

**U.S. NOAA and Navy Two-week in-country Hydrographic Survey
Training Outline Course 2010**

**U.S. Navy Hydrographer/Trainer: Elliot Arroyo-Suarez
(for Honduras and Guatemala)**

April 11-25, 2010 Honduras

April 25-May 9, 2010 Guatemala

**U.S. NOAA Hydrographer/Trainer: LCDR Chris VanWestendorp
(for Belize)**

February 24-March 10, 2010 Belize City

TRAINING OBJECTIVES:

The intent of this second in-country training session is to build on the foundation established during the 2009 training. As such, it is highly encouraged for the participating countries to ensure the 2009 trainees participate as detailed below:

Participants for Advanced Training

Honduras (same team available)

Belize (same team available)

Guatemala (Puerto Santo Tomas de Castilla personnel)

At the end of this training, the country teams will review/refresh/renew and be able to...

1) Conduct Quality Assurance Checks (ref: 2009 training):

- a. Configuration/Installation
- b. Survey Planning
 - i. Technical Specifications (2006 Hydrographic Activities Implementation Plan)
 - ii. Environmental Analysis (i.e. survey tools vs. charted depths)
 - iii. Error Budget / Modeling
- c. Data Acquisition

2) Conduct a Field Hydrographic Survey to IHO standards

- a. Collect data
- b. Process data
- c. Quality Assurance

3) Transmit the data to the UK Hydrographic Office for chart updates

- a. Report of Survey
- b. Smooth Sheet
- c. XYZ (processed) data
- d. Raw data?

4) Provide Country Progress Report to MACHC CBC via Training Coordinators

Training Areas of Interest:

Honduras:

Practice and Theory of SSS

- Operation / data collection
- Analysis
- Target Detection & Interpretation

Tides

- Identification of gage location
- Construction / installation of benchmarks
- Construction / installation of gage site
- Level gage to benchmark network
- Water level data collection
- Data Integration (tide, soundings, navigation)

Geodesy

- Employing dual-frequency GPS receiver
- Procedure for establishing geodetic control point (benchmark)
- Linking horizontal and vertical control networks (leveling)

Belize:

Tides

- Manually calculate tidal datums from existing water level data
- Compare calculated datums with existing datum information
- Practice leveling and benchmark network establishment

Surveying principles / practical application

- SSS operation and analysis
- Single beam acquisition / analysis
- Data processing

Joint operations with GoH countries

- Get 3 countries moving forward individually and then together further down the line

Interpreting horizontal issues

Guatemala:

Basic Hypack operations

Survey Planning