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IHO CAPACITY BUILDING SUB-COMMITTEE (CBSC)
South East Pacific Regional Hydrographic Commission (SEPRHC)
3-Year Plan 2022 – 2024

I. LONG TERM STRATEGY

A. MISSION AND VISION

The Southeast Pacific Regional Hydrographic Commission is integrated by: Chile, Colombia, Ecuador and Peru, in addition to the participation of Panama, as an observer (Figure 1).



Figure 1.- Region and Commission country members (Source: IHO web site)



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The Regional mission and vision are based on the statutes of the Regional Commission and its objectives, published on the IHO website, among which are to promote technical cooperation, extend hydrographic activity in the region and facilitate exchange of related technical information, among others.

In addition, in the context of capacity building, the Region has the vision of an integral and continuous development, accordingly to the technological needs of hydro-carto-oceanographic activity, in a relatively homogeneous way between the Hydrographic Services that comprise it, taking into account joint work, in a spirit of collaboration and coordination that allows the achievement of the common objectives that animate the Region.

In this way, such objectives are aligned with the principles and objectives set out in the IHO Capacity Building Strategy, to achieve comprehensive and coordinated development among the countries of the Region.

B. FOUNDATIONS OF THE STRATEGY

In the particular case of the Southeast Pacific Region, which ranges from the Panama Canal in the North, to the parallel 60° South latitude, the western coast of South America up to 120 ° W, the rationale is that it is an extensive area maritime, with a coastline of more than 8000 km long, having the responsibility of managing 3 NAVAREAS (XII, XV and XVI), from where multiple products and goods enter and leave from the American Continent to all destinations, particularly the rest of the Pacific Ocean basin, using various ships and boats, depending on the activity and / or cargo (see figure 2).

This high activity requires that users of various ships, vessels and boats have the best and most adequate information available, which gives them safe transit through the region. For this reason, hydrographic offices must have the capacity and preparation to provide such information with the expected standards and levels, on a par and with the technological developments achieved by the maritime, navigation and hydrographic surveys industry.

According to the above, rapid technological change has replaced the paradigms of navigation, therefore, there is a clear need to establish a continuous investment in education and training, which allows Hydrographic Services to provide quality products and services that satisfy the new demands of the maritime community; consequently, the



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design of a training plan needs to take into account the following principles:

1. Human, financial and time resources are limited.
2. Planning must be realistic.
3. There must be a commitment from the coastal State to work in a coordinated and collaborative way with the Region and the IHO.

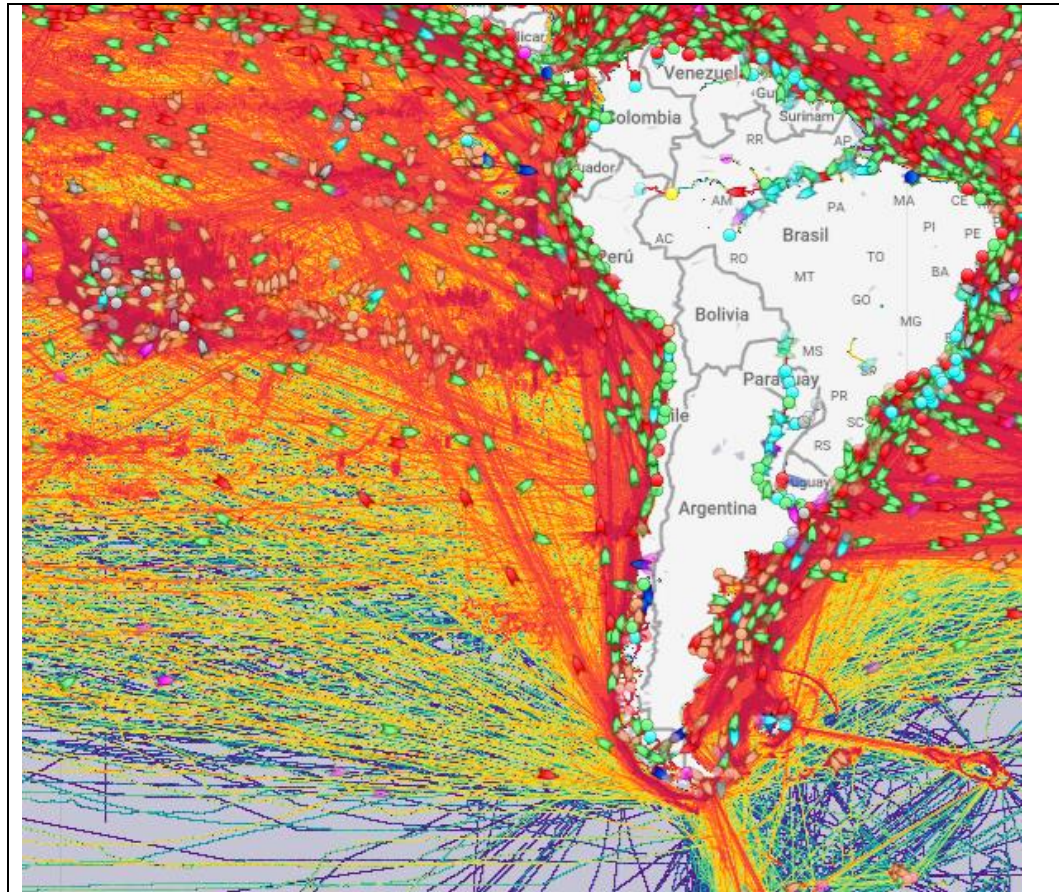


Figure 2.- Activity and movement of maritime traffic in the Region
(Source: Marine Traffic web site)

C. BASE LINE

To establish a line of action, with clear and concrete objectives, which are in line with long-term approaches, the region has developed a self-evaluation process under the scheme designed according to the IHO capacity-building strategy.



1. SELF-ASSESSMENT

STAGE	DESCRIPTION	SITUATION			
		Chile	Colombia	Ecuador	Perú
STAGE 1	Compilation and transmission of the nautical information necessary to keep existing charts and publications up to date.	4	4	4	4
STAGE 2	Development of capacities to carry out hydrographic surveys, whether these projects are coastal or offshore.	4	4	4	4
STAGE 3	Independent production of paper charts, electronic nautical charts and electronic publications.	4	4	4	4

WEIGHT	DESCRIPTION
0	The country is not aware of its national liabilities.
1	The country is aware of its national liabilities but does not have the means to do so.
2	The country has the ability to meet its national liabilities.
3	The country has the ability to meet its obligations through a third party.
4	The country sustainably fulfills its national liabilities.

2. NATIONAL HYDROGRAPHIC COMMITTEE AND TECHNICAL VISITS

In the context of capacity assessment, the existence of a National Hydrographic Committee (NHC) or National Hydrographic Coordination Committee is considered, as well as technical visits made by the CBSC in recent years.

STATE	NHC/NHCC			CBSC TECHNICAL VISIT		
	YES	NO	IN PROCESS	YES	NO	YEAR
Chile	X				X	---
Colombia			X		X	---
Ecuador		X			X	---
Perú		X			X	---



II. MEDIUM TERM STRATEGY

A. AXES AND OBJECTIVES

It is also appropriate to mention that the member states of the CHRPSE are signatories to the Convention for the Safety of Life at Sea of the International Maritime Organization. Therefore, this Capacity Building Plan helps lead and lead the effort to help Member States meet these obligations.

1. PRIORITIES

The Region recognizes the multiple efforts of the CBSC to meet and cover all the needs in capacity building, present at the global level; it is a permanent challenge. In the same order, the Region has also had to establish its priorities, according to the needs and levels of development determined, in order to be able to achieve, in the most optimal way, a relatively comprehensive, homogeneous and coordinated development, following the guidelines established in the CBSC's development strategy, according to the process indicated in the "Self-evaluation" point.

In the same way, as mentioned in the previous paragraphs, and in line with the perspectives delivered at the CBSC meetings, the Region has set three main lines of development and capacity building in the short term:

2. MAIN LINES OF DEVELOPMENT AND CAPACITY BUILDING

- a. Migration to the OHI S-100 standard and its derived standards.
- b. Data Infrastructure, management, processing and quality control.
- c. Use of new technologies in hydrographic surveys.



III. SHORT TERM STRATEGY

A. COURSES

The member countries of the Region offer the following courses on a regular basis. Duration is specified and if it accepts students from other countries:

STATE	COURSE	YEAR	DURATION	REGULAR	OPEN TO FOREIGN STUDENTS
Chile	Hydrography Cat. "A"	2022	2 years	YES	YES
	Hydrography Cat. "A"	2023	2 years	YES	YES
Colombia	Hydrography Cat. "A"	2022	1.5 years	YES	YES
	Hydrography Cat. "B"	2022	2 years	YES	YES
	Hydrography Cat. "A"	2023	1.5 years	YES	YES
	Hydrography Cat. "B"	2023	2 years	YES	YES
Ecuador	Hydrography Cat. "B"	2022	1 year	YES	NO
Perú	Hydrography Cat. "B"	2022	1 year	YES	YES (*)
	Hydrography Cat. "B"	2023	1 year	YES	YES (*)

(*) 2 vacancies

B. PROJECTS

The projects for the year 2021 were presented to the CBSC for the 18th meeting of the year 2020. Of the 4 projects presented by the Region, incorporated into the CBSC 2021 work plan, one is with funding and 3 were pending assignment of funds, according to the following detail:

Year 2021

Nr.	PROJECT	BUDGET	RESOURCES
P-14	Workshop on MSI	22 731 €	IHO 2022
P-22	Workshop "Update coastline for nautical cartography through the use of unmanned aerial vehicles"	29 499 €	Not yet founded
P-27	Workshop on CSB	29 740 €	Not yet founded
P-30	Technical Workshop on standardization in the use of software tools "CARIS Composer Paper Chart"	27 820 €	Not yet founded



Year 2022

For the year 2022, the project P-14 of the year 2021 Workshop on MSI was transferred and the project P-07 Bathimetric Database Management has been approved:

Nr.	PROJECT	BUDGET	RESOURCES
P-07	Bathimetric Database Management	26 060 €	IHO
P-13	S-100 (training on assessment of status and execute step by step with practical excercises)	26 665 €	Not yet founded
P-19	Nautical Paper Charts Quality Control (QC)	35 000 €	Not yet founded
P-22	S-101 Workshop	27 820 €	Not yet founded
P-23	S-102 Workshop	27 820 €	Not yet founded

Years 2023 and 2024

YEAR	PRIORITY	STATE	PROJECT/WORKSHOP
2023	PR-1	Chile	Use of automated statistical filters for bathymetric data processing.
		Colombia	MSDI Workshop.
		Ecuador	AUV for near shore Hydrographic and Topographic Surveys.
		Perú	S-101 and S-102 Workshop.
	PR-2	Chile	Administration and production on bathymetric Data Base.
		Colombia	QC for Data Processing.
2024	PR-1	Chile	Workshop on Implementation and procedures for S-100 standard.
		Colombia	MSI Workshop.
		Ecuador	Evaluation and implementation of effective measures to establish MSDI.
		Perú	S-101 Workshop.
	PR-2	Chile	Cartographic production and proceedings under S-101 norm workshop.
		Colombia	Ellipsoid referenced surveys (ERS).
Perú		S-102 Workshop.	

**C. ACTIVITIES**

In the case of the Region, the Hydrographic Services are organically housed within the respective marinas. In this sense, it should be noted that there are activities that are developed under bilateral or multilateral agreements and / or agreements between said institutions.

1. INTERNSHIPS

YEAR	STATE	THEME/TOPIC	DURATION	OPEN TO FOREIGNS
2022	Chile	Nautical Paper Chart and / or Electronic Cartography	5 days	YES
		Multi / Single Beam / SSS Hydrographic Surveys	5 days	YES
		New geospatial standard S-102 Creation of bathymetric products in CARIS Base Editor and Hips.	3 days	NO
	Colombia	Data Base (MSDI)	5 días	YES
		Construction and use of vertical reference hydrographic surfaces	5 days	YES
	Ecuador	Multi / Single Beam / SSS Hydrographic Surveys	20 days	YES
	Perú	Deep waters Hydrographic Surveys	7 days	YES (*)
2023	Chile	Nautical Paper Chart and / or Electronic Cartography	5 days	YES
	Colombia	MSDI Database Vertical networks	5 days	YES
	Ecuador	Multi / Single Beam Hydrographic Surveys	10 days	NO
	Perú	Hydrographic Surveys with autonomous vehicles	7 days	YES (*)
2024	Chile	---	---	---
	Colombia	Tidal levels and currents	5 days	YES
	Ecuador	Hydrographic data base management	5 days	NO
	Perú	Deep waters Hydrographic Surveys	7 days	YES (*)
		Hydrographic Surveys with autonomous vehicles	7 days	YES (*)

(*) 2 vacancies



2. SCIENTIFIC CRUISES

YEAR	STATE	TYPE OF CRUISE/SHIP	DURATION	OPEN TO FOREIGNS
2022	Chile	Accordingly to Navy's Major Staff agreements	---	EVENTUALLY
	Colombia	---	---	---
	Ecuador	BAE "Orión"	40 days	YES
	Perú	BOP "Carrasco" Hydro-oceanographic cruise	30 days	YES (*)
		Antarctic expedition	4 months	YES (**)
2023	Chile	Accordingly to Navy's Major Staff agreements	---	EVENTUALLY
	Colombia	Scientific research cruise	15 days	YES
	Ecuador	BAE "Orión" 2 Hydro-oceanographic cruises	60 days	YES
	Perú	BOP "Carrasco" Hydro-oceanographic cruise	30 days	YES (**)
		BOP "Carrasco" Marine-Geology cruise	30 days	YES (**)
		Antarctic expedition	4 months	YES (**)
2024	Chile	Accordingly to Navy's Major Staff agreements	---	EVENTUALLY
	Colombia	Scientific research cruise	15 days	YES
	Ecuador	BAE "Orión" 2 Hydro-oceanographic cruises	15 days	YES
	Perú	BOP "Carrasco" Hydro-oceanographic cruise	30 days	YES (**)
		BOP "Carrasco" Marine-Geology cruise	30 days	YES (**)
		Antarctic expedition	4 months	YES (**)

(*) 1 vacancy

(**) 2 vacancies

D. INTER REGIONAL COOPERATION

It has been considered, for this three-year plan, to take into account the interregional coordination options, as an opportunity to expand access to other training opportunities, on topics of common interest and which, moreover, demonstrates the value of coordination instances amongst the IHO Regions.



REGIONAL COMMISSION	PROJECT	INTERESTED STATE
MACHC	MSI workshop Colombia.	COLOMBIA
	QC and S-100.	COLOMBIA
	Multibeam data processing.	COLOMBIA
	Tsunami inundation mapping workshop.	PERÚ
	Compilation module of marine cartography & Data assessment (MCDA) Cat B.	PERÚ
	ENC QC and QA workshop.	ECUADOR
SWAtHC	Evaluation and implementation of effective measures to establish MSDI.	ECUADOR
	Law of the sea workshop.	ECUADOR
	ENC S-101 production.	ECUADOR
	Tsunami inundation mapping workshop.	ECUADOR
	Seabed classification workshop.	CHILE ECUADOR PERÚ
	Multibeam Data processing and bathymetry Database workshop.	CHILE
EAHC	S-100 training course (ROK).	CHILE

E. RESOURCES

To finance initiatives and participation in training, the Region works with 2 financing modes:

1. Regular courses, internships and cruises are generally financed with the budget of the respective participating institutions.
2. The projects are presented to the CBSC to evaluate their feasibility and financing.

IV. REGIONAL IMPACT ON CAPACITY BUILDING

This Triennial Plan contains the coordinated and consensual work of the member states of the Regional Commission, in an effort to achieve joint and comprehensive development that allows the region to address and face the challenges posed by permanent change and evolution.

The emphasis on human capital, as an agent of change, beyond the simple evolution of the technological factor, is always present in the process of



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building and creating capacities in the Region. It has been estimated that good coordination, in a spirit of common development, that benefits the personnel of the institutions of the member states alike, allows a harmonious and integrated work in the Region. This plan, precisely, consolidates those concerns and local needs, to present them, through a set of common interests, that allows to maintain the specialists of the Region at the level of preparation and updating necessary for the work they carry out, following the standards required by the international maritime community and users in general, whatever their origin and purpose.

The workshops have allowed participants to keep their knowledge updated according to the latest version of technologies, discover the multiple use of data, the various actors and, above all, form a nucleus of specialists in certain areas, which, by establishing a professional link, they can be consulted as advisers.

With the training received, the HOs have planned their hydrographic projects not only for nautical charts, but also to characterize underwater accidents, continental shelf studies, search for historical shipwrecks, geological studies, tsunami flood charts, river surveys, among others. Activities that go beyond being limited exclusively to the edition and production of nautical charts.

These training events have been fundamental to the decision-making processes. New experiences and procedures have been learned and used for the optimization of resources and thus made us more effective Hydrographic Services.

ACTION REQUIRED OF CBSC

The CBSC is invited to take note of this update of SEPRHC CB 3-year work plan.