

Global Collecting Centre

Annual Report 2011



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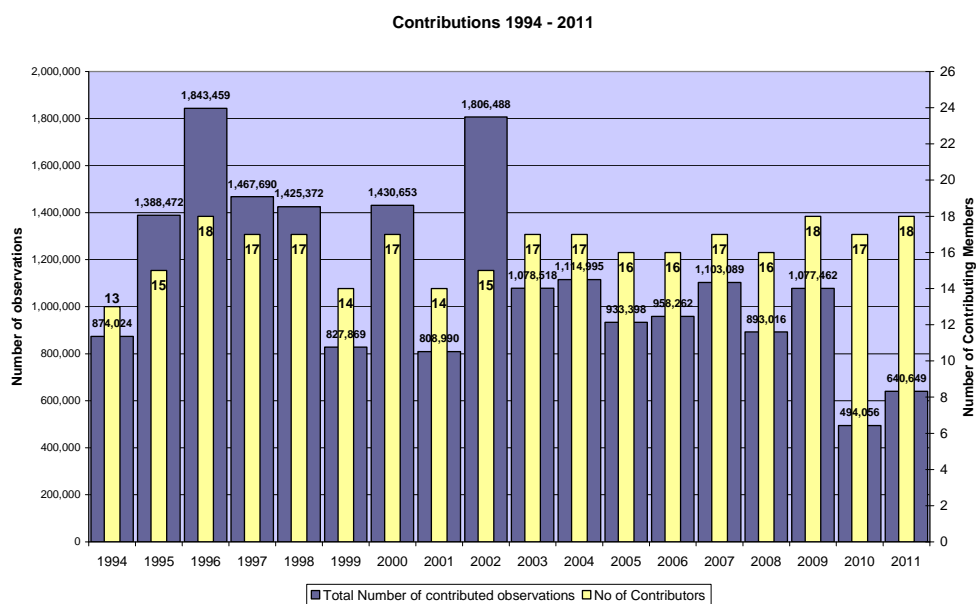
Background

The two Global Collecting Centres (GCCs) for JCOMM's Marine Climatological Summaries Scheme (MCSS) were set up in 1993 to improve data flow and quality of delayed-mode Voluntary Observing Ship (VOS) data. Data is received regularly by the GCCs (figure 1 & appendix A) from the MCSS Contributing Members (CMs) (appendix B), these are then quality ensured to the Minimum Quality Control Standard (MQCS-6) and then, once quarterly, made available to Responsible Members (RMs) via FTP. For further information about the MCSS and GCCs work, terms of reference, data format and QC standards see WMO Manual 558 & WMO Guide 471.

2011 marks the 18th year of GCC operation.

N.B. This annual report is of a new format compared to previous years. With the aim of it being easier to read and understood by community members.

Figure 1: Number of observations and active Contributing Members by year since GCCs began operate



VOS Data Volumes 2011

- 640,649 observations were received and processed by the GCCs during 2011.
- 18 CMs contributed data out of a total of 26 registered Members/Member States.

- Date ranges of data: from 1992 to 2011.
- 54% of data from 2010 & 2011.
- 95% of data received in IMMT-3 format.
- Starting to receive data in the newly adopted IMMT-4 format (2%). The Dutch electronic logbook software, TurboWin, has now been updated to output IMMT-4 in the latest version 5.0 and the USA are also updating their SEAS e-logbook software. It is therefore expected submissions in IMMT-4 to increase in future.

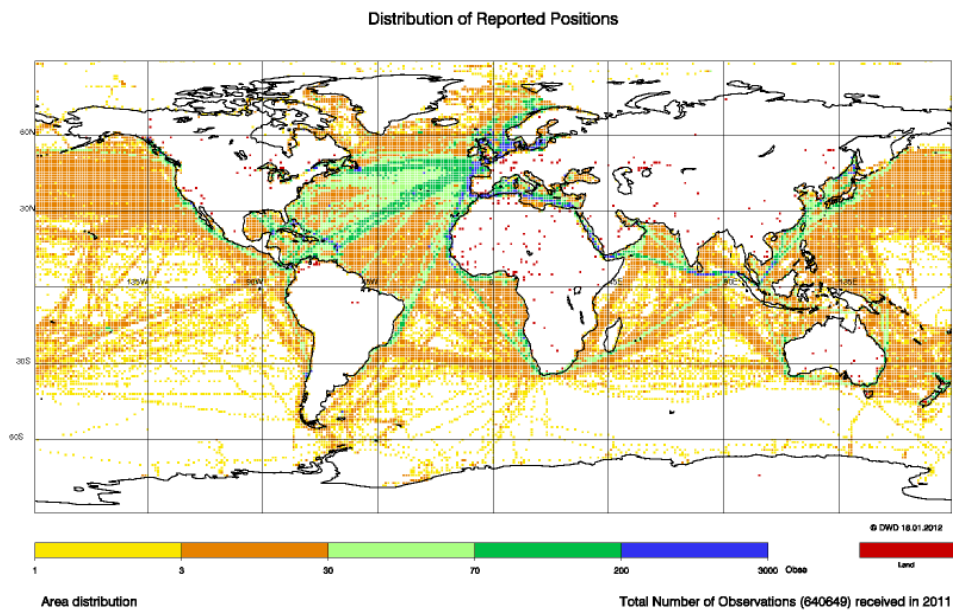
Figure 2: Number of observations by CMs for each quarter of 2011.

Number of CM Observations 2011					
Country Name	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
Argentina					0
Australia	1568	3896	2073	2,430	9,967
Brazil					0
Canada		9645			9,645
Croatia					0
France		39048			39,048
Germany	10484	8194	30793	81,104	130,575
Greece					0
Hong Kong, China	1015	696	320	440	2,471
India	2270				2,270
Ireland		53	287		340
Israel	1506		5863	5,148	12,517
Japan	2134	3260	2733		8,127
Kenya					0
Malaysia	339				339
Netherlands	33494	41432	8734	1,857	85,517
New Zealand	3434	1766	1723	4,997	11,920
Nigeria					0
Norway					0
Poland				520	520
Russian Federation	10034	10018	10048	10,002	40,102
Singapore					0
South Africa		112	141		253
Sweden		12977	9055	10,992	33,024
United Kingdom	20576	93063	71169	58,630	243,438
USA	4198	234		6,144	10,576
18 of 26 Contributing Countries	91,052	224,394	142,939	182,264	640,649

VOS Data Quality 2011

- The majority of observations continue to be of good quality.
- 472 observations were reported on land (0.07%). These are plotted as red dots in figure 3.
- 729 observations (0.11%) being rejected by the MQCS were identified from quarterly analysis of the exchanged dataset. Analysis of the yearly dataset highlighted only a slight increase to 954 failed observations.

Figure 3: Distribution of observations received in 2011



VOSCLim Class Data 2011

- 139,652 observations from VOSCLim registered ships were received and processed by the GCCs during 2011.
- This makes up 22% of data received by the GCCs from the VOS fleet in 2011.
- This is by far the maximum number of VOSCLim observations received in one year since collection began in 2003.
- 9 of the 10 CMs registered with VOSCLim ships submitted observations (figure 4)
- 104,152 of VOSCLim observations (75%) contained the VOSCLim defined additional elements.
- 23,475 observations from non-VOSCLim registered ships were received with the VOSCLim defined additional elements.

Figure 4: VOSCLim class observations submitted by CMs for each quarter of 2011

Country Name	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter			Total		
	Obs	W/Elem	Not Listed	Obs	W/Elem	Not Listed	Obs	W/Elem	Not Listed	Obs	W/Elem	Not Listed	Obs	W/Elem	Not Listed
Australia	356	354	0	1,929	1,584	0	340	339	0	705	483	0	3,330	2,760	0
Canada	0	0	0	9,644	0	0	0	0	0	0	0	0	9,644	0	0
France	0	0	0	37,968	37,711	1,080	0	0	0	0	0	0	37,968	37,711	1,080
Germany	3,200	3,194	0	784	783	0	2,436	1,918	0	7,441	7,199	0	13,861	13,094	0
India	464	0	0	0	0	0	0	0	0	0	0	0	464	0	0
Japan	0	0	0	0	0	0	2,733	2,733	0	0	0	0	2,733	2,733	0
Netherlands	9,406	3,004	1,176	11,811	5,825	96	2,021	829	730	1,262	582	0	24,500	10,240	2,002
New Zealand	0	0	0	134	134	45	53	53	0	69	68	0	256	255	45
United Kingdom	2,956	2,280	306	21,208	14,829	17,585	18,110	16,384	2,352	4,622	3,866	105	46,896	37,359	20,348
USA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 of 10 Countries	16,382	8,832	1,482	83,478	60,866	18,806	25,693	22,256	3,082	14,099	12,198	105	139,652	104,152	23,475

Recent Developments

Formats & Standards

As of 1st January 2011, IMMT-4 and MQCS-6 is the preferred format and quality standard for use by delayed-mode VOS observations. The most notable differences from IMMT-3 and MQCS-5 are the inclusion on a VOSCLim & AWS indicator, IMO number, relative humidity and new definitions of observation platform.

The MQC-software for CMs was updated to MQCS-6. The 4th version was distributed in March 2011 and is available at http://www.wmo.int/pages/prog/amp/mmop/mqc_soft.html.

The next versions of the IMMT & MQCS format and standards will be proposed at JCOMM-IV in May 2012. These will include only minor updates of wording and QC limits.

Data Flow & Quality of Climate Observations JCOMM Wide

The two GCCs met in Edinburgh in August 2011 to discuss the future of the MCSS and how this should align with other climate data within JCOMM. This was in preparation for a Marine Climate Data System (MCDS) workshop in November/December 2011 in Hamburg.

The workshop explored the idea of defining a generic data flow structure with defined roles and tasks to be applied to all data types across JCOMM for the management of their climate data. The workshop was attended by 24 participants of 10 nations representing various data types engaged. As a result of fruitful and dynamic discussions about climate data management a new JCOMM task team on the Marine Climate Data System (TT-MCDS) is being formed, and a MCDS vision for 2020 and implementation plan are being proposed at JCOMM-IV. The new task team will absorb the work and tasks of the TT-DMVOS & TT-MOCS.

Further details of the MCDS will be made available after JCOMM-IV.

DWD helping CMs to contribute their data

Due to the kind work of the DWD in Germany, some CMs, including Israel, Sweden & Canada, have been able to successfully contribute data to the GCCs during 2011. It is also

expected that Greece will be able to contribute their data during 2012 due to further efforts of the DWD.

At the end of 2011 the GCCs asked those CMs, who have not contributed for a long time (appendix A), if they will submit data shortly or if they need any help.

Interoperable MCSS data

Interoperable MCSS data can be searched and accessed from the German WMO Information System's (WIS) GISC http://gisc.dwd.de/GISC_DWD/toSimpleSearch.do

In addition in early 2012, it is expected that data will also be available from the IODE Ocean Data Portal <http://www.oceandataportal.org/>

Higher Quality Control Standard

DWD continues to make progress in the development of a new standardized Higher Quality Control Standard (HQCS). The goal is a uniform checking of all types of VOS observations, easy handling, documented steps and graphic demonstration of erroneous values and simple ways of correction. A revised and improved land-sea mask is already underway. Climatological checking with ERA40-data have not led to satisfying results. However data from ERA-Interim are tested.

Recommendations

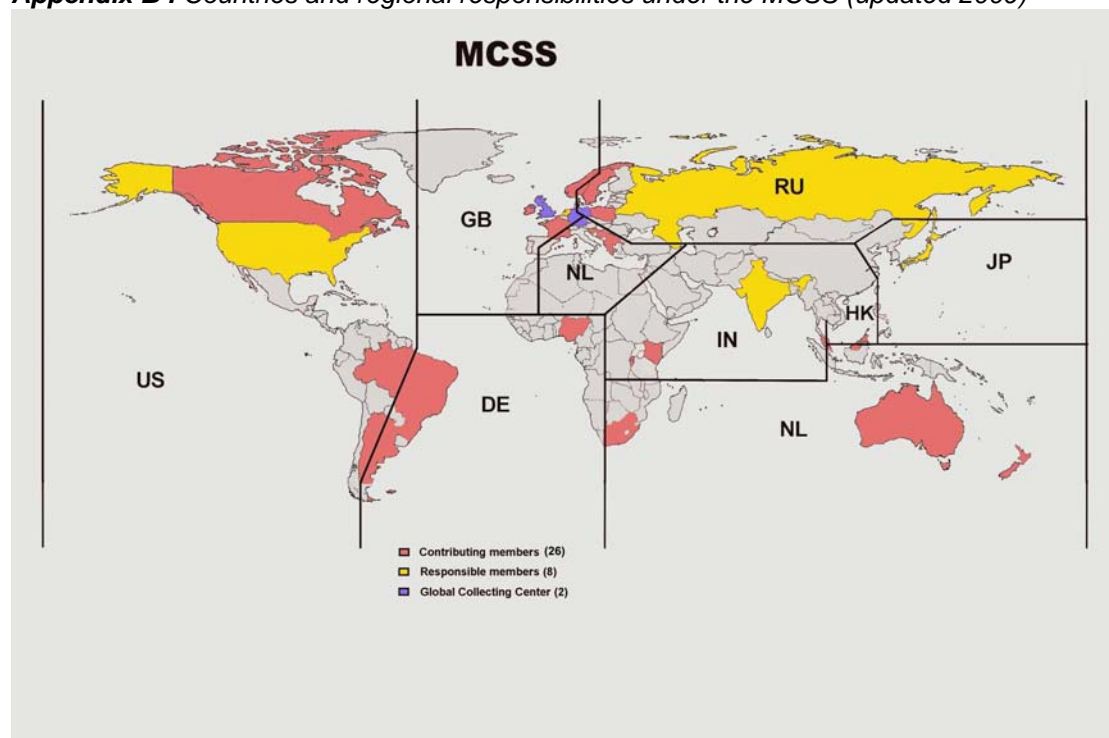
To further improve data availability and quality, and in light of the recent developments above, the GCCs make the following recommendations:

- CMs should submit observations only once. But if there is a requirement to resubmit data (e.g. quality improvements) then this should be highlighted to the GCCs.
- CMs should submit data files in one IMMT format only – preferably now IMMT-4.
- CMs not able to submit their data because of issues e.g with digitizing or converting into the IMMT format, should contact GCCs for advice.
- By applying MQCS to data prior to submission CMs can identify and rectify significant problems, in particular, issues within date, time and position.
- All VOSclim class ship's observations should include the additional VOSclim elements.
- CMs with VOSclim class ships that have still not successfully submitted data to the GCCs are encouraged to do so at their earliest convenience or contact GCCs for advice.
- If possible convert all masked callsigns (i.e. 'SHIP') back to the original ID prior to submission.

Appendix A: CM contribution by year since GCCs began operations in 1994

	ISO Alpha-2 code	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Number of Years with Contributions 1994 - 2011
Argentina	AR								X		X	X	X	X	X	X				7
Australia	AU							X		X	X	X	X		X	X	X	X	X	10
Brazil	BR	X	X	X	X															4
Canada	CA																		X	1
Croatia	HR				X	X	X	X	X											5
France	FR	X	X	X	X	X			X		X	X	X	X	X	X	X	X	X	14
Germany	DE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18
Greece	GR																	X		1
Hong Kong, China	HK	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18
India	IN	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18
Ireland	IE			X	X	X				X							X	X	X	7
Israel	IL		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	16
Japan	JP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18
Kenya	KE																			0
Malaysia	MY	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	16
Netherlands	NL	X	X	X		X	X	X	X		X	X	X	X	X	X	X	X	X	16
New Zealand	NZ													X	X	X	X	X	X	6
Nigeria	NG																			0
Norway	NO	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X			15
Poland	PL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	18
Russian Federation	RU		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	17
Singapore	SG		X	X	X	X					X	X	X	X						8
South Africa	ZA						X	X	X	X	X	X	X	X	X	X	X	X	X	13
Sweden	SE			X													X	X	X	4
United Kingdom	GB	X	X	X	X	X	X	X		X	X	X		X	X	X	X	X	X	16
United States	US	X	X	X	X	X	X	X		X	X				X	X	X	X	X	14

Appendix B : Countries and regional responsibilities under the MCSS (updated 2009)



Appendix C: Acronym List

CM	Contributing Member
DWD	Deutscher Wetterdienst
GCC	Global Collecting Centre (MCSS / JCOMM)
GISC	Global Information System Centres (of WIS)
HQCS	Higher Quality Control Standard
IMMT	International Maritime Meteorological Tape Format
IODE	International Oceanographic Data and Information Exchange
JCOMM	Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology
MCDS	Marine Climate Data System
MCSS	Marine Climatological Summaries Scheme
MQCS-5	Minimum Quality Control Standards (Version 5, July 2004)
MQCS-6	Minimum Quality Control Standards (Version 6, June 2010)
ODP	Ocean Data Portal
RM	Responsible Member
TT-DMVOS	Task Team on Delayed Mode VOS Data
TT-MOCS	Task Team on Marine Meteorological and Oceanographic Climatological Summaries
UK	United Kingdom
VOS	Voluntary Observing Ship
VOSCLim	VOS Climate (Subset for High Quality Data - Project)
WIS	WMO Information System
WMO	World Meteorological Organization