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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **VOS Report for 2018** | | | | | **Country =** | | | | | | | **Canada** | | |
|  | | | | | | | | | | | | | | | |
|  | **a.** | **Programme description:** | | | | | | | | | | | | | |
| **Category** | | **No. of ships at**  **31 Dec 2018** | | | **Recruitments in 2018** | | | **De-recruitments**  **In 2018** | | | **Comments** | | | |
| *Selected* | |  | | |  | | |  | | |  | | | |
| *Selected AWS* | |  | | |  | | |  | | |  | | | |
| *VOSClim* | |  | | |  | | |  | | |  | | | |
| *VOSClim AWS* | | 50 | | |  | | |  | | | * Recruited Atlantic Condor on August 27th, 2018 * Recruited Algoma Equinox on March 6th, 2018 * Decommissioned Camilla Desgagnes on March 1st, 2018 * Decommissioned W E Ricker on November 15th, 2018 | | | |
| *Supplementary* | |  | | |  | | |  | | |  | | | |
| *Supplementary AWS* | |  | | |  | | |  | | |  | | | |
| *Auxiliary* | |  | | |  | | |  | | |  | | | |
| *Auxiliary AWS* | |  | | |  | | |  | | |  | | | |
| *Other* | |  | | |  | | |  | | |  | | | |
| **National VOS Total** | | 50 | | |  | | |  | | |  | | | |
|  |  | |  | | |  | | |  | | |  | | | |
|  | **National VOS Target** | |  | | |  | | |  | | |  | | |  |
|  | **National VOSClim Target** | | 50VOSClim AWS | | |  | | |  | | |  | | |  |
|  |  | |  | | |  | | |  | | |  | | |  |
|  | **b.** | **Data management:** | | | | | | | | | | | | | |
|  | *Total number of ship observations (BBXX) distributed on the GTS in 2018* | | | | | | | | | Total Observations: 349115  Number of Manual Observations: 1201  Number of Automated Observation: 347914 | | | | | |
|  | *Dates when VOS data submitted to the GCCs in 2018* | | | | | | | | | Will be submitted in February 2019 | | | | | |
|  | c. | **Shipboard Automatic Weather System** | | | | | | | | | | | | | |
| **Type** | | | | **No. of ships at 31 Dec 2018** | | | **Manual Input**  **Yes / No** | | | **Method of Comms** | | | **2019 Plans** | |
| AVOS manufactured by AXYS Technologies | | | | 50 | | | Both | | | IRIDIUM- SBD | | | We intend to install 2 to 4 new AVOS this year | |
|  | | | |  | | |  | | |  | | |  | |
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|  | **d.** | **Electronic logbooks: (TurboWin, SEAS, OBSJMA)** | | | | | | | | | | | | | |
| **Software & version** | | | **No. of ships at**  **31 Dec 2018** | | | Implementation plans | | | | | | | | |
| 1.23.0019 Bridge PC 1.25 | | | 6 | | |  | | | | | | | | |
| 1.23.0019 Bridge PC 1.28 | | | 21 | | |  | | | | | | | | |
| 1.23.0019 Bridge PC 1.30 | | | 22 | | |  | | | | | | | | |
| 1.23.0017 Bridge PC 1.30 | | | 1 | | |  | | | | | | | | |
|  | | |  | | |  | | | | | | | | |
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| **e.** | **Standard Meteorological Equipment: (Types and Settings)** | | |
| **Equipment Type / Element** | | **Manual Instrumentation** | **AWS Instrumentation** |
| Barometer | | *Ships aneroid barometer* | Vaisala PTB210 |
|  |  |
|  |  |
| *Default national setting* | | *Station Level or Mean Sea Level* | *Station Level (sea level is calculated)* |
| Barograph | |  | *Not supported anymore* |
|  |  |
| *Default national setting* | | *Station Level or Mean Sea Level* | *Station Level (sea level is calculated)* |
| Thermometers | | *2 x 2 mercury thermometers (dry and wet bulb)* | Rotronics MP101A-T7 |
|  | |  |  |
| Sea Surface Temperature | |  | AXYS HATS sensor |
|  | |  |  |
| Wind Speed | |  | RMY 05103 |
|  | |  |  |
| Wind Direction | |  | RMY 05103 |
|  | |  |  |
|  | |  |  |
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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 | |  | | 47 | *Annual inspections* |
| VOS recruitment visits | |  | | 2 |  |
| VOS de-recruitment visits | |  | | 2 |  |
| VOS courtesy or foreign visits | | 3 | |  | *Barometer verifications per ships’ requests* |
| *Total visits to VOS* | | 54 | | |  |
| 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** | | 54 | | *Sum of all ship visits (VOS + ASAP + SOOP) + visits to other program (DBCP + Argo)* | |
| **Total number of PMOs(FTE\*)** | | 7 | |  | |
| (\*FTE-Full Time Employee) | |  |  | |  |

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| **g.** | **Major challenges and difficulties:** |
| * Due the aged AVOS equipment, we encountered occasional RF inferences with ships communications equipment that caused interruptions in AVOS messages transmission. * Accurate SST measurements remain an issue due to mounting location of sensor and technique. Engine intake and hull contact sensors have known challenges. * We have faced challenges retrieving AVOS equipment from ships no longer sailing from Canadian ports due to changes in vessel ownership, or changes in trade routes/contracts. | |
|  |  |
| **h.** | **Research / development / testing:** |
| N/A | |
|  |  |
| **i.** | **Other comments** |
| * Data from AVOS ships with IRIDIUM communication are available on the GTS under the header “SI/SN/SM VD02 CWAO”, however the call signs are masked and replaced with generic “SHIP” * An alternative feed of FM13 ship observations with “TRUE” call sign can be delivered to National Hydrological Meteorological Agencies, and is already in place with France, the UK, and USA. If other countries would like to receive this data in real-time, please contact EC-MSC VOS focal point. | |