U.S. National Weather Service’s Role in the Flash Flood Guidance Initiative

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Global Flash Flood Guidance Initiative

- The implementation of Flash Flood Guidance systems globally is an initiative to provide a tool for National Meteorological and Hydrological Services to develop flash flood warnings.

- Addresses the need to provide early warnings for flash floods using cooperative regional approaches.
• Approximately 7,000 people were killed, 11,000 were missing and approximately 20% of Honduras’ population lost their homes. (Source: Rosario Alfaro)

• As a result of this catastrophic event, a Pilot project to design and implement a regional system for flash flood guidance was developed for Central America
  — collaboration between NOAA/NWS & CPO, USAID (US Agency for International Development) and HRC (Hydrologic Research Center)
The Central America’s FFGS

• First regional FFG system developed

• In 2004, this system began operating on a server located in San José, Costa Rica, providing products to support flash flood warnings for all 7 Central America Countries (Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica and Panama)

* NWS advancing the science and technology to support the application of early warning systems for flash floods. *
Establishing a cooperative initiative for the flash flood guidance system with global coverage project

- In February 2009, a memorandum of understanding was signed among Hydrologic Research Center (HRC), World Meteorological Organization (WMO), NOAA/National Weather Service (NWS), and United States Agency for International Development (USAID)

To work together under a cooperative initiative to implement the FFG system worldwide
NOAA/NWS Role within the MOU

• NWS is a technical partner and responsible for the following activities:

  – Provide technical advice for the design, development and operation of the Global FFG

  – Make available satellite and in-situ rainfall data through the National Weather Service Telecommunication Gateway

**Note:** All NWS activities are subject to the availability of appropriated funds and personnel, and must be in accordance with applicable U.S. laws and regulations.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Product</th>
<th>NOAA/NWS Office</th>
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<tbody>
<tr>
<td>Operational QPE</td>
<td>CMORPH - very high spatial and temporal resolution estimates from low orbiter satellite microwave observations</td>
<td>Climate Prediction Center [CPC]</td>
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<tr>
<td>Operational Snow Areal Extent</td>
<td>Interactive Multisensor Snow and Ice Mapping System [IMS]</td>
<td>National Ice Center [NIC]</td>
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<tr>
<td>Operational Surface Air Temperature</td>
<td>Global Forecast System (GFS)</td>
<td>National Centers for Environmental Prediction [NCEP]</td>
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<tr>
<td>Historical Gauge Rainfall Data [Data are used for the systems development and calibration]</td>
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<td>National Centers for Environmental Information (NCEI)</td>
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NWS Role:
Regional Funding Support

• In 2011, NWS provided resources to HRC to:
  – Update portions of Central America FFGS
  – Conduct regional training to build long term capacity in the region
  – Implement an initial FFGS for Pakistan
  – Conduct an operations workshop in Islamabad

• **FYI: Outside MOU activity**
  – Most recently, NWS submitted a proposal to USAID for a project to expand and refine early warning systems in Central America and to initiate a Weather-Ready Nations (IDSS) initiative.
Thank You!

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