



INTERNATIONAL HYDROGRAPHIC ORGANIZATION
MESO AMERICAN & CARIBBEAN SEA HYDROGRAPHIC COMMISSION



MACHC Letter 22 / 2010
17 November 2010

To:
Mr. Janis Krastins <Janis.Krastins@lhd.lv>
Chair of the IHO Capacity Building Sub Committee

Subject: **Capacity Building Project – Golf of Honduras**

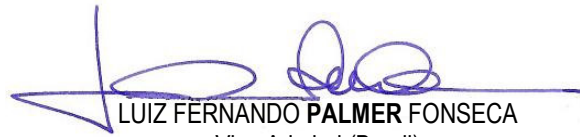
Reference: e-mail from MACHC Secretary dated of February 28th 2010.

Dear Mr. Krastins,

1. The MACHC held its XI meeting last week from November 8-12 in Suriname. As you know, just prior to the meeting we discovered that there was an unfortunate oversight in the MACHC Capacity Building Plan for 2011. Despite it being identified as a priority at the MACHC X meeting in Barbados in 2009 (as per Action 10-11), being submitted by the CSBC deadline in February 2010 and presented at the New Orleans meeting in June, the final decision regarding the Gulf of Honduras Type 2 Hydrographic Training course somehow remained unclear. As a result, it was not included in the MACHC Capacity Building Plan.
2. The strong consensus of the MACHC members is that the capacity building training for this project must be funded for the third and final year. The capacity building partnership between the MACHC and the Gulf of Honduras Project is coming to fruition. A solid foundation has been laid in 2009-10 now that the countries have their equipment and preliminary and intermediate training. This fledgling capacity needs further reinforcement for them to solidify and sustain their own expertise to conduct and process their own surveys and ensure that the data is transitioned to official chart products. That is the focus of the final year of proposed training in 2011 (please see attached).
3. During the meeting, the representatives of Guatemala, Honduras and Belize reviewed the lessons learned in the previous two years of training and revised the original proposal submitted in February to reflect more refined requirements and focus for the 2011 session (please see attached). You will note that this proposal is US\$8K less than

the original. The MACHC respectfully requests that you and the IHB find a way to fund this important project proposal.

Yours sincerely,



LUIZ FERNANDO PALMER FONSECA
Vice Admiral (Brazil)
Brazilian Director of Hydrography and Navigation - MACHC Chair

Copy:

IHB
MACHC Member Full States

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Note: To improve the Commission's effectiveness, this letter is provided only by e-mail.

ANNEX



**SUBMISSION FROM THE MACHC
To the International Hydrographic Organization
Capacity Building Sub Committee**

<u>IDENTIFICATION</u>	Project Number: <i>(To be added by CBC)</i>
Project Name:	Gulf of Honduras Hydrographic Activity Implementation Plan Capacity Building Support in accordance with the IHO capacity building phases: Hydrography Type 2 (training on basic hydrographic survey practices –single beam surveys—and related data processing)
Submitting RHC/Country	MACHC (as part of the approved MACHC/CB 2011 Plan)
Date:	09 November 2010
Institution Executing Project:	<ul style="list-style-type: none">• Belize Port Authority• Guatemalan Maritime Department and Santo Tomas de Castilla Port Authority• Honduras Port Authority
Name of Responsible Party: Address/Phone/Fax	1) Major John Flowers, Ports Commissioner Belize Port Authority 120 North Front Street Belize City, Belize, C.A. Tel: 501-665-66-61 Fax: 501 223-0710 E-mail: bzportauth@blt.net 2) Capitán de Navío Sergio Porres Jefe del Departamento Marítimo Ministerio de la Defensa Nacional Avenida La Reforma, 1-45 Zona 10 Antigua Escuela Politécnica Guatemala City, Guatemala E-mail: jefatura@deptomaritimo.gob.gt Teléfono: (502) 23344575 2 ^a) Dr. Estuardo Vargas Gerente , EMPORNAC Calle Real de la Villa, 17 calle 16-43, Edificio Plaza Santo Tomás de Castilla

	<p>Guatemala, CA E-Mail: estuardovargas@yahoo.com</p> <p>Ing. Mynor Pinto, Gerente General Empresa Nacional Portuaria Puerto Cortes – Honduras CA Tel.: 504-665-66-61 Fax: 504-665-66-61 E-mail: lfunes@enp.hn E-mail: supciaco@enp.hn</p>
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GENERAL SPECIFICATIONS:

(Please provide detailed information in Annex of no more than three pages)

Background Information:	See attached Annex
Project Justification:	<p>The three countries have received the first two phases of training in 2009 and 2010 that included an introduction to surveying concepts, technical specifications, survey planning, equipment familiarization, configuration and operation, basic geodesy/tides, and data processing. The countries also now have in-depth knowledge of tide gage installation, some data QA/QC skills, and have produced some preliminary data products.</p> <p>A solid foundation has been laid in 2009-10 now that the countries have their equipment and preliminary/intermediate training. This fledgling capacity needs further reinforcement for them to solidify and sustain their own expertise to conduct and process their own surveys and ensure that the data is transitioned to official chart products.</p> <p>It should further be noted that due to the expiration of the Gulf of Honduras Project and the projected end of this MACHC-sponsored capacity building pilot project in 2011, this third phase of IHO-funded training for the three countries is expected to be the final such phase.</p>
Countries Involved:	Belize, Honduras, Guatemala
Exposition of Problem:	<p>The Gulf of Honduras encompasses a tri-national body of coastal and marine waters, including portions of the exclusive economic zones of Belize, Guatemala and Honduras. The Project Area includes the Gulf of Honduras as well the watersheds in Belize, Guatemala and Honduras with rivers flowing into the Gulf. The development objective of the Gulf of Honduras Project is to reverse the degradation of coastal and marine ecosystems within the Gulf of Honduras through prevention of maritime transport-related pollution in the major ports and navigation lanes, improved navigational safety* (<i>emphasis added</i>) and reduced land-based sources of pollution draining into the Gulf.</p>
General Objective:	Improve hydrographic capacity in the three countries and demonstrate the value of hydrography for both the maritime safety and environmental protection GoH Project objectives.

<p>Specific Objective</p>	<p>Support continued capacity building efforts with the three countries to train personnel and assist with the execution of their planned surveys in the approaches to major ports in the region and to process the data for chart updates (all three countries have bilateral agreements with the UKHO for chart production).</p> <p>A solid foundation has been laid in 2009-10 now that the countries have their equipment and preliminary training. This fledgling capacity needs further reinforcement for them to solidify and sustain their expertise to conduct and process their own surveys (including the ability to provide accurate tide and water level measurements for survey operations) and ensure that the data is transitioned to official products.</p>
<p>Outputs/Products</p>	<p>Survey sheets, processed data available to be applied to update nautical charts, Notice to Mariners, Aids to Navigation, and increased capability of personnel to conduct future surveys.</p>
<p>Other deliverables</p>	<p>Contributions to geospatial data bases of all hydrographic survey data (geodesy, tides, soundings, temp/salinity/sound velocity), weather, bottom sediments/characterization, SSS images, Hazards to Navigation for navigation and non-navigation uses.</p>
<p>Achievements and Awaited Benefits</p>	<ul style="list-style-type: none">• Capacity building efforts thus far (2009-10) have produced the following results:<ol style="list-style-type: none">(1) Establishment of hydrographic survey teams that have received training in and/or actively utilize the following key elements:<ol style="list-style-type: none">a. Basic hydrographic principlesb. Hydrographic survey system integration, operations, and troubleshootingc. Survey planning, data acquisition, and data processingd. Development of hydrographic survey products and reports(2) Acquisition and outfit of a dedicated hydrographic survey platform complete with:<ol style="list-style-type: none">a. Hydrographic survey equipment adequate for IHO surveysb. Proper electric power generationc. Proper equipment / personnel shelter and atmosphere control(3) Construction and proper deployment of a water level measurement station• Future efforts (results of this request) are expected to generate the following results and benefits:<ol style="list-style-type: none">(1) IHO-compliant hydrographic surveys complete with reports, smooth sheets, and XYZ data sets sent to the UKHO for chart updates(2) Establishment of intra-country and intra-regional water level and other oceanographic data measurement networks

	<p>/ expertise for hydrographic purposes (as well as for public use)</p> <p>(3) Support for safe and efficient marine transportation while protecting the MesoAmerican Barrier Reef System</p> <p>(4) Use of hydrographic information for environmental management purposes</p> <p>(5) Public appreciation and support from all levels of regional governments for sustained hydrographic capability/growth and attainment of resulting socio-economic and environmental objectives</p>
Schedule of Activities	<ul style="list-style-type: none"> • Conduct two (2) weeks of in-country Collaborative Hydrographic Training in Santo Tomas de Castilla, Guatemala to include: <ol style="list-style-type: none"> 1. One week of Advanced Hypack training for Belize, Guatemala, and Honduras personnel in April-May 2011 (Contractor with assist from NAVO SME) 2. One week of Tide and Geodesy Review training for Belize, Guatemala, and Honduras in April-May 2011 (NAVO SME) • Conduct two (2) weeks of in-country hydrographic survey training in Belize City, Belize (NOAA SME)

FINANCES

Contribution by countries involved	<p>In-Kind for Collaborative Hydrographic Training: Travel, per diem, and lodging as necessary for each participating country.</p> <p>In-Kind for Belize in-country training: Facilities, personnel, vessel(s), fuel</p> <p>Training Facility, Computers, Lodging Arrangements by Guatemala EMPORNAC</p>
Contribution by other parties	U.S. Naval Oceanographic Office and U.S. National Oceanic and Atmospheric Administration will provide the time and salaries of subject matter experts to conduct training, The Gulf of Honduras Project has provided a basic suite of hydrographic survey equipment for each country (U.S.\$235K total).
Contribution expected from CBC Fund	<p>Travel and per diem support for one NOAA and one NAVO hydrographic expert to complete their respective two-week in-country training sessions</p> <p>Training, travel, and per diem support for two (2) Hypack contractors to conduct one-week Advanced Hypack training in Guatemala (contract package amount forthcoming)</p>
Total Cost (\$US/Euro)	\$20,000 US / €14,500
Breakdown of costs (Two weeks of in-country NOAA/NAVO SME training)	<p>In U.S. Dollars:</p> <p>GTA: Airfare, per diem (Lodging and Meals) and Misc -- \$4,000 US</p> <p>BZ: Airfare, per diem (Lodging and Meals) and Misc -- \$5,000 US</p>
Breakdown of costs (One	GTA: \$11,000 (training cost plus transportation and per diem for two

week of Advanced Hypack training)	trainers)
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Annex—Background Information

(excerpted from the full Gulf of Honduras Project Document

RS-X1009 NON-REIMBURSABLE OPERATION FINANCED WITH GEF RESOURCES

see http://www.cocatram.org.ni/gulfofhonduras/project_brief.html)

The Gulf of Honduras encompasses a tri-national body of coastal and marine waters, including portions of the exclusive economic zones of Belize, Guatemala and Honduras. The Project Area includes the Gulf of Honduras as well the watersheds in Belize, Guatemala and Honduras with rivers flowing into the Gulf. The development objective of the Gulf of Honduras Project is to reverse the degradation of coastal and marine ecosystems within the Gulf of Honduras through prevention of maritime transport-related pollution in the major ports and navigation lanes, improved navigational safety and reduced land-based sources of pollution draining into the Gulf. Environmental problems in the Gulf of Honduras are highly transboundary due to the oceanography of the waterbody. The predominant direction of currents varies with seasons, contributing to the interconnection of waters in Belize, Guatemala and Honduras. As a result of the prevailing oceanographic currents, the Gulf region is highly susceptible to pollution originating in one location and spreading over long distances in all three countries.

As maritime traffic and port operations within and beyond the Gulf continue to rise, the potential for catastrophic accidents, as well as chronic marine pollution, increases. The western portion of the Gulf is bordered by the Mesoamerican Barrier Reef Complex (MBRS), the second longest barrier reef in the world. The MBRS extends for 250 km and covers 22,800 km² as an assemblage of lagoon patch reefs, fringing reefs, and offshore atolls. It is unique due to its size, the vast array of reef types, the richness of the corals and its relatively pristine condition. The southern part of this reef system borders the Gulf of Honduras.

MACHC/CBC Involvement

The MACHC, primarily through its Electronic Chart Committee, has been working with the hydrographic focal points from the Governments of Belize, Guatemala and Honduras to achieve the objectives of the internationally-funded (Global Environment Facility) tri-national project: “Environmental Protection and Maritime Transport Pollution Control in the Gulf of Honduras”, through hydrographic capacity building.

An early analysis of the status of navigational charts and hydrographic data in the Gulf of Honduras by the MACHC confirmed that hydrographic survey data were discontinuous, often unreliable and outdated. Sedimentation and extreme weather events such as Hurricane Mitch have also brought about significant changes in bathymetry that render navigational charts obsolete and increase navigational risks. The age, type and maintenance of the ships entering the Gulf of Honduras ports also play a part, as does the training of the ship crewmembers. Heavy storms and hurricanes threaten safety at sea and increase the probability of accidents. The need for improved navigational safety is widely recognized, including better communication systems and infrastructure, navigational aids, as well as the capability to update navigation charts and bathymetric maps.

In December 2006, the countries produced a Hydrographic Activity Implementation Plan as a major contribution to the 3rd Project Component, “Enhancing Navigational Safety in Shipping Lanes.” The plan is now being implemented (the full plan can be found at: <http://www.iho-machc.org>) and

includes the training that the IHO capacity building funds have supported.

In 2008, the GoH Project procured all the necessary equipment for the countries to perform hydrographic surveys, according to the IHO Order 1a Standards. (The list of equipment is detailed in the *Hydrographic Activities Implementation Plan, Annex A: Technical Specifications for Hydrographic Surveys by Country.*) Surveys were planned to IHO specifications (with the help of IHO/CBC funding in 2005 for an expert Hydrographer to visit the countries and elaborate the plans) for the approaches to Belize City, Santo Tomas de Castilla and Puerto Cortes ports.

In 2008, the CBC funded two Subject Matter Experts (SME) from the US National Ocean Service (NOS) and the US Naval Oceanographic Office (NAVOCEANO) to conduct operational training in Belize, Guatemala and Nicaragua which was to have been done before the end of 2008. Due to delays in equipment delivery to the countries and other logistical problems outside of MACHC control, the in-country training did not take place until February-March 2009. Due to the fact that all of the equipment was not available or fully integrated when the SMEs arrived, their mission resulted in system integration lessons, system integration recommendations and some operational training.

NOAA also provided two weeks of introductory hydrographic classroom theory and field training the first two weeks of February 2009 and February 2010 in Norfolk, Virginia, USA. One operational representative from each of the three countries participated in 2009 and affirmed that this training was a very useful prelude to the in-country training that occurred subsequently. One additional representative from Belize participated in 2010 NOAA Hydrotraining.

A second phase of two-week in-country training (provided by IHO funding) took place in the three Gulf of Honduras countries during winter-spring 2010. This training built upon lessons learned during the first phase while also providing additional tides training and capability assessment via a NOAA tide contractor visit. The Phase 2 training yielded some preliminary data products and solidified numerous basic hydrography principles.