



# 20<sup>th</sup> Meeting of the Meso American – Caribbean Sea Hydrographic Commission

SWAtHC Capacity Building Priorities  
Prioridades de Creación de Capacidades

Directorate of Hydrography and Navigation  
Brazilian Navy



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# SWAtHC Capacity Building Plan

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- 1) Multibeam bathymetry / Batimetría con Multihaz
- 2) Bathymetry with RTK / Batimetría con RTK
- 3) Side Scan Sonar - image processing and interpretation - objects identification and quality of seafloor / Sonar de barrido lateral - procesamiento e interpretación de imágenes - identificación de objetos y de calidad de fondo
- 4) Digital Photogrammetry with satellite images / Fotogrametría Digital con imágenes satelitales
- 5) Administración de datos digitales provenientes de diferentes campañas
- 6) Tide gauge stations - Tide / Estaciones maregráficas - Marea



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# SWAtHC Capacity Building Plan

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- 7) New technologies / Nuevas tecnologías - LIDAR
- 8) Operation and interpretation of data collected with marine magnetometer / Empleo e interpretación de datos colectados con magnetómetro marino
- 9) Operation and interpretation of data collected with sub-bottom profiler / Empleo e interpretación de datos colectados con perfilador sísmico (SBP)
- 10) Marine Spatial Data Infrastructure / Infraestructura Espacial de Datos Marinos (MSDI)
- 11) ENC Production and QA / Producción de ENC y control de calidad



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# Capacity Building Work Programme supporting SWAtHC

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- 2008 - ENC QA Workshop with e-navigation basics
- 2008 - Technical support in developing regional hydro-cartographic plan
- 2009 - Chart Production and ENC Training (MACHC, SEPRHC and **SWAtHC**)
- 2009 - Multibeam Training Course (MACHC, SEPRHC and **SWAtHC**)
- 2010 - Port and Shallow Water Surveys (MACHC, SEPRHC and **SWAtHC**)
- 2011 - MSI Regional Course (MACHC, SEPRHC and **SWAtHC**)
- 2012 - Processing and Administration of Spatial Databases (MACHC, SEPRHC and **SWAtHC**)
- 2013 - Hydrographic Production Database (HPD) (**SEPRHC** and SWAtHC)
- 2014 - Technical Visit to Paraguay
- 2014 - Hydro/Cartography River Survey (MACHC, **SEPRHC** and SWAtHC)
- 2015 - MSDI (SEPRHC and **SWAtHC**)
- 2015 - Seminar on S-100
- 2016 - Tide Training Course
- 2016 - Multibeam Training Course
- 2017 - Bathymetry Training Course using RTK technology
- 2017 - Digital Photogrammetry with satellite images
- 2017 - Data Management Workshop



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# 2018 SWAtHC Capacity Building - IHO Sponsored Trainings/Courses

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Country	Training/Course	Date
Argentina	Port and Shallow Water Surveys	Sep 24-28
Brazil	Maritime Safety Information (MSI)	Oct 16-18
Ecuador (SEPRHC)	Hydrographic Surveys with LIDAR	Oct 22-26
Cartagena de las Indias (MACHC)	MBES Processing with Caris HIPS & SIPS	Dec 10-14
Uruguay	MSDI Data Management	Funding not approved



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## 2019 SWAtHC Capacity Building - IHO Sponsored Trainings/Courses

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Country	Training/Course	Date
Argentina	Multibeam Data Processing and Bathymetry Database	Funding not approved
Brazil	Tide Training	
Uruguay	Multibeam Systems Total Uncertainty	

Brazilian Hydrographic Office organized a Workshop on MBES Processing with Caris HIPS & SIPS conducted by the hydrographers who attended that same training at Argentina in 2018 and directed to the other hydrographers in order to promote the dissemination of the knowledge received.



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## 2020 SWAtHC Capacity Building - IHO Sponsored Trainings/Courses

CBWP Priority	Event/Training/Course - Country	Date/Status
A-02	Technical Visit to Bolivia	Approved
P-10	Seminar on Raising Awareness of Hydrography (Brazil)	March/Approved
P-13	MSI Workshop (Argentina)	Not funded yet
P-17	Seabed Classification Workshop (Brazil)	Not funded yet
P-34	ENC Production and QA (Uruguay)	Not funded yet

- MACHC and SEPRHC will be invited to participate.
- SWAtHC wants to participate in the Tides Workshop for Spanish Speakers proposed by MACHC as a co-sponsorship with SWAtHC and SEPRHC.



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## 2021 SWAtHC Capacity Building - IHO Sponsored Trainings/Courses

Proposing Country	Event/Training/Course	Beneficiary Countries
Uruguay	Seminar on Raising Awareness of Hydrography	SWAtHC Members
Brazil	Port and Shallow Water Surveys	SWAtHC Members. SEPRHC and MACHC will be invited to attend.
Uruguay	MBES Processing	
Argentina	MSDI and Data Management	

SWAtHC is open to co-sponsor these trainings with MACHC and others RHCs.



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### IBSC Recognized Hydrography Programmes in SWAtHC

COUNTRY	DESCRIPTION	DURATION
Argentina	University Degree in Cartography (IHO Cat. "A")	208 weeks
Argentina	Specialization Course in Hydrography for Navy Officers and Civilian Attendees (IHO Cat. "B")	42 weeks
Brazil	Intermediate Course in Hydrography and Navigation (IHO Cat. "B")	35 weeks
Brazil	Advanced Course in Hydrography (IHO Cat. "A")	50 weeks

SWAtHC has been expanding its Capacity Building project towards other countries and expects to receive more students from abroad to attend our courses specially in hydrography.

2017 - Two representatives from Mozambique attended the Brazilian IHO Cat "B" Course.

2018 & 2019 - One Bolivian Navy Officer attended the Brazilian IHO Cat "A" Course.

2020 - Senegal confirmed one student to attend a Brazilian Course.



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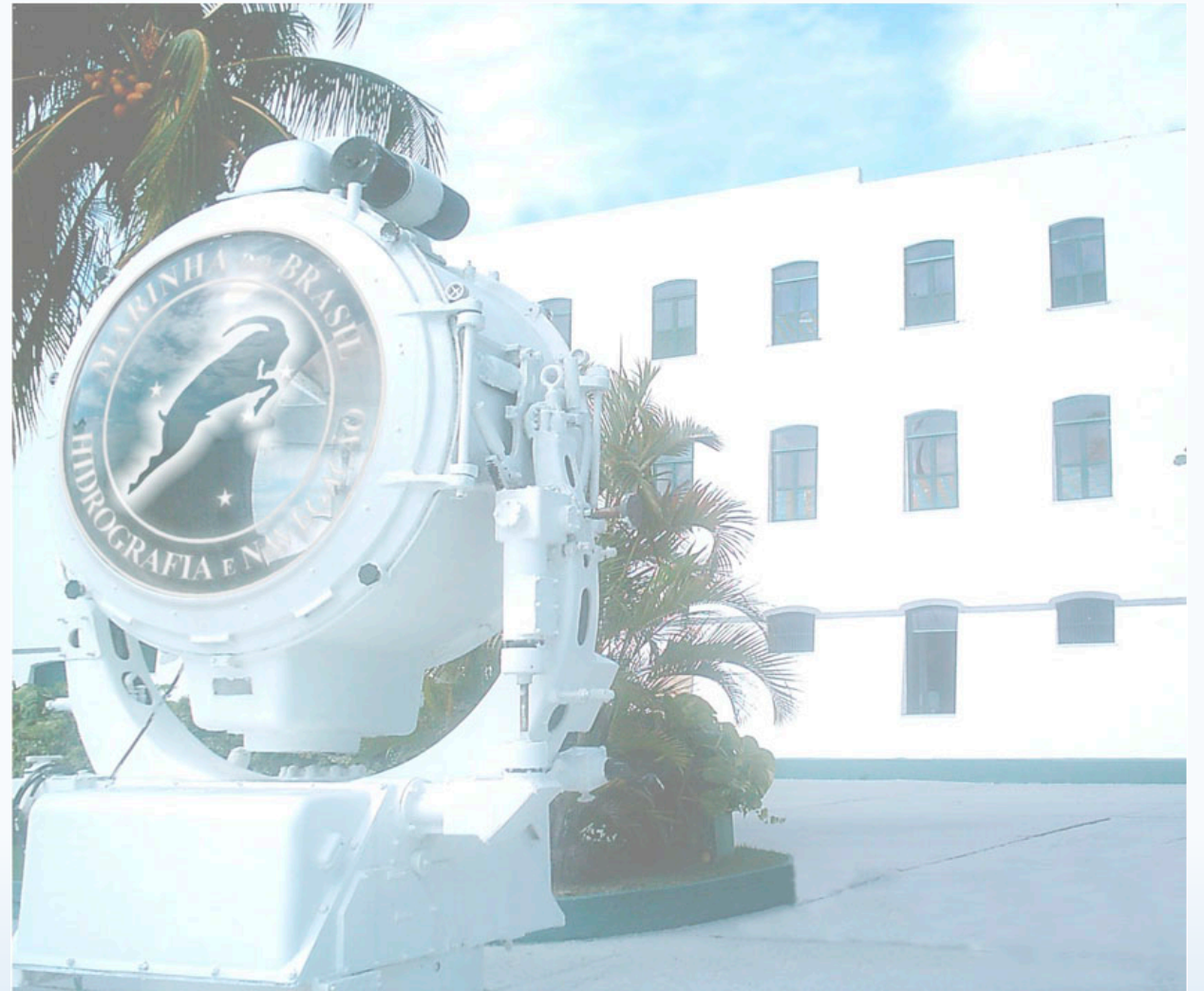
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# THANK YOU

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Any further questions:  
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