

DATA BUOY COOPERATION PANEL (DBCP)

FORMAT FOR NATIONAL REPORTS ON CURRENT AND
PLANNED BUOY PROGRAMMES

Country	Peru
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.

Agency or programme	Dirección de Hidrografía y Navegación, NAYLAMP-2 Project	
Number and type of buoys	(a) deployed during the year	2021 - 2022
	(b) operational as of 31 August	Yes
	(c) reporting on GTS as of 31 August	No
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	Northern part of Peru – 220 nautical miles from the Paita's port	
Vandalism incidents	(0) 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)

Agency or programme	Instituto Geofísico del Perú, SEPICAF 1 Project	
Number and type of buoys	(a) deployed during the year	9 (deployed in 2021)
	(b) operational as of 31 August	9
	(c) reporting on GTS as of 31 August	9
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input checked="" type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	South Eastern Pacific (Peruvian coast)	
Vandalism incidents	(a) Number of incidents If vandalism incidents have occurred during the year, please provide the details using the form in the annex.	

2. PLANNED PROGRAMMES:

Agency or programme	Instituto Geofísico del Perú, SEPICAF 1 Project	
Number and type of buoys	planned for deployment in the next 12 months	8
Purpose of programme (check/uncheck boxes using [] or [x] as appropriate)	(a) operational	<input checked="" type="checkbox"/>
	(b) met / ocean research	<input checked="" type="checkbox"/>
	(c) developmental	<input type="checkbox"/>
Main deployment areas	South Eastern Pacific (Peruvian coast)	

(repeat table above as often as necessary)

3. TECHNICAL DEVELOPMENTS:

(a) Buoy design	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • EMB-OC 24 Oceanographic Buoy designed and manufactures by MSM. • Superstructure is made by galvanized steel structure, coated with polyurethane paint. • Diameter of the float is 2.4 meters, its material is solid sheet of closed cell polyethylene foam. <p>SEPICAF 1</p> <p>ARGO floats were donated to Peru under the development and implementation of the SEPICAF 1 project; having two types:</p> <ul style="list-style-type: none"> • ARVOR I • PROVOR DO-I
(b) Instrumentation	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • Arrangement of temperature, salinity and dissolved oxygen sensor in seawater at different depths (surface, 10, 20, 50, 100, 150, 200, 300 and 500 meters depth). • Wave gauge. • Current profile with a minimum measurement range of 500 meters deep. • Ais. <p>SEPICAF 1</p> <ul style="list-style-type: none"> • ARVOR I provides salinity, temperature and pressure profiles with position information thanks to an integrated GPS receiver. <p>PROVOR DO-I is designed to acquire CTD and Dissolved oxygen profiles from 2000 meters to the surface, also with a GPS.</p>

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

Ref	Title	Type ¹
1	EBM-OC 24 Oceanographic Buoy User Manual	Operations
2	EBM-OC 24 Oceanographic Buoy User Manual ANNEX	Instrumentation
3	Monthly technical report about El Niño phenomenon https://repositorio.igp.gob.pe/	7
4	Monthly Peruvian official statement by ENFEN (<i>Comité Multisectorial encargado del Estudio Nacional del Fenómeno El Niño</i>)	7

(repeat rows in the table above as necessary)

5. ADDITIONAL COMMENTS:

(a) Quality of buoy data	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • Both buoys are working under the guidelines of the IOC. <p>SEPICAF 1</p> <p>Argo floats has two quality control levels:</p>
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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

	<ul style="list-style-type: none"> • The first level is the real-time system that performs a set of automatic checks and adjustments. • The second level is the delayed-mode system that consists of evaluation and adjustment of the data by experts. <p>REFERENCE</p> <p>https://archimer.ifremer.fr/doc/00228/33951/32470.pdf</p>
(b) Communications	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • The MS_SAT module uses the SBD-type Iridium satellite network as the communication platform.
(c) Buoy lifetimes	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • Buoy: 30 years. • Sensors: 10 years. • Depending on the maintenance. <p>SEPICAF 1</p> <ul style="list-style-type: none"> • 3-5 years
(d) Data Accessibility ²	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • At the moment the international community cannot access to the data. <p>SEPICAF 1</p> <p>Data: https://fleetmonitoring.euro-argo.eu/dashboard?Status=Active</p> <p>Products: http://met.igp.gob.pe/variabclim/argo.html</p>
(e) New Observations ³	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • We have plans to install more buoys in order to fulfil our oceanographic spatial gaps. <p>SEPICAF 1</p> <ul style="list-style-type: none"> • Between 2023-2024, the Instituto Geofísico del Perú is planned to deploy 8 Argo floats in front of the Peruvian coast as a part of the proposed SEPICAF 2 project, which is lead, by France.
(f) GFCS and WIGOS ⁴	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • At the moment the obtained information it is not contributing either with WIGOS nor with GFCS, although it is planned to discuss this matter within the World data Centre's. <p>SEPICAF 1</p> <ul style="list-style-type: none"> • The ARGO floats data provide information to be used by numerical models for climate prediction.
(g) Additional Requirements ⁵	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> • The development of an anti-vandalism plans for the instruments. <p>NAYLAMP-2</p>

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?

	<ul style="list-style-type: none"> The way to incorporate our oceanographic buoys to the international network.
(h) DBCP Linkages ⁶	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> Support in the development of the better observational and data processing system.
(i) Contribution to UN Decade and UN SDGs ⁷	<p>NAYLAMP-2</p> <p>Greater real-time monitoring of oceanographic conditions, specially related to The Niño and La Niña phenomena, working as tolls to prevent flooding and other type of disasters in the western South American coasts, including Peru.</p>
(j) Other (i.e. Impact of COVID19 on observing systems and mitigation efforts)	<p>NAYLAMP-2</p> <ul style="list-style-type: none"> Maintenance of the Buoys was delayed. <p>SEPICAF 1</p> <p>In 2021, COVID-19 delayed the ARGO float deployment for one year and a half.</p>

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/EQ1z8KndbxREkzE6RH4NFkkBDdvOIItne74OP8f4voMMSbg?e=pgru6r>

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

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

ANNEX - FORM FOR REPORTING INCIDENTS OF VANDALISM ON DATA BUOYS

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						
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@icommops.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@icommops.org and karen.grissom@noaa.gov). A template of the form can be downloaded from the following SharePoint site: <https://wmoomm.sharepoint.com/:vr/s/wmooppdb/EXsg1FXv0vpHmQjQA-tTobwBMrNjXnaQok3oudPhK1b3A?e=2IR9Wh>
