

## OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE (USAID/OFDA)

REGIONAL OFFICE FOR LATIN AMERICA AND THE CARIBBEAN, SAN JOSÉ, COSTA RICA



Image following the impact of Hurricane Irma in 2017 on the island of St. Martin. Photo by Ingrid Pederson, USAID/OFDA

### USAID/OFDA Prepares for the 2019 Hurricane Season

USAID/OFDA has been working diligently in recent months to ensure all facets of its risk reduction and response preparedness programs are in place for the upcoming hurricane season. The season officially began in the eastern Pacific basin on May 15 and the Atlantic basin on June 1, and ends in both basins on November 30.

The 2019 hurricane season got off to an early start with the formation of Tropical Storm Andrea near the east coast of the Bahamas on May 20, according to the U.S. National Oceanic and Atmospheric Administration (NOAA).

NOAA has forecast a 40 percent chance of a near-normal 2019 hurricane season in the Atlantic and a 70 percent probability of an above-normal season in the eastern Pacific basin. In the Atlantic basin, NOAA predicts 9 to 15 named storms, of which four to eight could become hurricanes, including up to four major hurricanes of Category 3 or higher on the Saffir-Simpson Hurricane Wind Scale. NOAA forecasts the formation of 15 to 22 named storms in the eastern Pacific basin, including eight to 13 hurricanes, of which four to eight could become major hurricanes.

NOAA's National Weather Service is making a planned upgrade to its Global Forecast System (GFS) flagship weather model—often called the American model—early in the 2019 hurricane season. This marks the

first major upgrade to the dynamical core of the model in almost 40 years, and is expected to improve forecasts for tropical storm paths and intensities.

“Regardless of the forecast for hurricane season, we know that it only takes the impact of one storm to cause significant impacts to life and property,” said USAID/OFDA Senior Regional Advisor (SRA) Tim *Continued on page 2*



USAID/OFDA regional advisor John Kimbrough oversees delivery of USAID/OFDA-funded relief commodities. Photo by Peter Schechter, USAID/OFDA

## USAID/OFDA-Supported Storm Surge Model Receives International Recognition

Coastal communities and island populations in hurricane-prone regions are highly vulnerable to the storm surges often created by tropical storms and hurricanes. This coastal flooding phenomenon is responsible for nearly half of all hurricane-related deaths and can cause tremendous damage if early warning systems, in combination with evacuation plans, are not in place.

USAID/OFDA and the National Oceanic and Atmospheric Administration (NOAA) co-funded a project by Florida International University (FIU) and NOAA's National Hurricane Center (NHC) to develop an operational system that improves early warnings for storm surges on the island of Hispaniola, which has been impacted by numerous hurricanes over the past two decades.

On April 24, the team of experts from FIU and NHC who developed the system were awarded the Outstanding Achievement Award at the U.S. National Hurricane Conference in New Orleans, Louisiana. The award recognized the project as an innovative achievement for a hurricane-related activity that can serve as a model to other projects.

When developing the storm surge project for Hispaniola, the team created a model factoring in the expected tide at a storm's landfall, the atmospheric pressure, and the wind characteristics of an oncoming weather system. The model also included major coastal topographic features, such as coastal ridges and barrier islands, which are crucial to improving impact mapping and forecasting risk.

The storm surge model is expected to assist Caribbean governmental agencies in making informed decisions when hurricanes approach—including by refining evacuation warning systems—as the model is adopted across the region.

“For decades, storm surges have devastated countries and caused needless loss of life,” said NHC Director Ken Graham.

The project's innovative approach includes the use of hydrodynamic modeling technology in combination with low-cost satellite data to improve risk mapping of coastal areas at a 92 percent cost savings as compared to previously used methods.

“Those cost savings brought the whole storm surge flooding program into funding and operational feasibility for many countries and multiple agencies,” said Richard S. Olson, director of the FIU Extreme Events Institute.

The team is now working with additional countries, including Belize and Mexico, to implement the technology and methodology, with the expectation that enhanced early warning systems can help to save many lives.

### *Hurricane Season continued from page 1*

Callaghan. “USAID/OFDA works year round with countries to support preparedness efforts and strengthen local disaster management capacities. Additionally, we have standard operating procedures in place that allow us to respond quickly and efficiently in multiple countries, if necessary.”

SRA Callaghan, four USAID/OFDA regional advisors, and a USAID Food For Peace (FFP) regional food security advisor—experienced, multilingual disaster management professionals with broad knowledge of the region's hazards, geography, and cultural and socio-economic characteristics—are based at the USAID/OFDA regional office for Latin America and the Caribbean (LAC) in San José, Costa Rica.

These advisors, along with 29 disaster risk management specialists, three information officers, three communications officers, and more than 400 on-call local surge capacity consultants are available for immediate deployment in the event of a disaster. The specialists and surge capacity consultants form the foundation of the USAID/OFDA-supported Regional Disaster Assistance Program (RDAP), which provides technical assistance and support for disaster risk reduction (DRR) and preparedness to national disaster organizations and first responders throughout the region.

Additionally, USAID/OFDA maintains staff in Port-au-Prince, Haiti, who work with the Government of Haiti and humanitarian partners to strengthen national and local disaster preparedness and response capabilities. USAID/OFDA staff in Haiti remain ready to respond to potential hydro-meteorological events, including hurricanes and tropical storms, as appropriate.

At the U.S. Southern Command in Miami, Florida, USAID/OFDA also maintains humanitarian assistance advisors to the U.S. military, who facilitate coordination of USAID and U.S. Department of Defense emergency humanitarian assistance in the region.

In the event a storm is forecast to impact land in the region, USAID/OFDA is prepared to activate or pre-deploy local surge consultants, disaster specialists, a regional advisor, an assessment team, or a fully equipped response team, in consultation with U.S. missions in potentially affected countries as appropriate.

USAID/OFDA continually replenishes stockpiled emergency relief supplies—including plastic sheeting for temporary shelters, water treatment units, water containers, hygiene kits, kitchen supplies, and blankets—for rapid shipment from the USAID/OFDA warehouse in Miami to disaster-affected areas. USAID/OFDA also procures and stockpiles relief commodities locally when appropriate.

USAID/OFDA maintains agreements with charter air service companies in the region to ensure timely transportation of personnel and supplies to disaster-affected areas. If commercial air service is not available, USAID/OFDA may request logistical assistance from the U.S. military.

As in previous years, the USAID/OFDA regional office prepares briefings in advance of hurricane season for mission disaster relief officers and emergency action committees at U.S. embassies and USAID missions throughout the region, as well as for host governments, local partners, humanitarian agencies, and other donors to coordinate hurricane preparedness activities.

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



Tel: +(506) 2290-4133  
Email: ofdalac@ofda.gov  
Internet: www.usaid.gov