|  |  |  |  |  |  |  |  |  |  |
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|  | **VOS Report for 2018** | | | **Country =** | | | | **SPAIN** | |
|  | | | | | | | | | |
|  | **a.** | **Programme description:** | | | | | | | |
| **Category** | | **No. of ships at**  **31 Dec 2018** | **Recruitments in 2018** | **De-recruitments**  **In 2018** | | **Comments** | | |
| *Selected* | |  |  |  | |  | | |
| *Selected AWS* | | 1 |  |  | |  | | |
| *VOSClim* | |  |  |  | |  | | |
| *VOSClim AWS* | |  |  |  | |  | | |
| *Supplementary* | |  |  |  | |  | | |
| *Supplementary AWS* | |  |  |  | |  | | |
| *Auxiliary* | |  |  |  | |  | | |
| *Auxiliary AWS* | |  |  |  | |  | | |
| *Other* | | 6 |  |  | | These ships do not transmit data through the GTS. | | |
| **National VOS Total** | | 7 |  |  | |  | | |
|  |  | |  |  |  | |  | | |
|  | **National VOS Target** | |  |  |  | |  | |  |
|  | **National VOSClim Target** | |  |  |  | |  | |  |
|  |  | |  |  |  | |  | |  |
|  | **b.** | **Data management:** | | | | | | | |
|  | *Total number of ship observations (BBXX) distributed on the GTS in 2017* | | | | | Selected AWS: Esperanza del Mar:7406  Others: No data  RV R Margalef and RV A Alvarino send the data to the IEO Data Center once a day (data are collected on boards the ships each 1 minute). These data are available for OPERATIONAL purposes by FTP  RV Sarmiento de Gamboa, RV Garcia del Cid, RV Hesperides send the data to the CSIC Data Center in real-time  RV SOCIB sends the data to the SOCIB Data Center. | | | |
|  | *Dateswhen VOS data submitted to the GCCs in 2017* | | | | |  | | | |

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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 MAWS 410 | | | Esperanza del Mar | | No | | Inmarsat-C e-mail |  |
| Automatic meteorological Station | | | R/V Ramón Margalef | | No | | Daily transmission to IEO Data Center. Data freely available for OPERATIONAL purposes via FTP (info: cedo@ieo.es) |  |
| Automatic meteorological Station | | | R/V AngelesAlvariño | | No | | Daily transmission to IEO Data Center. Data freely available for OPERATIONAL purposes via FTP (info: cedo@ieo.es) |  |
| Automatic meteorological Station | | | R/V Sarmiento de Gamboa | | No | | Data sent to the CSIC Data Center in real time every 5 seconds. |  |
| Automatic meteorological Station | | | R/V García del Cid | | No | | Data sent to the CSIC Data Center in real time every 10 seconds. |  |
| Automatic meteorological Station | | | R/V Hespérides | | No | | Data sent to the CSIC Data Center in real time every 1minute |  |
| Automatic meteorological Station | | | R/V SOCIB | | No | | Data sent to the SOCIB Data CenterCenter in real time every 1 minute (in mobile phone communication area) |  |
|  |  | | | | | |  | | |
|  | **d.** | **Electronic logbooks: (TurboWin, SEAS, OBSJMA)** | | | | | | | |
| **Software & version** | | **No. of ships at**  **31 Dec 2018** | | Implementation plans | | | | |
| Vaisala 1103 | | 1 | | Since December 7th 2016 the SHIP messages are transmitted to the GTS in BUFR code using the following headers:  ISSA01 LEMM (SHIPs 00, 06, 12 and 18UTC)  ISSA22 LEMM (SHIPs 03, 09, 15 and 21UTC)  ISSA21LEMM (hourly SHIPs) | | | | |

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| **e.** | **Standard Meteorological Equipment: (Types and Settings)** | | |
| **Equipment Type / Element** | | **Manual Instrumentation** | **AWS Instrumentation** |
| Barometer  YES | |  | Vaisala PTB220 (Esperanza del Mar) |
| *Default national setting* | | *Station Level or Mean Sea Level* | *16.2m* |
| Barometer  YES | |  | AANDERAA Scanning Unit 3010 Station (*R/V Hespérides)* |
|  | GeonicaMeteodataStation (*R/V Sarmiento de Gamboa*) |
|  | Campbell CR1000 Automatic Weather Station (*R/V*  *García del Cid)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V R. Margalef)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V A. Alvariño)* |
|  | GEONICA METEODATA 2000  Young, model 61302V (R/V SOCIB) |
| *Default national setting* | | *Station Level or Mean Sea Level* | *Station Level or Mean Sea Level* |
| Thermometers  YES | |  | Vaisala HMP155 (Esperanza del Mar) |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V R. Margalef)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V A. Alvariño)* |
|  | AANDERAA Scanning Unit 3010 Station (*R/V Hespérides)* |
|  | GeonicaMeteodataStation (*R/V Sarmiento de Gamboa*) |
|  | Campbell CR1000 Automatic Weather Station (*R/V García del Cid)* |
|  | GeonicaMeteodata 2000  GEONICA 5031 Air Temperature and Relative Humidity Sensor (*R/VSOCIB)* |
| Sea Surface Temperature  YES | |  | Yes / Hull contactVaisala HMP45D (Esperanza del Mar) |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V R. Margalef)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V A. Alvariño)* |
|  | AANDERAA Scanning Unit 3010 Station (R/V Hespérides) |
|  | GeonicaMeteodataStation (R/V Sarmiento de Gamboa) |
|  | Campbell CR1000 Automatic Weather Station (R/V García del Cid) |
|  | SeaBird SBE21 Termosalinograph / SBE38 Remote temperature |
| Wind Speed  YES | |  | Vaisala WMT700 (Esperanza del Mar) |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V R. Margalef)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V A. Alvariño)* |
|  | AANDERAA Scanning Unit 3010 Station *(R/V Hespérides)* |
|  | GeonicaMeteodataStation (*R/V Sarmiento de Gamboa*) |
|  | Campbell CR1000 Automatic Weather Station (*R/V García del Cid)* |
|  | GeonicaMeteodata 2000  Young, model 05106 Wind Monitor-MA (*R/VSOCIB)* |
| Wind Direction  YES | |  | Vaisala WMT700 (Esperanza del Mar) |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V R. Margalef)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V A. Alvariño)* |
|  | AANDERAA Scanning Unit 3010 Station *(R/V Hespérides)* |
|  | GeonicaMeteodataStation (*R/V Sarmiento de Gamboa*) |
|  | Campbell CR1000 Automatic Weather Station (*R/V García del Cid)* |
|  | GeonicaMeteodata 2000  Young, model 05106 Wind Monitor-MA (*R/VSOCIB)* |
| Humidity  YES | |  | Vaisala HMP155 (Esperanza del Mar) |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V R. Margalef)* |
|  | AANDERAA Automatic weather Station AWS 2700 *(R/V A. Alvariño)* |
|  | AANDERAA Scanning Unit 3010 Station *(R/V Hespérides)* |
|  | GeonicaMeteodataStation (*R/V Sarmiento de Gamboa*) |
|  | Campbell CR1000 Automatic Weather Station (*R/V García del Cid)* |
|  | GeonicaMeteodata 2000 (*R/VSOCIB)*  GEONICA 5031 Air Temperature and Relative Humidity Sensor |
| Solar radiation  YES | |  | AANDERAA Scanning Unit 3010 Station (*R/V Hespérides)* |
|  | AANDERAA *Automatic weather Station AWS 2700*  (Ramón Margalef) |
|  | AANDERAA *Automatic weather Station AWS 2700*  (Angeles Alvariño) |
|  | GeonicaMeteodataStation (*R/V Sarmiento de Gamboa*) |
|  | Campbell CR1000 Automatic Weather Station (*R/V García del Cid)* |

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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 visitsto VOS* | |  | | |  |
| Routine ASAP inspections | |  | |  |  |
| ASAP recruitment visits | |  | |  |  |
| ASAP de-recruitment visits | |  | |  |  |
| ASAP courtesy visits | |  | |  |  |
| *Total visitsto ASAP* | |  | |  |  |
| Routine SOOP visits | |  | |  |  |
| SOOP recruitment visits | |  | |  |  |
| SOOP de-recruitment visits | |  | |  |  |
| SOOP courtesy visits | |  | |  |  |
| *Total visitsto 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)* | |
| **Total number of PMOs(FTE\*)** | |  | |  | |
| (\*FTE-Full Time Employee) | |  |  | |  |

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| **g.** | **Major challenges and difficulties:** |
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|  |  |
| **h.** | **Research / development / testing:** |
|  | |
|  |  |
| **i.** | **Other comments** |
|  | |