Present	Present/Depart	Comment
UAUN	Akademik Ioffe (Tourist)	Russia	2012 November	2013 February	
UAUO	Akademik S. Vavilov (Tourist)	Russia	2012 December	2013 February	
UBXH3	Akademik Tryoshnikov (Research)	Russia	2013 February		
PWPM	Almirante Maximiano (Navy ice breaker)	Brazil	2012 December	2013 February	
PWAR	Ary Rongel (Navy ice breaker)	Brazil	2012 December		
CCLA	ATF Lautaro (Supply)	Chile	2012 November	2013 February	
C6MA9	Arctic P (Yacht)	Bahamas	2013 January		
9HOM8	Azamara Quest (Tourist)	Malta	2013 January		Reporting in February
5VBR5	Bob Barker (NGO)	Netherlands	2013 February		News report
V7WD8	Corinthian II (Tourist)	Marshall Is	2012 December	2013 February	
C6ZV6	Delphin (Tourist)	Bahamas	2013 January	2013 February	
ZCDZ4	Erica XII (Sloop)	Bermuda	2013 January	2013 February	
A8QL4	Expedition (Tourist)	Liberia	2012 November	2013 February	
LADA7	Fram (Tourist)	Norway	2012 November	2013 February	
BAOC	Fu Rong Hai (Trawler)	China	2013 February		
C6OX6	Hamburg (Tourist)	Bahamas	2012 December	2013 January	
V2EI4	Hanse Explorer (Tourist)	Antigua	2013 January	2013 February	

C6KA9	Hanseatic (Tourist)	Bahamas	2013 January		
ZCYH4	Hortense (Yacht)	Cayman Is	2013 January	2013 February	
ZCRY8	Icebird (Yacht)	Cayman Is	2013 January		
2ENT7	James Caird IV (Survey Boat)	UK	2013 January		From HMS Protector
FLTU	L'Austral (Tourist)	W & F	2012 November	2013 February	
C6WR2	National Geographic Explorer (Tourist)	Bahamas	2012 November	2013 February	
2FZX2	Nimrod (RIB)	UK	2013 January		From HMS Protector
JJCJ	Nisshin Maru (Whaler factory ship)	Japan	2013 February		News report
C6ZR5	Ocean Diamond (Tourist)	Bahamas	2012 November	2013 February	
C6US3	Ocean Nova (Tourist)	Bahamas	2012 November	2013 February	
5BMC3	Ortelius (Tourist)	Cyprus	2012 December	2013 January	
MWSE2	Pakea Bizkaia (Yacht)	UK	2013 January		
UBST	Polar Pioneer (Tourist)	Russia	2012 November	2013 February	
WSC2276	Point Sur (Dive Vessel)	USA	2013 January	2013 February	
LOPD	Puerto Deseado (Yacht)	Argentina	2013 February		
LW2760	Quijote (Yacht)	Argentina	2013 February		
VJN4108	Sam Simon (NGO)	Australia	2013 February		News report
DPRL	Sarah W Vorwerk (Yacht)	Germany	2012 December	2013 January	
L2EE	SB 15 Tango (Tug)	Argentina	2013 January	2103 February	
C6PG6	Sea Adventurer (Tourist)	Bahamas	2012 November	2013 February	= Clipper Adventurer
C6PJ8	Sea Spirit (Tourist)	Bahamas	2012 November	2013 February	
PHDD	Sherakhan (Yacht)	Netherlands	2013 February		
JFCF	Shonan Maru #2 (Whaler)	Japan	2013 February		News report
C6TA8	Silver Explorer (Tourist)	Bahamas	2012 November	2013 February	= Prince Albert II
GUMF	Steve Irwin (NGO)	Netherlands	2013 February		News report
LOCS	Suboficial Castillo (SAR)	Argentina	2013 January		
3ETH2	Sun Laurel (Tanker)	Panama	2013 February		News report
V7MH7	MY Suri (Yacht)	Marshall Is	2012 December	2013 January	
D6FH2	Ushuaia (Tourist)	Comoros	2012 December	2013 February	
OS8477	Vaihere (Yacht)	Belgium	2013 February		
2FZX4	W1 (Launch ?)	UK	2013 January		From HMS Protector
2FZX5	W2 (Launch ?)	UK	2013 January		From HMS Protector
BNSK	Xue Long (Supply)	China	2012 November	2013 February	
2FZW8	Yelcho (FRC)	UK	2012 December	2013 January	From HMS Protector
JPPV	Yushin Maru #2 (Whaler)	Japan	2013 February		News report
	Yushin Maru #3 (Whaler)	Japan	2013 February		News report

A list of IAATO member vessels that may visit Antarctica is at

<http://apps.iaato.org/iaato/vessel/listVessels.jsp>.

The following ships may operate in Antarctica, but are not positively known to have done so in 2012/13. The latest report is either the date of any noted on the GTS or the last time the ship was known to be in Antarctic waters, but may not be definitive as this section is updated on an ad-hoc basis:

Call sign	Name	Country	Last Antarctic report	Last in Ant.	Latest obs
MLRM6	RRS James Cook (Research)	UK	2010 December	2011 February	2013 January BATUK00
KS085	[Seakeepers AWS]	USA	2010 December	2011 January	2011 January
KS094	[Seakeepers AWS]	USA	2010 December	2011 January	2011 January
KS045	== USCGC Polar Star ?	USA			
	Ady Gil (NGO)	New Zealand	2010 January		Sank after collision
ZSAF	Agulhas (Supply)	South Africa	2011 December	2012 February	2012 November
LOAI	Almirante Irizar (Supply)	Argentina	2007 April	(Severely damaged by fire)	
ALTEGO	ALTEGO (Yacht)				
UIFV	Amderma (Cargo)	Russia	2009 February		[2009 March]
PBAD	Amsterdam (Tourist)	Netherlands	2012 February	2012 February	2013 January
HPSF	Antarctic Dream (Tourist)	Panama		2007 November	
HQXJ2	Antarctic Dream (Tourist)	Honduras	2011 November	2012 March	
DSQL7	Araon (Research)	Korea	2011 December	2011 December	2012 October Rescue UAGL
ZHHJ	Argos Georgia (Trawler)	Norway/St Helena		2007 December	(Trapped in pack)
PCVX	Atlasgracht (Cargo)	Netherlands	2010 March		
OS3169	Aura (Yacht)	Netherlands ?	2009 December	December	December (1)
9HOB8	Azamara Journey (Passenger)	Malta	2012 January		
KG6FYM	Balaena (Yacht)	USA	2009 February		
V7UH7	Big Fish (Pleasure)		2011 January		
YJS8016	Bona Terra (Yacht)			2008 January ?	
LOCB	Canal Beagle	Argentina	2012 January		
UBRF9	Chiyo Maru 3 (Trawler)	Russia	2011 December		Nearby UAGL
9HUT9	Clelia II	Malta	2011 January	2011 February	
GTAB	Cordella				

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KB9TYM	Cowrie Dancer (Yacht)			2007 March *		
ZCTD	Deniki (Pleasure yacht)	Cayman Is		2011 December	2012 January	
DMMC	Deutschland (Tourist)	Germany		2010 February		
A8DU3	Emerald Sea	Liberia			2008 January ?	2007 December*
KI6KYZ	Errance (Yacht)			2008 February	2008 February	2008 May *
PD6464	Espérance (NGO)	Netherlands			December – February ?	
FIOH	Espirit d'equipe (Yacht)				2008 January ?	
FIOH	ESPRIT D' EQUIPE (Yacht)					
OR2937	Euronav Belgica (Yacht)				2008 January ?	
ELJD8	Explorer (Tourist)	Liberia			2008 November (Sank)	
ZCSD6	Farley Mowat (NGO)	Canada			(2007 February)	
FLES	Fleur Australe	France		2012 January	2012 February	
LMEL	G O Sars (Oceanographic)	Norway		2008 March	2008 March	2012 December
UGXK	Geo Arctic					
	Gojira (NGO)			2011 January		News report
	Golden Fleece (Yacht)				2009 January	
ZCDA9	Golden Princess (Tourist)	UK		2007 January		2013 January
2CEK7	Happy Thaurus	UK		2012 January		
EBBW	HESPERIDES (Yacht)					
GXRH	HMS Endurance (Hydrographic)	UK		2008 November		[Damaged by flooding]
GCUP	HMS Scott	UK		2011 February		
UIFC	Igarka (Cargo)	Russia		2010 January		
V7DM2	Insignia	Marshall Is		2011 January		
FHNR	Isatis (Yacht)	New Caledonia		2010 December	2011 February (1)	2011 April (1)
ICSI	Italia	Italy				
UCJE	Ivan Papanin (Container ship)	Russia		2011 November		(3)
DSEC	Joides Resolution (Research)	USA		2010 February		
	Kaiko Maru (Whaler)	Japan			2008 December	
UCJP	Kapitan Dranitsyn	Russia		2011 January	2011 February	2012 March
UGSE	Kapitan Khlebnikov (Tourist)	Russia		2009 November	2009 March	News report: stuck in ice
2CLQ7	Katharsis II (Yacht)			2011 February		
V2ZV5	Kotik (Yacht)				2008 January ?	
UIFY	Krasin (Supply)	Russia		2008 April		2009 January
	Kyoshin Maru (Whaler)	Japan			2008 December	
FZY1954	La Francoise (Yacht)	France		2011 January	2011 January (1)	
LGKI	Lance	Norway				
EBDG	Las Palmas (Tug)	Spain		2011 December	2012 March	
VSBL5	Licorne (Yacht)	Bermuda		2011 January		
V2ZS3	Mago del Sur (Yacht)				2008 January ?	
UDYN	Maksim Starostin (Trawler)	Russia		2010 March		
C6JZ7	Marco Polo (Tourist)	Bahamas		2008 January	2008 January	2008 January
UFKU	Marina Cvetaeva (Passenger)	Russia		2011 January	2011 March	
WDF4078	Moana Wave (Research)	USA		2011 March		
LAVT4	MV Polar Bird					
ZCIS	My Octopus	Cayman Is		2011 February		
OXVH2	Naja Arctica (Neumeyer rebuild)	Denmark			December/January	Oct*
C6BE4	National Geographic Endeavour (Tourist)	Bahamas		2007 November		
VREI	New Zealand Pacific					
JWPE3	Nordkapp (Tourist)	Norway			(2007 Jan 31) #	
JWPC3	Nordnorge (Tourist)	Norway			2007 November	
ZMA2126	Northanger (Yacht)				2008 January ?	
VNTG	Oceanic Viking (Customs)	Australia			2008 January - April	
SMLQ	Oden (Oceanographic)	Sweden		2010 December	2011 February	2012 September
IXWQ	OGS Explorer	Italy				
FT8587	Okole Ogazon (Yacht)				2008 January ?	
OUEV	OPF Triton			2007 January		
3ERV9	Oriental Bluebird (Whaler supply ship)	Panama			2009 February ?	
ELED7	Pacprince					
PY2KAK	Paratii 2 (Yacht)	Brazil		2012 March	2012 April	
ZJL5390	PELAGIC I (Yacht)					
LACS4	Polar Duke	USA		1999		
8PPK	Polar Star (Tourist)	USA		2011 January		
UAKA	Professor Molchanov (Tourist/Research)	Russia		2010 March		
KAOU	Roger Revelle (Oceanographic)	USA		2009 February		2013 January
WTEC	Ron Brown (Oceanographic)	USA		2008 February	2008 February	2013 January
V2OB4	Rosa (Reefer)	Antigua			2008 June	
PDGS	Rotterdam (Tourist)	Netherlands		2008 February	2008 February	2008 February
IDSS	RV Hakuho Maru (+sondes)	Japan		2006 February		
WECE	RV Melville (Research)					2013 January
SIGF	S Y Dawnbreaker	Sweden		2012 January		
BATDK00	S/V Vaedderen (Research)	Denmark		2007 January		
LNSK	Saga Sea (Trawler)	Norway		2012 March		Fishing off South Orkneys
ZMGO	San Aspiring (Trawler)	New Zealand		2011 December		Rescue UAGL
9HE2145	Scorpius	Malta		2012 March	2012 April	
WDB9031	SEAL (Yacht)			2008 March	2008 March	
LKYA	Seljevaer (Trawler)	Norway		2011 December		Stuck in pack near UAGL

	Selma (Yacht)			2009 January	
C6VV8	Seven Seas Mariner		2011 February		2013 January
FGF9553	Shag 2	France	2012 January		
JSVY	Shirase (Supply)	Japan	2008 March	2008 March	2008 April
JFCF	Shonan Maru No 2 (Whaler)	Japan	2010 January		News report
VLHJ	Southern Surveyor				2012 December
UAGL	Sparta (Trawler)	Russia	2011 December		Holed in Ross Sea
C6UM6	Sprit of Adventure (Tourist)	UK	2009 January		
ZCDD6	Star Princess (Tourist)	UK	2010 December	2011 January	2013 January
WCZ9286	Tamara (Yacht)			2008 January ?	
FVNM	Tara [Ex Antarctica] (Research)	France	2011 January	2011 January	2012 October
ABCD1	Terra Nova (Tender)	UK	2012 January		Boat from HMS Protector
C6RW4	The World (Passenger)	Bahamas	2010 December	2011 January	
KTDQ	Thomas G Thompson (Research)	USA	2010 February		2012 January
CFG7284	Traversay III (Yacht)		2008 January	2008 January	2008 December*
MFTU5	Uhuru (Yacht)	UK	2011 January		
VK7FSNP	Unknown yacht		2006 January*		
NRUO	USCGC Polar Sea (Oceanographic)	USA			2008 November
NBTM	USCGC Polar Star	USA	2006 March		
H9KK	Ushuaia	Panama		2008 December	
KCDK	USNS Gus W Damell	USA			
YM8176	Uzaklar II (Yacht)	Turkey	2012 February		
UGWJ	Vasily Golovnin (Tanker)	Russia	2012 February	2012 March	
JLZS	Yushin Maru (Whaler)	Japan	2012 January		News report