a. Programme description:				
Category	No. of ships at 31 Dec 2011	Recruitments in 2011	De-recruitments In 2011	Comments
Selected	25	4	4	
Selected AWS	2			
VOSClim	2	1 upgrade		
VOSClim AWS				
Supplementary	1			
Supplementary AWS				
Auxiliary	3			
Auxiliary AWS				
Other				
National VOS Total	33			

National VOS Target	~ 30	
National VOSClim Target	8	

b. Data management:				
Total number of ship observations (BBXX) distributed on the GTS in 2011	19914 only includes BBXX in quadrants 3 and 5			
Frequency of VOS data submitted to the GCC in Year	Quarterly			

c. Shipboard Automatic Weather System						
Туре	No. of ships at 31 Dec 2011	Manual Input Yes / No	Method of Comms	2012 Planned installations		
Sutron 9000 RTU	1	Yes	MTSAT			
mSTAR-SHIP	1	No	UDP Cellular			

f. Electronic logbooks: (TurboWin, SEAS, OBSJMA)				
Software & version	No. of ships at 31 Dec 2011	Implementation plans		
TurboWin 3.6	2	All TurboWin on NZ VOS is installed on ships' PCs.		
TurboWin 4.5	21			
TurboWin 5.0	2			

g. Major challenges and difficulties:

- 1. Constant changing of ship's charters, routes and personnel makes it difficult to recruit and retain ships. It also requires a lot more time in training the new crews.
- 2. Getting prepared for the exchange of ship data in BUFR code is a big challenge. Initially the BUFR reports will contain only the real-time elements, but there is an intention to enrich with metadata at a later date.
- 3. A couple ships did not return to NZ for inspection during 2011.
- 4. There is a desire to upgrade more ships to VOSClim class, but constant turnover of ships makes it difficult to get ships to the required reporting standard before upgrading can be considered.
- 5. The use of email to send OBs is cost effective, but requires careful monitoring to ensure the pathway works.
- 6. Short port stays results in frequent after hours visiting nights, evenings, weekends.

h. Research / development / testing:

All barometers for NZ VOS ships and the transfer standard barometer used by PMO to check VOS barometers are issued by MetService's Calibration Laboratory and are traceable to National/International/WMO RA-V standards. Digital Vaisala PTB330 barometers are being installed on ships at a rate of about 5 per year. The plan is to replace all precision aneroid barometers and the marine barographs with the digital barometer which displays pressure and pressure tendency data. Some NZ VOS have been supplied with plastic marine screens, replacing the wooden marine screens.

All NZ VOS ships are supplied with calibrated, certified instruments and the PMO inspection programme ensures standards are maintained. Most NZ VOS are inspected at least once per year. Some ships receive 4 or 5 visits per year. PMO also visits many overseas VOS ships, targeting those that do not routinely return to their country of recruitment, to offer encouragement and support for the continuation of their Obs programmes.

i. Other comments:

The QC monitoring tools provided by MeteoFrance, and the monthly monitoring statistics provided by the UKMO are invaluable.

The global PMO network has been helpful assisting NZ VOS at overseas ports.