DATA BUOY COOPERATION PANEL (DBCP)

FORMAT FOR NATIONAL REPORTS ON CURRENT AND PLANNED BUOY PROGRAMMES

Country	Ecuador
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.

As part of the strengthening of the ocean observation system in Ecuadorian waters, Inocar acquired six ocean buoys to collect in-situ oceanographic and meteorological data. Two new tsunamis buoys have also been integrated to this system. The installation of the new buoys will allow us to expand surface and vertical monitoring coverage. However, remotely acquiring data offshore presents many challenges, including the potential for interference or intentional damage by human action.

1. CURRENT PROGRAMME:

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

Agency or programme		
Number and type of buoys	(a) deployed during the year	03
	(b) operational	01 Triaxy 04 DART EBM24-TS
	(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	**Galápagos Island** • Puerto Ayora 0°46.0650'S; 90°17.4200'W. **Eastern Pacific Ocean** • 02°50'52.6248 N; 94°47'30.0437 W • 03°23'40.1306 S; 88°18'23.0941 W **Off the coast of Ecuador** • Esmeraldas 00°15'18.2544 N; 81°12'40.6632 W • Manta 00°53'17.2825 S; 81°39'50.8856 W	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

(repeat table above as often as necessary)

2. PLANNED PROGRAMMES:

Agency or programme	**Instituto Oceanográfico y Antártico de la Armada de Ecuador**: Ocean observation system	
Number and type of buoys	planned for deployment in the next 12	02 ocean buoys

	months	02 Triaxys
Purpose of programme *(check/uncheck boxes using [_] or [x] as appropriate)*	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[ ]
Main deployment areas	• Eastern Pacific Ocean • Manta	

(repeat table above as often as necessary)

3. <u>TECHNICAL DEVELOPMENTS:</u>

(a) Buoy design	• TRIAXYS buoy • Tsunami buoy EBM24-TS • Ocean buoy – EBM24-OC
(b) Instrumentation	**TRIAXYS buoy**  • Wave sensor Module • ADCP • GPS positioning • Inmarsat/ISA DATA PRO (IDP) • Sensor Water temperature **Tsunami buoy EBM24-TS**  • Pressure sensor: STSU-8106 • Medium frecuency band (14 - 19) KHz • Weight in air/water (28.2 kg/14.2kg) • Transmission through the Iridium satellite communications link **Ocean buoy – EBM24-OC**  • CTDO • ADCP • Oxygen Sensor • Wave sensor • Meteorological station

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

Ref	*Title*	*Type[1]*
1	Swells Report	Other: navigation safety
2	Swan Model Validation	Data use: Operational Oceanography
3	Tsunami report to support risk management	
4		

(repeat rows in the table above as necessary)

5. ADDITIONAL COMMENTS:

(a) Quality of buoy data	● INOCAR is developing the documentation of Quality Controls for the data Buoys.
(b) Communications	● Triaxys directional wave Buoy have Inmarsat/ISA DATA PRO (IDP) Satelital communication. ● Tsunami Buoy have IRIDIUM Satelital Comunication. ● Ocean Bouy
(c) Buoy lifetimes	● Triaxys: Batteries 5 years.
(d) Data Accessibility[2]	● https://www.inocar.mil.ec/web/index.php/productos/monitoreo-oceanico
(e) New Observations[3]	● INOCAR will expand spatial coverage with the installation of 04 ocean buoy, with CTDO, ADCP, Oxygen Sensor, Wave sensor and Meteorological station
(f) GFCS and WIGOS[4]	
(g) Additional Requirements[5]	●
(h) DBCP Linkages[6]	
(i) Contribution to UN Decade and UN SDGs[7]	● **UN Decade-Challenge 7:** Expand the Global Ocean Observing System ● **SDG** 14
(j) Other (i.e. Impact of COVID19 on observing systems and mitigation efforts)	● COVID-19 had significant impacts on the maintenance operations of observational platforms. In particular, during the first restriction

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

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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

2 How does the international community access the ocean observing data provided by your Organization

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)?

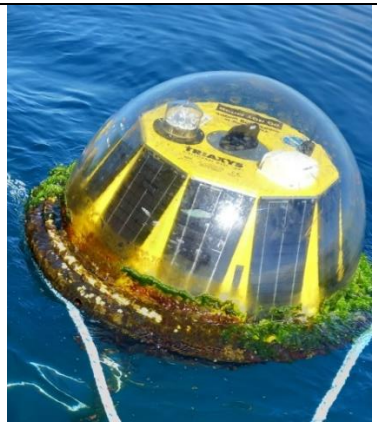
4 How do your Organization's observations contribute to the WMO's Integrated Global Observing System (WIGOS) and/or Global Framework for Climate Services (GFCS)?

5 What additional requirements (other than climate) does your organization have that are currently not adequately addressed by the DBCP?

6 How would your organization benefit from DBCP's closer linkages to the Global Ocean Observing System(GOOS), Data Management and Modelling Communities?

7 How do your ocean observing networks contributing to the UN decade on Ocean Science and UN Sustainable Development Gloas .

ANNEX - FORM FOR REPORTING INCIDENTS OF VANDALISM ON DATA BUOYS

Country			Ecuador					
Contact person e-mail			susy.marin@inocar.mil.ec					
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**						
2020	03°12'33.9755"S	80°8'44.5727"W	**DIRECTIONAL WAVE BUOY**	Equipment missed. Supposed the buoy was hit by ship.		Data transmission only for about 2 months	90000	No photo of the incident.
2022	0°46.0650'S;	90°17.4200'W.	**DIRECTIONAL WAVE BUOY**	Little scratches on the dome.		No	No	
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 and 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 and 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