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|  | **VOS Report for 2018** | **Country =** |  |
|  |
|  | **a.** | **Programme description:** |
| **Category** | **No. of ships at** **31 Dec 2018** | **Recruitments in 2018** | **De-recruitments****In 2018** | **Comments** |
| *Selected* | 36 |  | 3 |  |
| *Selected AWS* | 3 |  |  |  |
| *VOSClim* | 13 | 9 | 3 |  |
| *VOSClim AWS* |  |  |  |  |
| *Supplementary* |  |  |  |  |
| *Supplementary AWS* |  |  |  |  |
| *Auxiliary* | 1 |  |  |  |
| *Auxiliary AWS* |  |  |  |  |
| *Other* |  |  |  |  |
| **National VOS Total** | 53 |   |  |  |
|  |  |  |  |  |  |
|  | **National VOS Target** | 70 |  |  |  |  |
|  | **National VOSClim Target**  | 20 |  |  |  |  |
|  |  |  |  |  |  |  |
|  | **b.** | **Data management:** |
|  | *Total number of ship observations (BBXX) distributed on the GTS in 2018* | 38,205 |
|  | *Dates when VOS data submitted to the GCCs in 2018* | January, April, July, October |

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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** |
| Vaisala Milos 500 | 2 | Yes | Inmarsat (data mode) | Nil |
| Techsas | 1 | No | Inmarsat (data mode) | Nil |
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|  | **d.** | **Electronic logbooks: (TurboWin, SEAS, OBSJMA)** |
| **Software & version** | **No. of ships at**  **31 Dec 2018** | Implementation plans |
| TurboWin 5.0 | 35 |  |
| TurboWin + | 15 | Continue to upgrade all ships to Turbowin+ |
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| **e.** | **Standard Meteorological Equipment: (Types and Settings)** |
| **Equipment Type / Element** | **Manual Instrumentation** | **AWS Instrumentation** |
| Barometer | Vaisala PTB 330B | Vaisala PTB 220B |
| Vaisala PTB 220B |  |
|  |  |
| *Default national setting* | *Station Level* | *Station Level* |
| Barograph | Marine Electronic Barograph software | None |
| Turbowin + |  |
| *Default national setting* | *Station Level* | *-* |
| Thermometers | AMA mercury in glass | Rosemount ST2401 Temperature probe |
|  | Zeal mercury in glass | Vaisala HMP45D humidity probe |
|  | Vaisala HMP155 humidity probe | Vaisala HMP155 humidity probe |
| Sea Surface Temperature | Ship’s own condenser intake | Hull contact sensor Seabird SBE48 |
|  | Sea bucket and thermometer |  |
| Wind Speed | Estimated | Vaisala Cups WAA151 |
|  |  |  |
| Wind Direction | Estimated | Vaisala Vane WAV151 |
|  |  |  |

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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 | 38 | 12 |  |
| VOS recruitment visits | 9 |  |  |
| VOS de-recruitment visits | 6 |  |  |
| VOS courtesy or foreign visits | 3 |  | Increased number of remote barometer checks |
| *Total visits to VOS* | 68 |  |
| Routine ASAP inspections |  |  |  |
| ASAP recruitment visits |  |  |  |
| ASAP de-recruitment visits |  |  |  |
| ASAP courtesy visits |  |  |  |
| *Total visits to ASAP* |  |  |  |
| Routine SOOP visits | 15 |  |  |
| SOOP recruitment visits | 2 |  |  |
| SOOP de-recruitment visits | 1 |  |  |
| SOOP courtesy visits | 2 |  |  |
| *Total visits to SOOP* | 20 |  |  |
| Visits in support of DBCP (drifting buoys) | 12 |  |  |
| Visits in support of Argo (profiling floats) | 2 |  |  |
| *Total visits to other programs* | 14 |  |  |
| **Total visits by national PMOs** | 102 | *Sum of all ship visits (VOS + ASAP + SOOP) + visits to other program (DBCP + Argo)* |
| **Total number of PMOs(FTE\*)** | 2.4 |  |
| (\*FTE-Full Time Employee) |  |  |  |

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| **g.** | **Major challenges and difficulties:** |
| * Limited staff resources. PMOs only operating at about 50% capacity.
* Limited stock of thermometers, during our transition to digital sensors, has affected our capacity to recruit new vessels.
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| **h.** | **Research / development / testing:** |
| * Testing a wireless connection between HMP155 temp/humidity probe and the Turbowin+ laptop.
* Developing next generation SST system using SBE48, HF relay, solar power and Iridium comms for simpler installation and operation.
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|  |  |
| **i.** | **Other comments** |
| * Going out to tender for a ship-based AWS in early 2019.
* Developing PMO competencies at regional offices located near major ports.
* National PMO training workshop scheduled for March 2019.
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