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|  | **VOS Report for 2018** | | | **Country =** | | | | **Hong Kong, China** | |
|  | | | | | | | | | |
|  | **a.** | **Programme description:** | | | | | | | |
| **Category** | | **No. of ships at**  **31 Dec 2018** | **Recruitments in 2018** | **De-recruitments**  **In 2018** | | **Comments** | | |
| *Selected* | | 48 | 10 | 0 | | Two of the Selected ships were installed with shipborne automatic weather system. | | |
| *Selected AWS* | |  |  |  | |  | | |
| *VOSClim* | | 30 | 6 |  | | All the six VOSClim ships recruited in 2018 were upgraded from existing Selected class ships. | | |
| *VOSClim AWS* | |  |  |  | |  | | |
| *Supplementary* | | 1 |  |  | |  | | |
| *Supplementary AWS* | |  |  |  | |  | | |
| *Auxiliary* | |  |  |  | |  | | |
| *Auxiliary AWS* | |  |  |  | |  | | |
| *Other* | |  |  |  | |  | | |
| **National VOS Total** | | 79 |  |  | |  | | |
|  |  | |  |  |  | |  | | |
|  | **National VOS Target** | | 89 by 2019 |  |  | |  | |  |
|  | **National VOSClim Target** | | 35 by 2019 |  |  | |  | |  |
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|  | **b.** | **Data management:** | | | | | | | |
|  | *Total number of ship observations (BBXX) distributed on the GTS in 2018* | | | | | 16,141 real-time manual observations from Hong Kong VOS ships; 16,541 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 2018* | | | | | 20 Mar 2018, 14 May 2018, 7 Aug 2018, 9 Nov 2018 | | | |

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|  | c. | **Shipboard Automatic Weather System** | | | | | | | |
| **Type** | | | **No. of ships at 31 Dec 2018** | | **Manual Input**  **Yes / No** | | **Method of Comms** | **Year1 Plans** |
| AMOS | | | 1 | | No | | Iridium (SBD) | Keep in view UKMO impending upgrade of existing AMOS1 system to AMOS2 following the launch of the latter. |
| SVP Drifting buoy (MetOcean) | | | 1 | | No | | Iridium (SBD) | Explore the recruitment of another ship to be equipped with a modified drifting buoy or commercially available AWS. |
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|  | **d.** | **Electronic logbooks: (TurboWin, SEAS, OBSJMA)** | | | | | | | |
| **Software & version** | | **No. of ships at**  **31 Dec 2018** | | Implementation plans | | | | |
| TurboWin 5.0/5.01 | | 62 | |  | | | | |
| TurboWin 4.5 | | 11 | | Will gradually be replaced by Version 5.0 or above | | | | |
| TurboWin plus 2.5.7 | | 1 | |  | | | | |
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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 Drifting buoy (MetOcean) |
| *Default national setting* | | Station Level for ships with TurboWin/Mean Sea Level for ships without TurboWin | *Mean Sea Level* |
| Barograph | | Small scale |  |
| Digital Barograph ( Mintaka Duo) |  |
| *Default national setting* | | Station Level for ships with TurboWin/Mean Sea Level for ships without TurboWin |  |
| Thermometers | | Liquid-in-glass | AMOS |
|  | | Resistance |  |
| Sea Surface Temperature | | Condenser intake |  |
|  | | Hull contact sensor |  |
| Wind Speed | | Propeller vane |  |
|  | | Cup anemometer and wind vane |  |
| Ultrasonic wind sensor |  |
| Wind Direction | | Propeller vane |  |
|  | | Cup anemometer and wind vane |  |
| Ultrasonic wind sensor |  |

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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 | | 21 | | 0 |  |
| VOS recruitment visits | | 10 | |  |  |
| VOS de-recruitment visits | |  | |  |  |
| VOS courtesy or foreign visits | |  | |  |  |
| *Total visits to VOS* | | 31 | | |  |
| 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) | | 4 | |  | Arranged Hong Kong VOS for deployment of drifting buoys in the South China Sea and western North Pacific. |
| Visits in support of Argo (profiling floats) | |  | |  |  |
| *Total visits to other programs* | | 4 | |  |  |
| **Total visits by national PMOs** | | 35 | | *Sum of all ship visits (VOS + ASAP + SOOP) + visits to other program (DBCP + Argo)* | |
| **Total number of PMOs(FTE\*)** | | 1 | |  | |
| (\*FTE-Full Time Employee) | |  |  | |  |

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| **g.** | **Major challenges and difficulties:** |
| Numerous requests have been received from shipping companies to join HKVOS which is indeed encouraging. Yet, there is only one PMO in Hong Kong, limiting our pace to entertain all the requests as quick as we want to. VOS ships berthing at port outside office hours and last-minute changes of berthing time also generate difficulties for conducting PMO ship visits.  The service routes of ships change from year to year, making some Hong Kong VOS ships not able to return to home port for many years for inspection by PMO. Regular changing of crew members every half to one year is another issue that results in variation of both quantity and quality of weather observations due possibly to inadequate handover of the weather observation duty. Ship captains continue to display a varying degree of motivation to participate in reporting weather observations.  All shipborne AWSs available on the market require connection to external power source, which is not a readily-available option for many ships. Design of self-powered AWSs utilizing renewable energy for operation on board the VOS ships is most desirable. | |
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| **h.** | **Research / development / testing:** |
| During the past year, 10 more aneroid barographs of ships in the Hong Kong VOS fleet were replaced by digital barographs for better quality of pressure observations. As at end of 2018, 34% of the fleet have been fitted with digital barographs on board. The Hong Kong Observatory (HKO) plans to eventually replace all aneroid barographs with digital barographs on board the Hong Kong VOS ships.  A new service “MyOceanWx Gallery” (<https://maps.weather.gov.hk/sea/index.htm>) was launched in July 2018 for sharing of weather photos taken by mariners. Most of the photos were taken by ship masters and crew members on board the Hong Kong VOS ships around the world, allowing members of the public to appreciate the different weather phenomena and scenery that can be observed at seas. Invitation for photo contribution has now been extended to travellers who would like to share their weather photos taken during sea voyages.  Another new service “MyOceanWx on Demand” was introduced for trial on board Hong Kong VOS in 2018. It is a free marine weather information delivery service via email system. It is primarily intended to provide marine users who do not have full internet access on board the ship but have email capability to send and receive information. Ship masters can make their selection from a collection of computer model weather charts, satellite images, sea wave/swell forecast charts, and textual weather forecasts and bulletins via an offline webpage provided. The requested information will be automatically sent to the email address supplied by the ship masters as an attachment.  HKO plans to deploy four to five drifting buoys under the DBCP barometer upgrade program in the South China Sea and western North Pacific in 2019 with the assistance of the Hong Kong VOS fleet. In 2018, one of the drifting buoys HKO deployed in the South China Sea captured the movement of Super Typhoon Mangkhut (1822) in its vicinity on 15 September, providing very useful data for the analysis of the location and intensity of the storm after crossing Luzon.  HKO will continue to present awards to ships of the Hong Kong VOS fleet which have reported a certain number of weather observations in a year to encourage the ships to take more weather observations.  HKO will continue to facilitate the upgrade of existing VOS ships to meet the VOSClim standards. | |
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| **i.** | **Other comments** |
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