

# Workshop on “Multi-Hazard Early Warning Systems in Urban Areas” World Meteorological Organization

*The OAS and EWS:  
the Central American Experience and Decision-making  
Support Tools*

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Organization of  
American States



# Community-centered Flood Early Warning Systems: the Central American Experience

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Sistemas de Alerta Temprana para Inundaciones en el  
Istmo Centroamericano y la Republica Dominicana

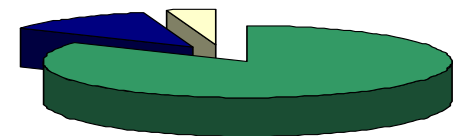


## Background

- 1995: Central America Small Valleys Flood Alert and Vulnerability Reduction Program (SVP): Regional Platform Development, GS/OAS, ECHO, Governments of Ireland and Turkey
- Hurricane Mitch, 1998: The case of La Masica and the communities of Arizona, Sisama, Nevada and Kilómetro 17
- 2008-2009: UN Global Platform for the Promotion of Early Warning, UNISDR, GS/OAS, Government of Germany
- 2010-Present: People's Republic of China – on-line database and consultation process in Honduras

## Some Benchmarks and Milestones

- Hurricanes Mitch and George, 1998
- More than 80 Flood EWS, with about 50% currently in operation
- 84% operated by NGOs, 12% by National Meteorological & Hydrological Services, and the remaining are private
- 85% lack hydrological studies



*Public Policies: Towards the financial and institutional sustainability of EWS ...*



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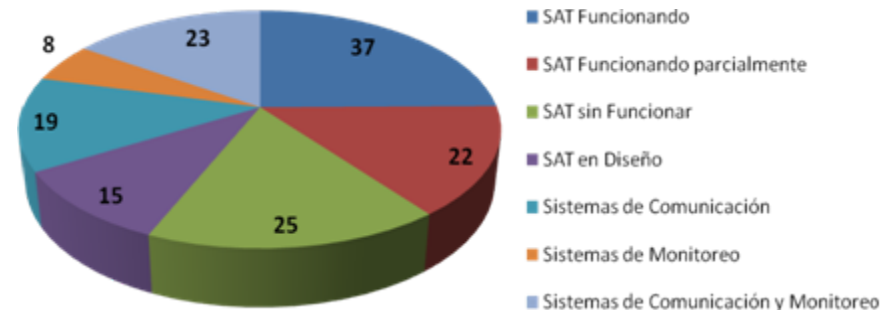


## What constitutes an EWS?

- NOT a Weather Forecast System, or a Communication System, or an Observation and Monitoring System, or Organized Communities
- ALL of the above and more ...

## Main Components

- Risk Assessment –Community Self-assessment
- Observation and Monitoring
- Analysis and Forecast
- Communication of advisories, watches and warnings
- Response –Community Organization and Training



166 EWS identified by UNESCO-CEPREDENAC DIPECHO VII project, of which only 149 were actually implemented at some degree.-

*NOT all systems implemented in Central America are EWS ...*



# Community-centered Flood Early Warning Systems: the Central American Experience



## Centralized vs. Community-operated Systems

### ➤ CENTRALIZED SYSTEMS

- Generally operated by Meteorological and Hydrological Services, with no involvement of communities
- Use high-tech and require advanced technical knowledge and expertise
- Expensive and high maintenance requirements

### ➤ COMMUNITY-OPERATED SYSTEMS

- Active involvement of community members
- Use low-tech equipment
- Low initial cost and maintenance cost



*There is no conflict between Community-centered and Centralized Systems ...*



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## Challenges

- Lack of Public policies, strategies and guidelines
- Lack of hydrological studies, and low coverage in small valleys –observation and monitoring networks designed for different purposes: i.e. hydropower and irrigation
- Lack of coordination amongst NGOs, which hampers the replication and the optimization of information
- Physical and geo-political challenges: predominance of flash-floods with short concentration times and transboundary basins
- Sustainability relies mainly on international financial aid
- Overlap of competencies in operating the different components –contingency planning and preparedness
- Limitation on the use of high technologies

EWS for landslides and mudslides require more attention on education about triggers, preparedness and response, and further studies on physical and natural conditions.-

*Good Governance: the single most significant issue ...*



# Towards National Systems: Technical specifications and registries



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## Manuals and Guidelines

- **Manual for the Design and Implementation of an Early Warning System for Floods in Small Valleys – OAS, 2001**
- **Early Warning Systems for Floods in Small Valleys –IFRC, 2007**
- **Manual for the Design, Implementation and Operation of Flood Early Warning Systems – OAS, 2010**

[Both for community members]

[For International Organizations, NGOs, and pertinent national organizations that design, implement and operate Flood EWS]

## EWS Database

- **On-line Database for the registry of Multi-hazard EWS –OAS, 2012**
- [in collaboration with CEPREDENAC and UNESCO, and expanded in consideration of the DIPECHO VII UNESCO-CEPREDENAC Inventory]

*Decision-making Support Tools ...*

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