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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **VOS Report for 2016** | | | | **Country =** | | | | **INDIA** | |
|  | | | | | | | | | | |
|  | **a.** | **Programme description:** | | | | | | | | |
| **Category** | | **No. of ships at**  **31 Dec 2016** | **Recruitments in 2016** | | **De-recruitments**  **In 2016** | | **Comments** | | |
| *Selected* | |  |  | |  | |  | | |
| *Selected AWS* | |  |  | |  | |  | | |
| *VOSClim* | | 32 | 13 | | 3 | | I-RAWS installed in 3 ships were discontinued due to system failure and logistical issues. Hence the number of active I-RAWS systems reduce to 32 | | |
| *VOSClim AWS* | |  |  | |  | |  | | |
| *Supplementary* | |  |  | |  | |  | | |
| *Supplementary AWS* | |  |  | |  | |  | | |
| *Auxiliary* | |  |  | |  | |  | | |
| *Auxiliary AWS* | |  |  | |  | |  | | |
| *Real-time ship mounted wave height meter* | | 1 |  | |  | |  | | |
| **National VOS Total** | | 33 |  | |  | |  | | |
|  |  | |  |  | |  | |  | | |
|  | **National VOS Target** | |  |  | |  | |  | |  |
|  | **National VOSClim Target** | | 100 |  | |  | |  | |  |
|  |  | |  |  | |  | |  | |  |
|  | **b.** | **Data management:** | | | | | | | | |
|  | *Total number of ship observations (BBXX) distributed on the GTS in 2016* | | | | | | Exact number to be obtained | | | |
|  | *Dates when VOS data submitted to the GCCs in 2016* | | | | | |  | | | |

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|  | c. | **Shipboard Automatic Weather System** | | | | | | | |
| **Type** | | | **No. of ships at 31 Dec 2016** | | **Manual Input**  **Yes / No** | | **Method of Comms** | **Year1 Plans** |
| Indian Real-time AWS system (I-RAWS) | | | 32 | | Nil | | INSAT satellite | 15 |
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|  | **d.** | **Electronic logbooks: (TurboWin, SEAS, OBSJMA)** | | | | | | | |
| **Software & version** | | **No. of ships at**  **31 Dec 2016** | | Implementation plans | | | | |
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| **e.** | **Standard Meteorological Equipment: (Types and Settings)** | | |
| **Equipment Type / Element** | | **Manual Instrumentation** | **AWS Instrumentation** |
| Barometer | |  | Setra – Barometer 270 |
|  |  |
|  |  |
| *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 | |  |  |
|  | |  |  |
| Sea Surface Temperature | |  | Wetlab FLNTUS - Ecco |
|  | |  |  |
| Wind Speed | |  | Gill - Ultrasonic |
|  | |  |  |
| Wind Direction | |  | Gill - Ultrasonic |
|  | |  |  |
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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 | |  | |  | |  |
| 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)* | | |
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| **g.** | **Major challenges and difficulties:** |
| Integrating the instruments with Indian satellite (INSAT)  Convincing the shipping companies for installations  Utilization of the data for ocean services | |
|  |  |
| **h.** | **Research / development / testing:** |
| Published the results in high impact factor Journals such as JAOT, Ocean Engineering, IEEE | |
|  |  |
| **i.** | **Other comments** |
| I-RAWS system helps in a big way for providing realiable Ocean State Forecasts (OSF) for a wide sprectrum of users. This serves as an assimilation dataset as well as an evaluation tool of various OSF activities. | |