DATA BUOY COOPERATION PANEL (DBCP)

FORMAT FOR NATIONAL REPORTS ON CURRENT AND PLANNED BUOY PROGRAMMES

Country	CHILE
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	**Oceanographic and Meteorological Wave Program Hydrographic and Oceanographic Service of the Chilean Navy**	
Number and type of buoys	(a) deployed during the year	2
	(b) operational as of 31 August	4
	(c) reporting on GTS as of 31 August	0
Purpose of programme *(check/uncheck boxes using [_] or [x] as appropriate)*	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[ ]
Main deployment areas	TRIAXYS: 06 nautical miles SW of Iquique, Chile WATCHKEEPER: 8 nautical miles N of Valparaíso, Chile WATCHKEEPER: 10 nautical miles W of Talcahuano, Chile TRIAXYS: 06 nautical miles E of Punta Arenas, Chile	
Vandalism incidents	(a) Number of incidents: 0	

Agency or programme	**National Tsunami Warning System – DART buoy Hydrographic and Oceanographic Service of the Chilean Navy**	
Number and type of buoys	(a) deployed during the year	0
	(b) operational as of 31 August	5
	(c) reporting on GTS as of 31 August	5
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	DART II: 180 nautical miles W of Iquique, Chile DART 4G: 93 nautical miles W of Antofagasta, Chile DART II: 160 nautical miles W of Caldera, Chile DART 4G: 121 nautical miles NW of Valparaíso, Chile DART 4G: 120 nautical miles NW of Talcahuano, Chile	
Vandalism incidents	(a) Number of incidents: 1. Wire Jacket was cut by fisherman.	

2. ***PLANNED PROGRAMMES:***

Agency or programme	**Oceanographic and Meteorologic Wave Program Hydrographic and Oceanographic Service of the Chilean Navy**	
Number and type of buoys	planned for deployment in the next 12 months	1
Purpose of programme *(check/uncheck boxes using [_] or [x] as appropriate)*	(a) operational	[x]
	(b) met / ocean research	[x]
	(c) developmental	[ ]
Main deployment areas	WATCHKEEPER: 25 nautical miles NW of Chaitén, Chile	

Agency or programme	**National Tsunami Warning System – DART buoy Hydrographic and Oceanographic Service of the Chilean Navy**	
Number and type of buoys	planned for deployment in the next 12 months	0
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		

3. ***TECHNICAL DEVELOPMENTS:***

(a) Buoy design	● Waves Program o TRIAXYS Buoy, AXYS. o WatchKeeper Buoy, AXYS. ● Tsunami Program o DART II (using STB hull), SAIC. o DART 4G (without ETD system), SAIC.
(b) Instrumentation	● Waves Program o TRIAXYS Buoy: Wave and Water Surface Temperature. o WatchKeeper Buoy: Meteorological, Waves, Currents, Temperature, Conductivity, pH and Oxygen. ● Tsunami Program o DART System: BPR (Pharos System)

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

Ref	***Title***	***Type[1]***
1	SHOA's waves buoy: QC and deployment system	Annual Report
2	Wave Characterization in Iquique's Bay, Chile	Technical report
3	QARTOD Method to QC Wave Data	Technical report

[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

5. ***ADDITIONAL COMMENTS:***

(a) Quality of buoy data	● SHOA – QARTOD Method to QC
(b) Communications	● Wave Buoy: GSM, Iridium, Inmarsat, Radio ● DART Buoy (II and 4G): Iridium
(c) Buoy lifetimes	● Wave Buoy: Maintenance every year, ● DART buoy: Maintenance every 18 months.
(d) Data Accessibility[2]	● Wave buoy: www.shoa.cl/php/boyas ● DART Buoy: www.ndbc.noaa.gov/
(e) New Observations[3]	● New sensor SEAPHOX (Sea Bird) on wave buoys
(f) GFCS and WIGOS[4]	● None
(g) Additional Requirements[5]	● None
(h) DBCP Linkages[6]	● None
(i) Contribution to UN Decade and UN SDGs[7]	● Waves and oceanographic data are deploy in website.
(j) Other (i.e. Impact of COVID19 on observing systems and mitigation efforts)	1.- Due to budget restrictions, the following activities will not take place: ● Spare elements are reduced during 2022 for DART systems. ● Reduction of data broadcasted by satellite telemetry for wave buoys. 2.- Chilean local company was appointed for manufacturing mooring lines, reducing costs and shipping time. Actually a wave and tsunami buoy system is using it.

[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			Chile					
Contact person e-mail			Head of Oceanography Department: Lieutenant Harald A. Urbina: hurbina@shoa.cl, 56 – 32 - 2266670 Technical Operator programmer: Juan Pablo Jorquera, jjorquera@shoa.cl, 56 – 32 – 2266684					
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**						
2022	-32.1267	-73.786	DART 4G	Wire jacket	32404	6 month	US$16.000	
Efforts taken against vandalism			• Local maritime authorities convey to fishermen about benefits of buoys deployed in national waters, in order to obtain commitment from them.					
Awareness meeting Organised			Local maritime authorities convey to fishermen about benefits of buoys deployed in national waters, in order to obtain commitment from them.					
Suggestions (if any)			To promote with the industry development of low cost (data, energy and hardware) surveillance systems.					
Photos on Vandalism			(please include pictures if available; and email electronic versions to dbcp-tc@jcommops.org and dr.r.venkatesan@gmail.com)					

Note: It is recommended that this form is filled in electronically and returned electronically also to JCOMMOPS (dbcp-tc@jcommops.org and dr.r.venkatesan@gmail.com). A template of the form can be downloaded from the following SharePoint site: https://wmoomm.sharepoint.com/:w:/s/wmocpdb/EWEIKZI3k-FCqR-wKAa1-xwBxf9UIgRaQF4CgcGQw8WkEA

figure 1: DART 4G

figure 2: WIRE JACKET