

**WATER LEVEL OBSERVATION NETWORK FOR CENTRAL AMERICA
(RONMAC)
QUARTERLY REPORT
JULY 1 – SEPTEMBER 30, 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;
4. Develop a national and regional capacity to install and maintain the stations and to conduct data acquisition, analysis, archiving and dissemination using automated database 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 Santo Tomas de Castilla, Guatemala
- Visit to Puerto Quetzal, Guatemala
- Handing-Over Ceremony in Guatemala
- Installation and Training at La Unión, El Salvador
- Installation and Training at Rio Lempa (La Pita), El Salvador
- Visit to Puerto Acajutla, El Salvador
- Troubleshooting
- Workshop Planning
- Liaise with Panama

They are described below in more detail.

Installation and Training at Puerto Santo Tomas de Castilla, Guatemala

A sea-level and meteorological monitoring and data dissemination system was installed at Puerto Santo Tomas de Castilla in July - August 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). INSIVUMEH personnel were trained on the installation procedures and system operation and maintenance. (See Annex 1)

Visit to Puerto Quetzal, Guatemala

Staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrológica (INSIVUMEH) visited the sea-level and meteorological monitoring and data dissemination system in Puerto Quetzal. This station was installed in February 2001. The purpose of this visit was to replace the GPS module and install data radio, and re-level for verification.

Handing-Over Ceremony in Guatemala

RONMAC equipment was officially handed over to the Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrologia (INSIVUMEH) on September 18 in Guatemala City, Guatemala. The ceremony was presided over by the Director of the National Office in Guatemala, José Felix Palma. Dr. Eddy Hardie Sánchez Benett, as the Director of INSIVUMEH, received the equipment on behalf of his institution. (See Annex 2)

Installation and Training at La Union, El Salvador

A sea-level and meteorological monitoring and data dissemination system was installed at La Unión on the Gulf of Fonseca in August by staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the Instituto Geografico Nacional (IGN). IGN personnel were trained on the installation procedures and system operation and maintenance. A real-time monitoring system was installed at the Naval Base operations office. (See Annex 3)

Installation and Training at Rio Lempa (La Pita), El Salvador

A sea-level and meteorological monitoring and data dissemination system was installed on the Rio Lempa at La Pita by staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the IGN. This is a cooperative gage (with the U.S. National Weather Service) for deriving tidal constituents for accurate tidal predictions. A real-time monitoring system was installed at the CORDES (local NGO) office in San Carlos. (See Annex 4)

Visit to Puerto Acajutla, El Salvador

Staff from the Organization of American States, the Comité Regional de Recursos Hidráulicos, and the IGN visited the sea-level and meteorological monitoring and data dissemination system in Puerto Acajutla monitoring site (previously installed). They ran verification levels and corrected tide gage polarity. (See Annex 5)

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 held a technical workshop and steering committee meeting the week of October 15, 2001. In September, RONMAC staff devoted significant time and effort in the coordination of the logistical and technical aspects of these meetings. Materials from the meeting will be included in the next technical report.

Liaise with Panama

RONMAC staff traveled to Panama to meet with the Panama Canal Commission and the Smithsonian Tropical Research Institute. Both of these organizations operate the Panamanian sea-level and meteorological monitoring system. RONMAC staff visited their sites and discussed their potential collaboration with CRRH in an expanded RONMAC scenario. Three of their principal monitoring sites are identical to the RONMAC monitoring sites except for the "local communications" features of RONMAC. They were very interested in participating in the post-RONMAC activities and expressed their desire to enter into a mutually beneficial MOU with CRRH. RONMAC/CRRH will immediately begin downlinking their GOES telemetered data and presenting it on the RONMAC website.