VOS Report for 2014 **Country =**

a. Programme description:				
Category	**No. of ships at 31 Dec 2014**	**Recruitments in 2014**	**De-recruitments In 2014**	**Comments**
Selected	85	0	0	
Selected AWS	-	-	-	
VOSClim	-	-	-	
VOSClim AWS	-	-	-	
Supplementary	-	-	-	
Supplementary AWS	-	-	-	
Auxiliary	-	-	-	
Auxiliary AWS	-	-	-	
Other	-	-	-	
National VOS Total	85			

National VOS Target	
National VOSClim Target	

b. Data management:	
Total number of ship observations (BBXX) distributed on the GTS in 2014	1308
Dates when VOS data submitted to the GCCs in 2014	-

c. Shipboard Automatic Weather System				
Type	**No. of ships at 31 Dec 2014**	**Manual Input Yes / No**	**Method of Comms**	**Year1 Plans**
VAISALA Maritime Observation System MAWS410	06	No	Not available	

d. Electronic logbooks: (TurboWin, SEAS, OBSJMA)		
Software & version	**No. of ships at 31 Dec 2014**	**Implementation plans**

e. Standard Meteorological Equipment: (Types and Settings)		
Equipment Type / Element	**Manual Instrumentation**	**AWS Instrumentation**
Barometer	Aneroid barometer	Aneroid barometer
Default national setting	*Station Level or Mean Sea Level*	*Station Level or Mean Sea Level*
Barograph	-	-
Default national setting	*Station Level or Mean Sea Level*	*Station Level or Mean Sea Level*
Thermometers	Mercury for maximum and minimum thermometers	Electric (resistence)
	Hygrometer – whirling psycrometer	
Sea Surface Temperature	Bucket thermometer	-
Wind Speed	Cup anemometer and wind vane (combined unit)	Sonic anemometer
Wind Direction	Cup anemometer and wind vane (combined unit)	Sonic anemometer

f. PMO ship visit activities: (if a visit is for dual purposes, include all purposes)			
Activity	**Manual Ship**	**AWS Ship**	**Comment**
Routine VOS inspections			
VOS recruitment visits			
VOS de-recruitment visits			
VOS courtesy or foreign visits			
Total visits to VOS			
Routine ASAP inspections			
ASAP recruitment visits			
ASAP de-recruitment visits			
ASAP courtesy visits			
Total visits to ASAP			
Routine SOOP visits			
SOOP recruitment visits			
SOOP de-recruitment visits			
SOOP courtesy visits			
Total visits to SOOP			
Visits in support of DBCP (drifting buoys)			
Visits in support of Argo (profiling floats)			

Total visits to other programs			
Total visits by national PMOs		*Sum of all ship visits (VOS + ASAP + SOOP) + visits to other program (DBCP + Argo)*	

g. Major challenges and difficulties:

a) Costs of satellite transmissions of SHIP messages;
b) Lack of qualified personnel to make observations on board ships;
c) Costs for maintenance of meteorological instruments;
d) Costs to keep qualified personnel training ship personnel in the methods of meteorological conventional observation; and
e) Lack of qualified personnel to deal with development and implementation of masking and quality control programmes and softwares, which compromise the submission of the data to the GCC.

h. Research / development / testing:

From 2009, in order to fulfill the request received through the Official Letter nº 8363-09 from WMO, and also with the aim of reaching a rapprochement with the user navigator and reactivate the VOS recruitment activities, the Navy Hydrographic Center sent official letter (and a letter attached based on the letter 8363-09, along with your questionnaire) to shipping companies. The letter asked the owners to direct the questionnaire to the ship commanders and to orient them to fill them out and return them answered via e-mail to an account specifically created for this purpose, the SMM (vos-brasil@smm.mil.br) and the WMO (mmo@wmo.int). In the subsequent years we continued sending the letters and receiving the feedback from many companies and ships.

In the next years, actions will be implemented in order to stimulate the navigator's cooperation in the collection of meteorological data, in the area of responsibility of Brazil (METAREA V). Such actions include:

a) promote visits and lectures about the VOS program on the organizations responsible for training officers of the Merchant Navy in Brazil;
b) keep up with the masters and owners discussing the national importance of the participation of ships in the VOS program for weather and climate studies in the sea area;
c) make technical visits to ships moored at first in the ports of Rio de Janeiro, Vitória, Santos and Rio Grande checking the status of the instruments, collecting metadata and training on methods of observation; and
d) reward the merchant ship and the shipping company that contribute the most in one year with meteorological observations.

i. Other comments

Although JCOMM have organized several workshop/seminar and training for VOS-SOT program in order to present the characteristics and operational requirements of the programs, such as the recommended forms of transmission, data processing, softwares for electronic logbooks and data management (callsign masking scheme, quality control data) and other related material, difficulties related to the costs to send a representative have forbidden the Brazilian Navy to take part in such events.