

WATER LEVEL OBSERVATION NETWORK FOR CENTRAL AMERICA (RONMAC) QUARTERLY REPORT JANUARY 1 – MARCH 31, 2001

**EXECUTED BY THE UNIT FOR SUSTAINABLE DEVELOPMENT AND ENVIRONMENT OF THE
ORGANIZATION OF AMERICAN STATES FOR THE CENTER FOR OPERATIONAL OCEANOGRAPHIC
PRODUCTS AND SERVICES, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**

PROJECT DESCRIPTION

Background

In October 1998, Hurricane Mitch, the fourth most intense Atlantic Ocean hurricane on record, battered Central America, resulting in damage estimated in the range of US\$7.5 to US\$8.5 billion for the region. Studies indicate that extreme events such as Hurricane Mitch are common in Central America and are expected to increase in both frequency and severity. Accordingly, a strong commitment is being made by regional governments and donor agencies to strengthen infrastructure and capacity in order to address these issues. The Water Level Observation Network for Central America (RONMAC) project has been devised by the U.S. Government in direct response to the impact of Hurricane Mitch on four Central American countries: El Salvador, Guatemala, Honduras, and Nicaragua.

The Unit for Sustainable Development and Environment of the Organization of American States (OAS/USDE) is executing the project. Other participating agencies are:

- United States Agency for International Development (USAID), Funding Agency
- Center for Operational Oceanographic Products and Services, National Oceanic and Atmospheric Administration (CO-OPS/NOAA), of the US Department of Commerce, as Administrating Agency
- Regional Committee for Water Resources (CRRH), as Regional Coordinating Agency
- National agencies in El Salvador, Guatemala, Honduras, and Nicaragua, as direct counterparts and beneficiaries of the RONMAC project

Objective

To provide support for the development and improvement of the geodetic framework of Central America with direct benefits to coastal resources management, coastal hazard mitigation and emergency planning, design and development of coastal infrastructure and harbor facilities, and coastal navigation.

Time Frame

The RONMAC Project is being executed from June 2000 to December 31, 2001. It is fully expected that RONMAC will continue after the official participation of the OAS/USDE and CO-OPS/NOAA has ended, thanks to significant country buy-in and capacity-building activities. CRRH's role as the Regional Coordinating Agency will continue after the Project officially ends.

Activities

1. Install state-of-the-art sea-level and meteorological monitoring stations in El Salvador, Guatemala, Honduras, and Nicaragua;
2. Install ground station and facilitate real-time access to and distribution of information;
3. Update the local MSL data at these stations to support the development of a geodetic framework for Central America;

* Please note that some of the activities included in this report were carried out by the OAS in anticipation of the signing of the sub-agreement regarding the RONMAC Project. This permitted the project to remain on schedule and was carried out with the knowledge and approval of NOAA/NOS staff.

4. Develop a national and regional capacity to install and maintain the stations and to conduct data acquisition, analysis, archiving and dissemination using automated data-base management technology; and
5. Strengthen professional and technical skills of host-country agencies and national and regional institutions through technology transfer and capacity building.

KEY ACCOMPLISHMENTS

The key accomplishments during this reporting period include:

- Installation and training at Puerto Quetzal, Guatemala
- Installation and training at Puerto Cortes, Honduras
- Installation and training at Puerto Corinto, Nicaragua
- Tidal Gauge/Meteorological Station Shipped to Guatemala
- Tidal Gauge/Meteorological Station Cleared Customs in Nicaragua
- Amendment to MOU with NOAA drafted
- MOU with Guatemala signed
- Troubleshooting
- Workshop Planning
- Liase with Colombia, Venezuela, and Costa Rica
- Other Meetings

They are described below in more detail.

Installation and training at Puerto Quetzal, Guatemala

A sea-level and meteorological monitoring and data dissemination system was installed by staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrológica (INSIVUMEH). The sea-level data is recording on NOS Datum of Tabulation. The data was reported to be successfully transmitting data via GOES and archived on DPAS. INSIVUMEH personnel were trained on the installation procedures and system operation and maintenance. The Port Authority was very supportive and made every attempt to help. Both the Port Authority and INSIVUMEH are enthusiastic about participating in RONMAC. A crew of about 10 people were responsible for running the benchmark leveling.

Installation and training at Puerto Cortes, Honduras

A sea-level and meteorological monitoring and data dissemination system was installed by staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the Instituto Geográfico Nacional (IGN). The sea-level data is recording on NOS Datum of Tabulation. The data was reported to be successfully transmitting data via GOES and archived on DPAS. The Port Authority constructed a platform to accommodate the station installation. Jim Navarro and Pedro Tax using Port Authority survey instruments conducted the benchmark leveling.

Installation and training at Puerto Corinto, Nicaragua

A sea-level and meteorological monitoring and data dissemination system was installed by staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the Instituto Nicaragüense de Estudios Territoriales (INETER). The sea-level data is recording on NOS Datum of Tabulation. The data was reported to be successfully transmitting data via GOES and archived on DPAS. INETER personnel were trained on the installation procedures and system operation and maintenance.

Tidal Gauge/Meteorological Station Shipped to Guatemala

Equipment for the Puerto Quetzal installation was shipped and cleared customs in Guatemala.

Tidal Gauge/Meteorological Station Shipped to Nicaragua

Equipment for the Puerto Cabezas installation cleared customs in Nicaragua.

Amendment to MOU with NOAA drafted

NOAA and the OAS drafted an amendment to the MOU. This provides for additional funds for the extension of the Assistant Technical Coordinator's contract by three months and additional travel funds. It also allocates funds to help defray the expense of counterpart institution travel. The amendment is expected to be signed shortly.

MOU with Guatemala

An MOU between the government of Guatemala and the OAS has been signed. It is based on an MOU with the Government of Nicaragua that has already been signed. The document outlines the responsibilities of both the Government and the Organization of American States. The MOU is attached.

Troubleshooting

The RONMAC Technical Coordinator and Assistant Technical Coordinator performed on-going troubleshooting activities for all of the stations. They were available to address questions and problems presented by the counterpart institutions and NOAA staff.

Workshop Planning

RONMAC will hold a technical workshop and steering committee meeting the week of May 14, 2001 in Antigua, Guatemala. RONMAC staff has been working on the logistical and technical aspects of this meeting.

Liase with Colombia, Venezuela, and Costa Rica

RONMAC staff visited San Andrés, Colombia and discussed with Pablo Leyva, director of the Environmental Studies Institute (IDEAM) of Colombia, the possibility of linking RONMAC with the Colombian tidal network. Staff also has communicated with Rubén Aparicio, University of Cumaná, Venezuela, who is leading the Venezuelan meteorological and hydrological network (VENEHMET) about linking RONMAC with VENEHMET. RONMAC Staff are collaborating with Costa Rican officials on the integration of that country's network into the RONMAC system.

Other Meetings

RONMAC Staff Participated in US Armed Forces Meeting on Humanitarian International Development Aid (San José, Costa Rica, March 01, 2001) and the Consultative Group for the Transformation of Central America (Madrid, Spain, March 2001).

Constraints and Problems

Reconstruct and Improve Tide Stations

RONMAC has encountered that often counterpart institutions do not have the necessary budget for travel to the installation sites. In some cases, RONMAC has provided the funds for per diem, vehicle fuel and road tolls. RONMAC has addressed this problem by setting clear guidelines for limiting the number of people to receive per diem at each installation. Additionally, RONMAC staff will be working with counterpart institutions to help them budget for future installations and maintenance activities.

RONMAC has been experiencing difficulties regarding the Puerto Cabezas, Nicaragua installation. There was an initial delay on the part of the port authorities in constructing a platform for the station. This problem has since been resolved and the platform has been constructed. There have also been delays regarding the transportation of equipment from Managua to Puerto Cabezas. Finally, there has been some political violence in the region and the installation is being delayed until it is determined to be safe for both INETER and RONMAC staff.