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|  | **VOS Report for 2015** | | | | | **Country =** | | | | | | | **Hong Kong, China** | | |
|  | | | | | | | | | | | | | | | |
|  | **a.** | **Programme description:** | | | | | | | | | | | | | |
| **Category** | | **No. of ships at**  **31 Dec 2015** | | | **Recruitments in 2015** | | | **De-recruitments**  **In 2015** | | | **Comments** | | | |
| *Selected* | | 50 | | | 3 | | | 2 | | | 2 Selected ships were installed with shipborne automatic weather system. | | | |
| *Selected AWS* | |  | | |  | | |  | | |  | | | |
| *VOSClim* | | 11 | | | 3 | | |  | | | 2 ships were upgraded from Selected to VOSClim class.  1 ship was recruited directly to the VOSClim class. | | | |
| *VOSClim AWS* | |  | | |  | | |  | | |  | | | |
| *Supplementary* | | 1 | | |  | | |  | | |  | | | |
| *Supplementary AWS* | |  | | |  | | |  | | |  | | | |
| *Auxiliary* | |  | | |  | | |  | | |  | | | |
| *Auxiliary AWS* | |  | | |  | | |  | | |  | | | |
| *Other* | |  | | |  | | |  | | |  | | | |
| **National VOS Total** | | 62 | | |  | | |  | | |  | | | |
|  |  | |  | | |  | | |  | | |  | | | |
|  | **National VOS Target** | | 70 by 2017 | | |  | | |  | | |  | | |  |
|  | **National VOSClim Target** | | 20 by 2017 | | |  | | |  | | |  | | |  |
|  |  | |  | | |  | | |  | | |  | | |  |
|  | **b.** | **Data management:** | | | | | | | | | | | | | |
|  | *Total number of ship observations (BBXX) distributed on the GTS in 2015* | | | | | | | | | 10917 real-time manual observations from Hong Kong VOS and VOSClim ships; 17007 real-time automatic observations from shipborne automatic weather systems installed on board Hong Kong VOS ships. | | | | | |
|  | *Dates when VOS data submitted to the GCCs in 2015* | | | | | | | | | 5 Mar 2015, 27 May 2015, 12 Aug 2015, 11 Nov 2015 | | | | | |
|  | c. | **Shipboard Automatic Weather System** | | | | | | | | | | | | | |
| **Type** | | | | **No. of ships at 31 Dec 2015** | | | **Manual Input**  **Yes / No** | | | **Method of Comms** | | | **Year1 Plans** | |
| AMOS | | | | 1 | | | No | | | Iridium (SBD) | | | More Selected VOS ships will be installed with shipborne automatic weather systems | |
| SVP Drifter buoy (MetOcean) | | | | 1 | | | No | | | Iridium (SBD) | | |
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|  | **d.** | **Electronic logbooks: (TurboWin, SEAS, OBSJMA)** | | | | | | | | | | | | | |
| **Software & version** | | | **No. of ships at**  **31 Dec 2015** | | | Implementation plans | | | | | | | | |
| TurboWin 4.5 | | | 35 | | | Will gradually be replaced by Version 5.0 | | | | | | | | |
| TurboWin 5.0 | | | 19 | | |  | | | | | | | | |
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| **e.** | **Standard Meteorological Equipment: (Types and Settings)** | | |
| **Equipment Type / Element** | | **Manual Instrumentation** | **AWS Instrumentation** |
| Barometer | | Precision aneroid | AMOS |
| Ship’s aneroid | SVP Drifer buoy (MetOcean) |
|  |  |
| *Default national setting* | | Mean Sea Level | Mean Sea Level |
| Barograph | | Small scale |  |
|  |  |
| *Default national setting* | | Mean Sea Level |  |
| Thermometers | | Liquid-in-glass | AMOS |
|  | | Resistance |  |
| Sea Surface Temperature | | Condensor intake |  |
|  | | Hull contact sensor |  |
| Wind Speed | | Propeller vane |  |
|  | | Cup anemometer and wind vane |  |
| Wind Direction | | Propeller vane |  |
|  | | Cup anemometer and wind vane |  |
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| **f.** | **PMO ship visit activities: (if a visit is for dual purposes, include all purposes)** | | | | |
| **Activity** | | **Manual Ship** | | **AWS**  **Ship** | **Comment** |
| Routine VOS inspections | | 20 | | 2 | In addition to these 22 visits, one more VOS visit was conducted for preparation of the trial launching of radiosondes in the South China Sea. |
| VOS recruitment visits | | 4 | |  |  |
| VOS de-recruitment visits | |  | |  |  |
| VOS courtesy or foreign visits | |  | |  |  |
| *Total visits to VOS* | | 26 | | |  |
| 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) | | 2 | |  | Arranged a Hong Kong VOS ship for deployment of a drifter buoy in the South China Sea for trial. |
| Visits in support of Argo (profiling floats) | |  | |  |  |
| *Total visits to other programs* | | 2 | |  |  |
| **Total visits by national PMOs** | | 28 | | *Sum of all ship visits (VOS + ASAP + SOOP) + visits to other program (DBCP + Argo)* | |
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| **g.** | **Major challenges and difficulties:** |
| Regular changing of crew members every half to one year have resulted in year to year variation of both quantity and quality of weather observations of some ships due to improper handover of the weather observation duty. It requires PMO visits to rectify the issue.  Some ships of the Hong Kong VOS fleet are trading on a worldwide basis and cannot come to Hong Kong at least once every year for inspection by PMO. Berthing at port outside office hours and last minute change of berthing time also generate difficulty for PMO visits. Failure to visit recruited ships for a long time has implications for the quality of observations.  Automatic transmission of weather observations via TurboWin or TurboWin+ is not feasible for some ships which have restricted or limited internet access on board.  Specialized training to PMO on installation and maintenance of shipborne AWS will be required with more VOS ships installed with shipborne AWS. | |
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| **h.** | **Research / development / testing:** |
| The Hong Kong Observatory (HKO) will continue to present awards to ships of the Hong Kong VOS fleet which have reported large number of weather observations in a year to encourage the ships to take more weather observations.  More ships would be recruited as VOSClim or upgraded from Selected to VOSClim class.  More types of shipborne AWS will be evaluated and more ships will be installed with shipborne AWS onboard.  The aneroid barographs on board Hong Kong VOS will be replaced by digital barographs gradually to improve accuracy and save expenditure for consumables.  HKO deployed a drifter buoy with air pressure and sea temperature measuring devices in the South China Sea with the help of a Hong Kong VOS ship in June 2015. Despite the buoy was picked up accidentally and carried along by a boat in August 2015, the hourly air pressure observations recorded by the buoy moving with the boat in the South China Sea are still being received and sent to GTS. Drifter buoys will continue to be deployed in the South China Sea for trial with the help of Hong Kong VOS ships.  The Hong Kong Observatory (HKO) conducted a trial operation of launching radiosondes in the South China Sea on board a Hong Kong VOS ship during its voyage from Hong Kong to Singapore in June 2015. A total of seven sounding balloons were launched by HKO colleagues on board during the voyage. The result was satisfactory. More attempts would be explored. | |
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| **i.** | **Other comments** |
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