

Haiti-Dominican Republic Flash Flood Guidance (HDRFFG) System: FFGS Operational Concept

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HDRFFG Initial Planning Meeting

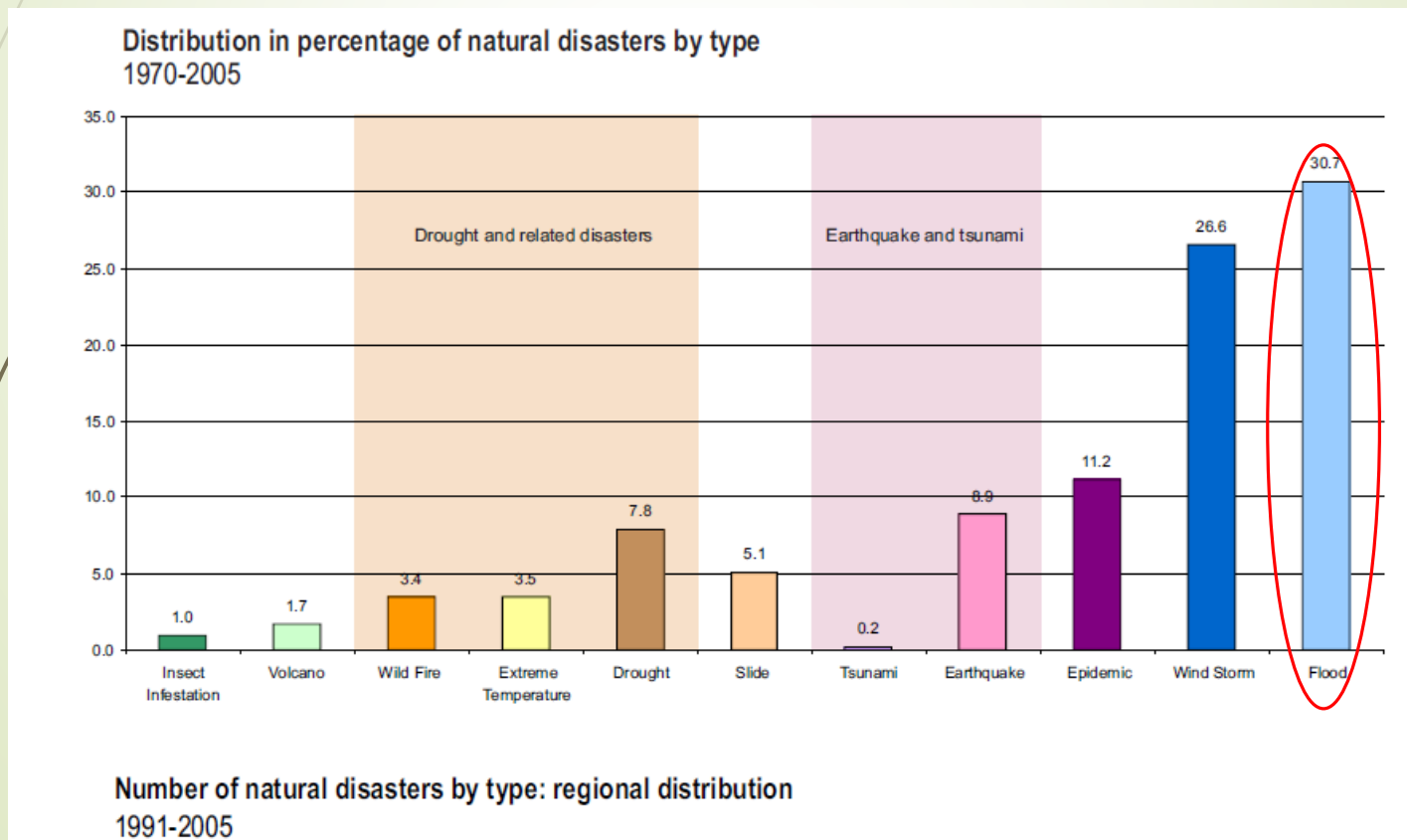
07-09 Sep 2015

Santo Domingo, DR

Motivation for Flash Flood Guidance Systems

Flash Floods are significant natural disaster globally

- more than 5000 deaths per year
- many countries identify flash floods as major hazard which requires forecasting attention.

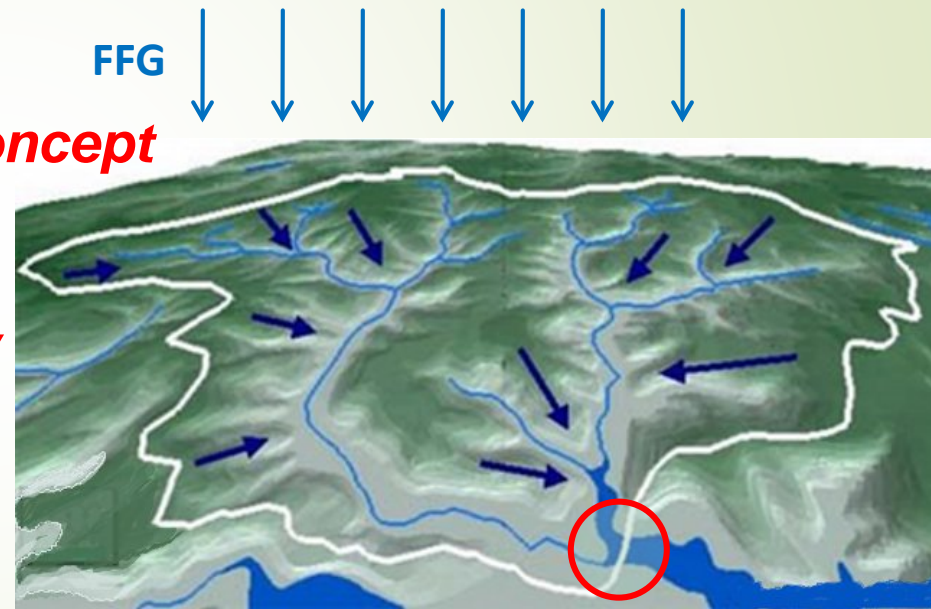


Motivation for Flash Flood Guidance Systems

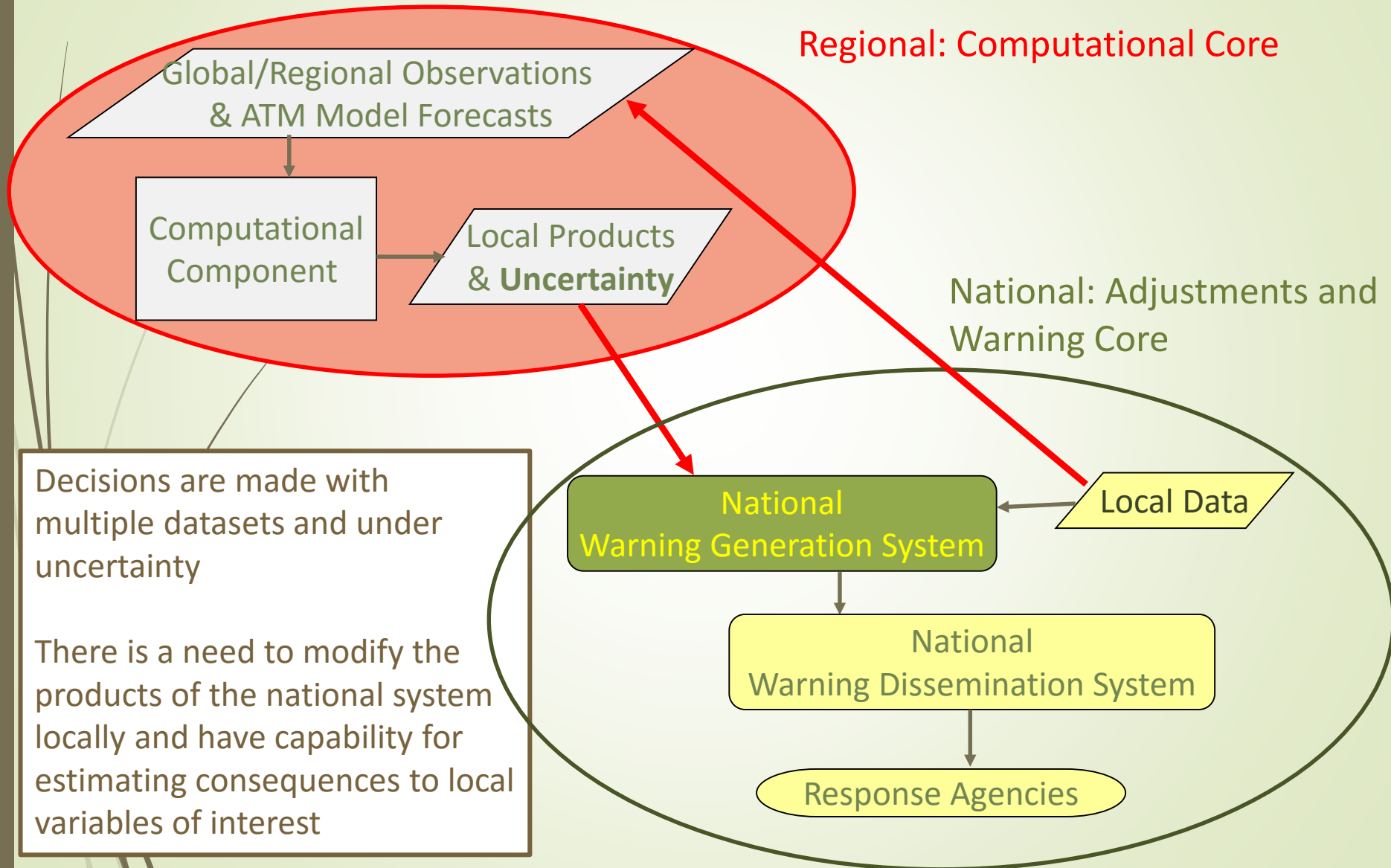
Flash Flood Guidance (FFG): The amount of **rainfall** of a given duration and over a given catchment that is just enough to cause **bankfull conditions** at the outlet of the draining stream.

FFG is threshold exceedance concept

- *estimate occurrence only*
(time for warning is short)
- *familiar concept in meteorology*
- *allows for variation based on*
land surface and hydrological
characteristics of watersheds



FFGS Operational Concept: From Global Observations to Local Warnings



Features of FFGS Operational Concept

Regional Core:

- ❖ Links to Remotely Sensed and On-site Data
- ❖ Technical System for Flash Flood Guidance Generation
- ❖ Training for Technical Staff at Regional Center

National Core:

- ❖ Training and Capacity Building for Local Forecasters
- ❖ Capacity for Influence of Local Forecaster Experience and Knowledge
- ❖ Communication and Dissemination
- ❖ Support for Training and Cooperation with Users

Features of FFGS Operational Concept

Systems designed to be natural, important addition to modernized NMHSs in regions impacted by flash flooding.

Systems already implemented under a variety of conditions throughout the world.

Catalyst for the cooperation between NMHS and DMAs

Catalyst for the development of sustainable operational partnerships with disaster risk management agencies

Training tool for supporting capacity building for weather-related hazards in diverse regions

System is proven easily implementable and sustainable worldwide because it supports existing locally-operating government agencies

System may supports ancillary applications such as agriculture and risk management

Systems are economical and sustainable as it uses existing infrastructure and covers large areas

FFGS Systems Around World

Regional and National FFG Systems (2016)

(Not all Systems under GFFG Program)

Operational Systems:

- Central America (7 countries) - Operational in 2004
- Southeast Asia/Mekong River (4 countries)
- Southern Africa (7 countries)
- Black Sea and Middle East (8 countries)
- South Eastern Europe (9 countries)

Under Various Stages of Development :

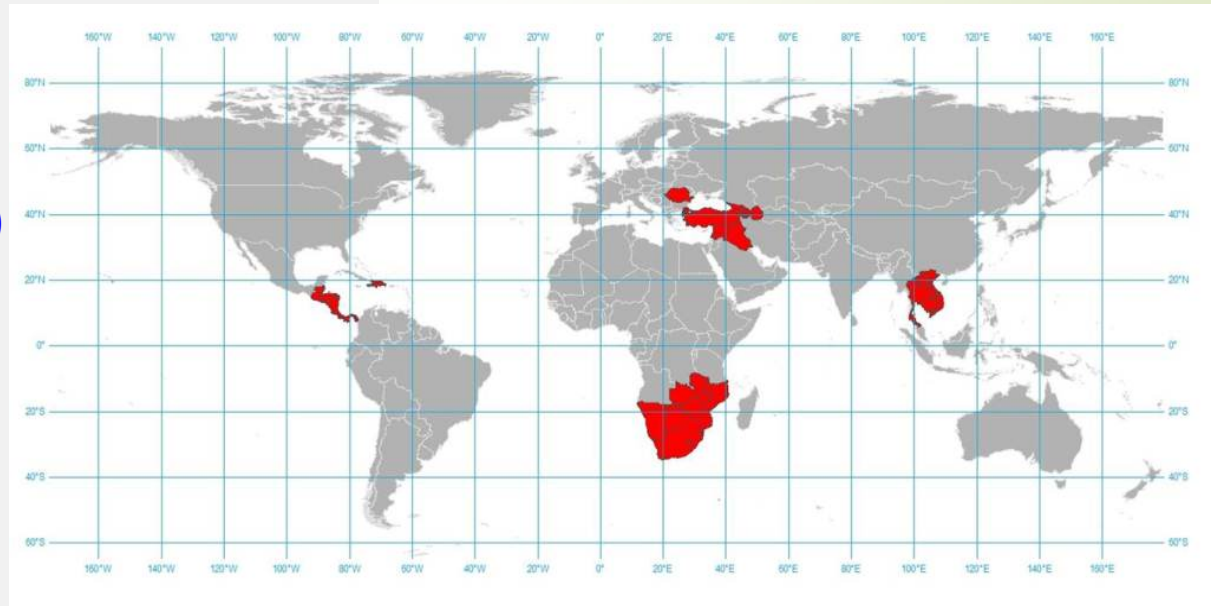
- Haiti and Dominican Republic (2 countries)
- Pakistan
- South Europe (9 countries)
- South Asia (7 countries)
- Central Asia (4 countries)
- Southeast Asia and Oceania (7)

Radar-Based National Systems:

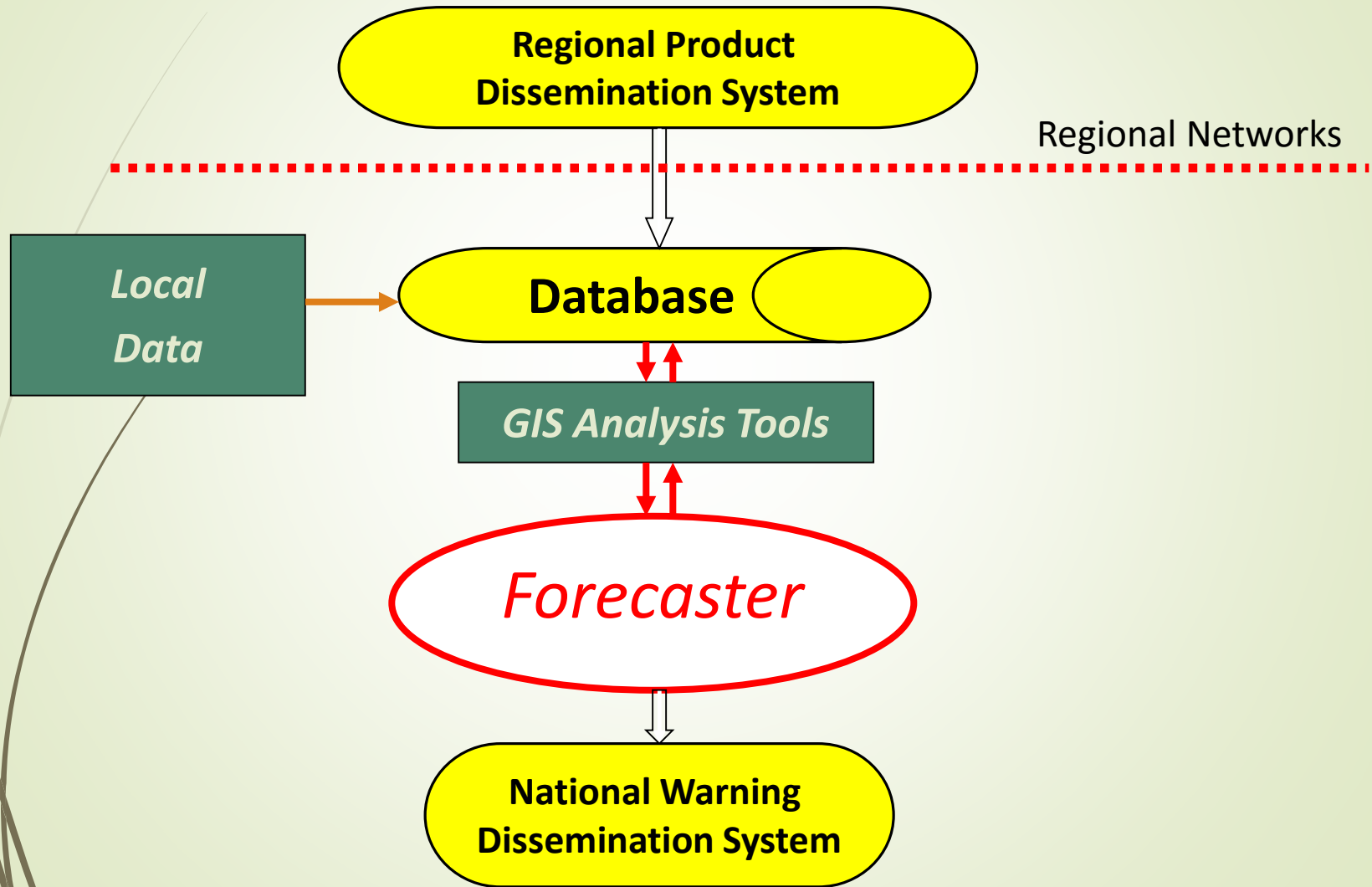
- Romania - Operational
- South Africa - Operational
- Chiapas Mexico
- Vietnam
- Oman

Global FFG program (2007):

- USAID/Office of Foreign Disaster Assistance
- NOAA/National Weather Service
- World Meteorologic Organization
- Hydrologic Research Center



FFGS Operational Concept: National System for Warning Generation



FFGS Operational Concept: National System for Warning Generation

Operation at NMHS is an extension of existing forecasting responsibilities

During Advanced Training at HRC, “Daily Operations” include:

- ❖ Weather briefing of local conditions (meteorological assessment)
- ❖ Review of FFG System products (MAP, soil moisture, FFG)
- ❖ Hydrologic briefing (current state, river stage, reported flooding)
- *promote collaboration between meteorological and hydrologic services*
- ❖ Discussion of Forecast
- ❖ Assessment of Flash Flood Potential and Possible Warning
- ❖ Communication with in-country partners for feedback and verification of flash flood events
- ❖ Completion of briefing log to summarize daily assessments

Introduction to FFGS Operational Concept

THANK YOU

