



**Office of U.S. Foreign Disaster Assistance (USAID/OFDA)  
Regional Office for Latin America and the Caribbean, San José, Costa Rica**

**DISASTER RISK REDUCTION**

As a way to establish communication channels between regional emergency operations centers (EOCs), the first Latin American and Caribbean Emergency Operations Center Meeting took place on July 14 and 15 in Panama City, Panama. The regional event was an opportunity for EOC leaders to share past experiences, review the current process in each country, and get a glimpse of how EOCs may evolve in the region in the future.



Photo by Pedro Soto, USAID/OFDA

*Participants from 14 countries attended the EOC meeting in Panama.*

### LAC EOC Leaders Share Experiences

Meeting attendees included participants from 14 countries in the Latin America and Caribbean (LAC) region. Through panel discussions and individual presentations, representatives highlighted the national emergency systems and EOCs in their countries. Topics included regulations and frameworks and implementation processes, as well as accomplishments and challenges. Also, each presenter shared the specifics of the EOC they manage, including orga-

nizational charts, internal structure, infrastructure, functions, and operations.

The representatives made the most of the time given for their presentations by also explaining the context and challenges within each of their countries for establishing an EOC. Participants discussed how different elements, such as territory, political and geographic division, conditions, and specific risks, all play a part in creating an efficient response system that is adapted to their countries' specific needs.

One recurring topic in the country presentations was the important need to manage political relationships and integrate the operational tasks in the field with the political decision-making processes.

That was the exact topic presented by Dr. Richard Olson from the Extreme Events Institute of Florida International University (FIU). Dr. Olson commented

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Photo courtesy of Sara Jivanjee, USGS Cascades Volcano Observatory

### Remote monitoring station located next to Turrialba Volcano, Costa Rica.

## VDAP Supports Volcano Monitoring

The USAID/OFDA-funded Volcano Disaster Assistance Program (VDAP), in collaboration with the Observatorio Vulcanológico y Sismológico de Costa Rica (OVSICORI) and the Deep Carbon Observatory, supported the Network for the Observation of Volcanic and Atmospheric Change (NOVAC) meeting and workshops that took place in Costa Rica between April 26 and May 5. More than 40 scientists from 17 countries attended the meeting and participated in field exercises.

Topics at the event included filtering data affected by poor weather conditions, strategies to test and validate gas emission rates, and the challenges of instrument deployment and maintenance in harsh environmental conditions.

Participants had the opportunity to visit a remote gas monitoring station located on Turrialba Volcano. They also discussed different data processing techniques, calibration of the instruments, and assessed sensor responses at varying atmospheric pressures.

NOVAC was established in 2005 with funding from the European Union to create a network of sensors for measuring gas emissions from volcanoes in order to assess risk and conduct volcanological research. Although official funding for NOVAC ran out in 2010, the network continues to help monitor 20 percent of the world's active volcanoes.

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**DISASTER PREPAREDNESS**



Photo by Phil Gelman, USAID/OFDA

*A USAID/OFDA-supported study used drones to map digital elevation.*

## USAID/OFDA Backs Innovative Flood Research

USAID/OFDA recently supported a study by the Hydrologic Research Center (HRC) to quantify the impact of 15 existing check dams on the local flow and water levels of the Ravine Millet, located south of Port-au-Prince, Haiti, through statistical analysis and hydrologic and hydraulic modeling. The check dams were constructed for three main purposes: to control

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## DISASTER RISK REDUCTION



Photo by Pedro Soto, USAID/OFDA

**Representatives from Brazil, Chile, Colombia, and Mexico discuss their experiences and projections for the future of EOC processes in the region.**

## LAC EOC Leaders Share Experiences

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that the way to build successful relationships is to accomplish the “5C’s”: capacity, competence, credibility, compassion, and being correct (no corruption). This way, operational tasks can be fulfilled without pressure from the politicians, and they are seen as capable and efficient during responses.

Another important aspect mentioned several times throughout the meeting was information management and sharing. When working in the field, all participants agreed that information is power, and therefore, the data received from the field must be accurate and timely. But also, information shared with the media is a very sensitive issue. The media plays a big role in the population’s perception of how an emergency or disaster is managed, and can damage the credibility of the EOC, the institutions that participate in a response, and the relationship with politicians.

To manage this correctly, Dr. Olson recommended that EOC leaders provide a specific space and time to attend to the press. “We often hear from people in the field that ‘the press won’t let us work’ or ‘we don’t have time to deal with them’, but we must dedicate fixed time and space for the press in the planning phase of the EOC. We must respond to the disaster and respond to the media.”

International organizations also had an opportunity to share their experience during the meeting. Darío Álvarez from the UN Office for the Coordination of Humanitarian Affairs (OCHA) presented the organization’s International Humanitarian Architecture framework, which emphasizes the coordination between the many actors that participate in emergency response.

Later, Edgardo Barahona, from the International Federation of Red Cross and Red Crescent Societies (IFCR), highlighted his organization’s efforts to develop and share training courses on organization and functions of EOCs, including the use of control tools.

An important actor that is sometimes overlooked in responses is the private sector. Not only are private organizations a key part of the community, but they also require a mechanism for dealing with their own emergencies. Diego Moreno, from Grupo Éxito in Colombia, explained how his organization has applied the EOC process when dealing with different incidents, and how to keep business going regardless of the situations faced. “The EOC is a team directed towards solutions, and adapted to specific situations. We must always think of response focused on rehabilitation, as the last thing we need is for people to lose their livelihoods,” commented Moreno.

As a way to consolidate all the information presented by the countries in a structured way, the participants were divided into four groups to define “The Priorities for Development in the Coming Years”. Participants commented on the needs and projections for planning, organizational development, and infrastructure and information systems required to establish an effective EOC.

By the end of the two-day meeting, participants had identified a set of universal requirements for establishing and managing an EOC, regardless of the location. Participants also noted the benefits of learning about EOCs in other countries and having the opportunity to establish relationships with colleagues facing similar challenges in their work.

## DISASTER RISK REDUCTION

## VDAP Supports Volcano Monitoring

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One of NOVAC’s objectives is to improve volcano monitoring and training in the LAC region as a way of creating a bridge between scientific knowledge and populations in order to make communities surrounding volcanoes safer. “We try to stretch our limited resources as far as possible. We are doing our best to protect people,” commented Sara Jivanjee from the USGS Cascades Volcano Observatory, VDAPs home office.

## DISASTER PREPAREDNESS

## USAID/OFDA Backs Innovative Flood Research

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water flow, conserve soil, and improve land use.

This study was important for two reasons: to report on the efficacy of the existing check dams to control flooding and sediment loss, and to develop a cost-effective and quantitative approach to analyzing existing check dam impacts as a way to design future ravine treatment interventions.

The study created a tailored procedure that included some cutting-edge technology and innovative techniques to collect the best data possible and use it with models that forecast ravine flows, given a variety of environmental conditions. These techniques included drones, which took high-resolution aerial imagery that was used to create very precise digital elevation models. These images have a resolution as small as six centimeters, while traditional satellite imagery offers images with a resolution of one meter.

Satellite and ground-based rainfall records were also used to model the magnitude and hourly distribution of storms and rainfall. Using both of these methods provided an expanded rainfall data base, instead of the use of only ground-based data, and this proved useful in the application of the models for the study.

“In order to ensure that the assessment approach could be applied in Haiti or other locations with similar concerns for mitigating flood flows in the future, we designed the approach to facilitate its use in a variety of situations by applying relatively low-cost but high-resolution data acquisition methods and standard hydrologic and hydraulic sediment transport models,” explains Robert Jubach, General Manager and Board Secretary at HRC.

The study concluded that the existing check dams substantially impact water levels in the vicinity of the dams. The dams also have a large impact in the conservation of the sediment, approximately 30 percent retention, in the upper reaches of the Ravine Millet.

The finalized models and procedures will enable subsequent projects to create virtual scenarios to better quantify the potential downstream flood impact, based on the size and location of check dams, and planting of vegetation on ravine slopes through terracing. This will ensure the most cost-efficient and impactful use of check dams and vegetation for flood control and sediment conservation in the future.

## Office of U.S. Foreign Disaster Assistance Regional Office for Latin America and the Caribbean



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