|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **SOOP Report for 2018** | **Country =** | **Canada** |  | **2018** |
|  |  |  |
|  | **a.** |  |  | **Programme description:** |
| **Line** | **Agency** | **XBT/XCTD/CTD/pCO2** | **Sampling mode (if applicable), eg High Density, Frequently repeated, ad hoc etc** | **No. of Ships** | **No. of Ship Riders** **(if applicable)** |
| PX09 | Department of National Defence, Canada | XBT | Ongoing XBT activities (no target) | 1 |  |
|  | Bonavista | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 2 |  |
|  | Flemish Cap | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 3 |  |
|  | Seal Island | Fisheries and Oceans Canada | CTD | Seasonal | 1 |  |
|  | South East Grand Bank | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 2 |  |
|  | Halifax | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 1 |  |
| St. Pierre East | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 1 |  |
| Louisbourg | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 1 |  |
| Makkovik Bank | Fisheries and Oceans Canada | CTD | Seasonal | 1 |  |
|  | White Bay | Fisheries and Oceans Canada | CTD | Seasonal | 1 |  |
|  | AR7W | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 1 |  |
|  | Line P | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 1 |  |
|  | Browns Bank | Fisheries and Oceans Canada | CTD, pCO2 | Seasonal | 1 |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  | **b.** | **Data management** |
|  | **Agency** | **No. of BUFR messages sent to the GTS in 2018** | **Delayed-mode data archive location (external)** | **Originating bulletin header** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
|  | **c.** | **Major challenges and difficulties:** |
|  |  |
|  |
|  | **d.** | **Research / development / testing:** |
| BUFR transmission should start in 2019 |
|  |
|  | **e.** | **Other comments:** |
| 445 BATHY (JJYY) messages from XBTs were transmitted on the GTS and 35 additional XBT profiles received after 30 days of their collection date were sent to the Global Temperature Salinity Profile Project Continuously Managed Database (GTSPP CMD) at US NOAA NCEI Oceans, and to the Copernicus Marine Environment Monitoring Service (CMEMS). The breakdown of ships is as follows:* 4 Canadian Coast Guard Ships (155 JJVV)
* An undefined number of Department of National Defence ships (290 JJVV)

1476 TESAC (KKYY) messages from ship-operated CTDs measured by 21 different ships were transmitted on the GTS and an additional 119 were sent to the CMEMS and GTSPP CMD only. Canada also transmitted KKYY messages of temperature/salinity data measured by Argo floats, gliders, by profiling CTDs anchored to moored buoys and by a person performing CTD profiles while transiting between stations via helicopter. In 2018, Canada transmitted ocean profile data in BUFR from Argo floats only.35146 TRACKOB (NNXX) messages of thermosalinograph observations from a cargo ship (Oceanex Connaigra) were transmitted on the GTS. DFO further operates thermosalinographs on the following ships:CCGS Hudson (SBE 21 SeaCAT with a Pro-Oceanus Systems inc. CO2-Pro pCO2 sensor)CCGS Vector (SBE 21)CCGS John P. Tully (SBE 45, pCO2 sensor)CCGS Sir Wilfrid Laurier (SBE 21, chlorophyll)CCGS Louis S. St-Laurent (SBE 21, pCO2 sensor, CDOM/ fluorometer)DFO operates underway ADCPs on the following vessels: CCGS Hudson (75 KHz)CCGS Teleost (150 KHz)CCGS M. Perley (150 KHz)The Ocean Networks Canada consortium operates a surface underway measurement program on 3 passenger ferry routes between the British Columbia mainland and Vancouver Island, using the SeaKeeper instrument system, and manages thermosalinograph and/or underway ADCP data from 4 additional research vessels : E/V Nautilus (Ocean Exploration Trust), Okeanos Explorer (US NOAA), R/V Falkor (Schmidt Ocean Institute) and R/V Thomas G. Thompson (University Of Washington / Office of Naval Research). See: <http://dmas.uvic.ca/DataSearch?location=MOBP>The Canada Excellence Research Chair in Ocean Science and Technology (Dalhousie University) operates an ocean observing underway system on the Atlantic Condor, a multipurpose supply vessel that runs weekly to biweekly between the Halifax Port and the Deep Panuke gas platform off Sable Island on the Scotian Shelf. |
|  |