**DATA BUOY COOPERATION PANEL (DBCP)**

**FORMAT FOR NATIONAL REPORTS ON CURRENT AND   
PLANNED BUOY PROGRAMMES**

|  |  |
| --- | --- |
| **Country** | ITALY |
| **Year** | 2022 |

**Please Identify your Programme’s Major Opportunities and Challenges/Risks during the upcoming year and how DBCP can most effectively assist your Programme.**

1. ***CURRENT PROGRAMME:***

**Please Identify your Programme’s Major Opportunities and Challenges/Risks during the upcoming year and how DBCP may assist your Programme.**

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| --- | --- | --- |
| **Agency or programme** | Sistema Nazionale per la Protezione dell’Ambiente - SNPA  (National System for Environmental Protection) | |
| Number and type of buoys | (a) deployed during the year | - 1 moored buoy (ISPRA) |
| (b) operational as of 31 August | - 8 moored buoys (ISPRA)  - 1 moored buoy (ARPA Emilia-Romagna)  - 1 moored buoy (ARPA Liguria) |
| (c) reporting on GTS as of 31 August |  |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [x] |
| (b) met / ocean research | [x] |
| (c) developmental | [ ] |
| Main deployment areas | Mediterranean Sea | |
| Vandalism incidents | (a) Number of incidents 1 unmooring | |

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| **Agency or programme** | Local administrations of the Italian regions | |
| Number and type of buoys | (a) deployed during the year |  |
| (b) operational as of 31 August | - 2 moored buoys (Regione Toscana)  - 2 moored buoys (Regione Campania) |
| (c) reporting on GTS as of 31 August |  |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [x] |
| (b) met / ocean research | [ ] |
| (c) developmental | [ ] |
| Main deployment areas | Mediterranean Sea | |
| Vandalism incidents | (a) Number of incidents NONE | |

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| **Agency or programme** | Istituto Nazionale di Oceanografia e di Geofisica Sperimentale  - OGS | |
| Number and type of buoys | (a) deployed during the year |  |
| (b) operational as of 31 August | - 2 moored buoys  - 15 SVP |
| (c) reporting on GTS as of 31 August | - 15 SVP |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [ ] |
| (b) met / ocean research | [x] |
| (c) developmental | [ ] |
| Main deployment areas | Mediterranean Sea, South Atlantic, South Pacific | |
| Vandalism incidents | (a) Number of incidents NONE | |

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| **Agency or programme** | Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile - ENEA | |
| Number and type of buoys | (a) deployed during the year |  |
| (b) operational as of 31 August | - 1 moored buoy (elastic beacon) |
| (c) reporting on GTS as of 31 August |  |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [ ] |
| (b) met / ocean research | [x] |
| (c) developmental | [ ] |
| Main deployment areas | Mediterranean Sea, South Atlantic, South Pacific | |
| Vandalism incidents | (a) Number of incidents NONE  . | |

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| **Agency or programme** | Istituto Nazionale di Geofisica e Vulcanologia (INGV) | |
| Number and type of buoys | (a) deployed during the year |  |
| (b) operational as of 31 August | - 4 anchored spar buoys (MEDUSA infrastructure) |
| (c) reporting on GTS as of 31 August |  |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [x] |
| (b) met / ocean research | [x] |
| (c) developmental | [x] |
| Main deployment areas | Mediterranean-Tyrrhenian Sea (Gulf of Pozzuoli, Naples) | |
| Vandalism incidents | (a) Number of incidents NONE | |

***2. PLANNED PROGRAMMES:***

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| --- | --- | --- |
| **Agency or programme** | Sistema Nazionale per la Protezione dell’Ambiente - SNPA  (National System for Environmental Protection) | |
| Number and type of buoys | planned for deployment in the next 12 months | - 17 moored buoys (ISPRA) |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [x] |
| (b) met / ocean research | [x] |
| (c) developmental | [ ] |
| Main deployment areas | Mediterranean Sea | |

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| **Agency or programme** | Local administrations of the Italian regions | |
| Number and type of buoys | planned for deployment in the next 12 months | - 4 moored buoys (ARPA Calabria) |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [x] |
| (b) met / ocean research | [ ] |
| (c) developmental | [ ] |
| Main deployment areas | Mediterranean Sea | |

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| **Agency or programme** | Istituto Nazionale di Geofisica e Vulcanologia (INGV) | |
| Number and type of buoys | planned for deployment in the next 12 months | - 1 anchored spar buoy |
| Purpose of programme  *(check/uncheck boxes using [\_] or [x] as appropriate)* | (a) operational | [x] |
| (b) met / ocean research | [x] |
| (c) developmental | [x] |
| Main deployment areas | Mediterranean-Tyrrhenian Sea (Gulf of Pozzuoli, Naples) | |

***3. TECHNICAL DEVELOPMENTS:***

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| (a) Buoy design | * ISPRA: Agreement with CNR ISMAR for the comparison of the methodology for measuring sea waves using an accelerometric buoy with that of a stereo-photogrammetric system in the operational phase * INGV: elastic beacon’s, turret’s, pole’s with float buoyancies, anchor’s, underwater multi-parametric observatories |
| (b) Instrumentation | * INGV: CTD, pH, Eh, pCO2, current-meters, MET stations, underwater HD-cameras, APG’s, Triaxial Ocean Bottom Seismometers, Triaxial MEMS accelerometers, Tiltmeters, GNSS’s |

***4. PUBLICATIONS (on programme plans, technical developments, QC reports, etc.):***

|  |  |  |
| --- | --- | --- |
| ***Ref*** | ***Title*** | ***Type[[1]](#footnote-1)*** |
| 1 | G.B. Rossi, G. Nardone, M. Picone, G. Settanta, F. Crenna, M. Berardengo (2022), Improvement in the Post-Processing of Wave Buoy Data.  Proceedings of the IEEE International workshop on metrology for the sea | 3, 4, 5 |
| 2 | A. de Santis, S. Guardato, et al (2022)  InSEA Project: Initiatives in Supporting the consolidation and enhancement of the EMSO infrastructure and  related Activities.  Special issue of Frontiers in Marine Science “The Discovery of the Unknown Planet: The Ocean”  Front. Mar. Sci. 9:846701. doi: https://doi.org/10.3389/fmars.2022.846701 | 1, 2, 3 |

***5. ADDITIONAL COMMENTS:***

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| --- | --- |
| (a) Quality of buoy data | * ISPRA: Automatic quality control * INGV: Automatic/Manual quality control |
| (b) Communications | * ISPRA: Data transmission is performed via Iridium SBD * INGV: Real-Time Data transmission is performed via GSM/UMTS-4G and 5GHz Wi-Fi routers |
| (c) Buoy lifetimes | * INGV: Buoy CFSB (2 years) * INGV: Buoy CFBA, CFBB, CFBC (20 years) * INGV: Buoy CFSF (25 years) |
| (d) Data Accessibility[[2]](#footnote-2) | * ISPRA:   <https://www.mareografico.it/>, <http://dati.isprambiente.it/>   * ARPA Liguria:   <http://servizi-meteoliguria.arpal.gov.it/boacapomele.html>   * ARPA Emilia-Romagna:   [https://www.arpae.it/it/temi-ambientali/mare/dati-e- indicatori/dati-boa-ondametrica](https://www.arpae.it/it/temi-ambientali/mare/dati-e-%20%20%20indicatori/dati-boa-ondametrica)   * Regione Toscana: <https://www.sir.toscana.it/pluviometria-pub> * OGS: <https://nodc.inogs.it/> * INGV-Osservatorio Vesuviano-Napoli:   <http://medusa.ingv.it/index.php> |
| (e) New Observations[[3]](#footnote-3) | * ISPRA: filling spatial gaps * ARPA Calabria: filling spatial gaps * INGV: new parameters (CTD, pH, Eh, pCO2) |
| (f) GFCS and WIGOS[[4]](#footnote-4) | * Italian national marine data will be available for WIGOS through the WIS Portal of the National Meteorological and Climatological Center of the Italian Air Force <https://dcpc.meteoam.it/dw/> |
| (g) Additional Requirements[[5]](#footnote-5) |  |
| (h) DBCP Linkages[[6]](#footnote-6) |  |
| (i) Contribution to UN Decade and UN SDGs[[7]](#footnote-7) |  |
| (j) Other (i.e. Impact of COVID19 on observing systems and mitigation efforts) |  |

Note: It is recommended that this form is filled in electronically and returned also electronically to the Secretariat. A template of the form can be downloaded from the following SharePoint site:

<https://wmoomm.sharepoint.com/:w:/s/wmocpdb/EQ1z8KndbxREkzE6RH4NFkkBDdvOItne74OP8f4voMMSbg?e=pgru6r>

**ANNEX - FORM FOR REPORTING INCIDENTS OF VANDALISM ON DATA BUOYS**

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| **Country** | | |  | | | | | |
| **Contact person e-mail** | | |  | | | | | |
| **Year** | **Buoy Location** | | **Type of Buoy**  **(e.g. Tsunami / Met -Ocean Buoy/Drifter/ARGO floats/ Other)** | **Type of damage to buoy** | **Buoy id/WMO id** | **Number of days of transmission lost** | **Cost of replacement** | **Remarks**  **(e.g. whether photos have been taken)** |
| **Latitude** | **Longitude** |  |
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| **Efforts taken against vandalism** | | |  | | | | | |
| **Awareness meeting Organised** | | |  | | | | | |
| **Suggestions (if any)** | | |  | | | | | |
| **Photos on Vandalism** | | | (please include pictures if available; and email electronic versions to [dbcp-tc@jcommops.org](mailto:dbcp-tc@jcommops.org) and [karen.grissom@noaa.gov](mailto:karen.grissom@noaa.gov) ) | | | | | |

Note: It is recommended that this form is filled in electronically and returned electronically also to OceanOPS([dbcp-tc@jcommops.org](mailto:dbcp-tc@jcommops.org) and [karen.grissom@noaa.gov](mailto:karen.grissom@noaa.gov) ). A template of the form can be downloaded from the following SharePoint site: <https://wmoomm.sharepoint.com/:w:/s/wmocpdb/EXsq1FXv0vpHmOjQA-tTobwBMrNnjXnaQok3oudPhKIb3A?e=2IR9Wh>

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1. : Types of publications: (1) Implementation, (2) Operations, (3) Instrumentation, (4) Quality Management, (5) Data Management, (6) Data collection and/or location, (7) Data use, (8) Other [↑](#footnote-ref-1)
2. How does the international community access the ocean observing data provided by your Organization [↑](#footnote-ref-2)
3. What new ocean observations does your Organization plan to make in the upcoming year (i.e. new parameters, expanding geographic scope, filling spatial or latency gaps)? [↑](#footnote-ref-3)
4. How do your Organization’s observations contribute to the WMO’s Integrated Global Observing System (WIGOS) and/or Global Framework for Climate Services (GFCS)? [↑](#footnote-ref-4)
5. What additional requirements (other than climate) does your organization have that are currently not adequately addressed by the DBCP? [↑](#footnote-ref-5)
6. How would your organization benefit from DBCP’s closer linkages to the Global Ocean Observing System(GOOS), Data Management and Modelling Communities? [↑](#footnote-ref-6)
7. How do your ocean observing networks contributing to the UN decade on Ocean Science and UN Sustainable Development Gloas . [↑](#footnote-ref-7)