

# **UNFCCC**

**Regional expert meeting on a range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events**

**Mexico City, 23 to 25 July 201**

**Revealing the interaction between Society and Nature.**

**DesInventar, disaster inventories for damage and loss assessment**

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**Corporación OSSO**



# Contents

1. Conceptual framework
2. Implementation models
3. Some examples of analysis and type of data



# Conceptual framework

**Concepts**



**Systematization of data**

## DesInventar in brief

- Created by La Red in 1994, now is being implemented in more than 35 countries
- It consists of conceptual and methodological development on disasters of all magnitudes, specially on small and medium disasters
- There is an emphasis on spatial disaggregation of large-scale disasters
- Each database uses an homogeneous scale to systematize data
- The data belongs in the public domain.

# Basic concepts

**“Disaster”**, the set of losses and damages

- of diverse magnitude
- collected at detailed scale
- associated with natural and socio-natural hazards and man-made events,

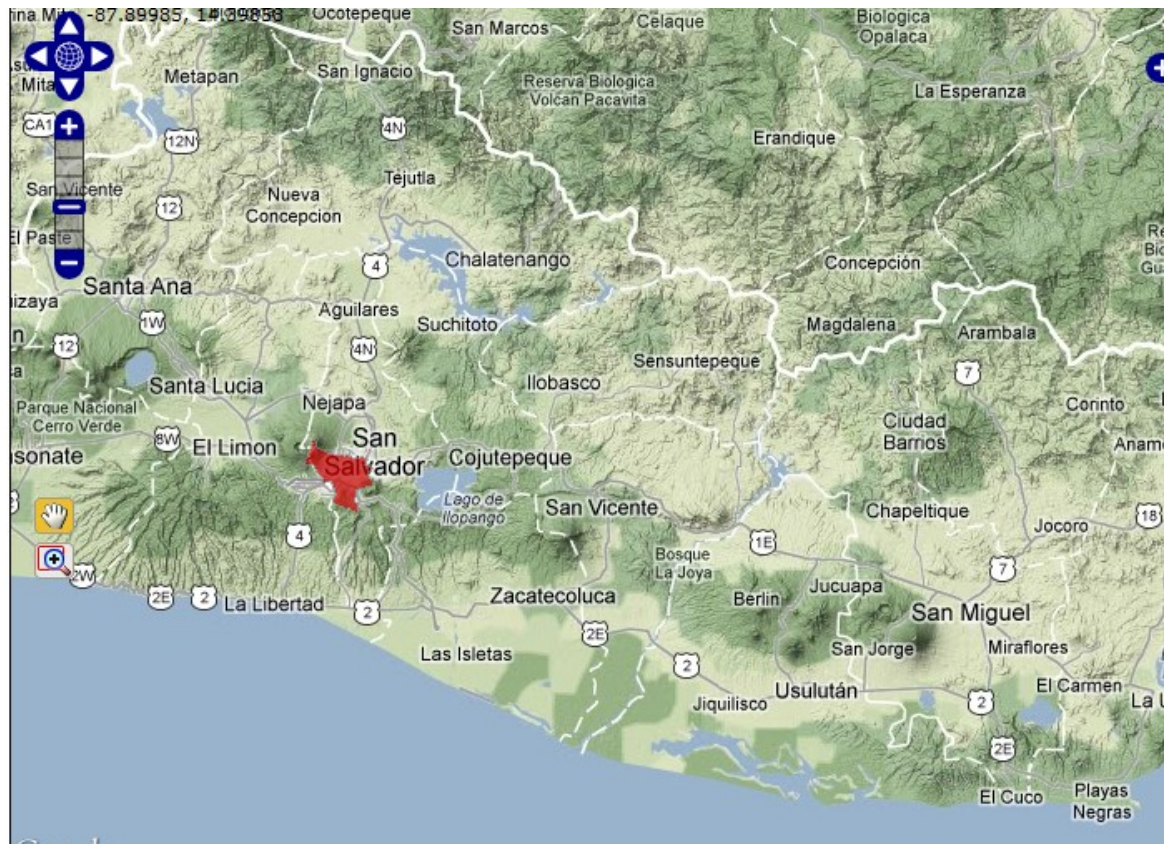
No restrictions on the magnitude of losses (no threshold a priori)

**Database**, is the systematic inventorying of losses on a homogenous spatial scale. Is the inventory of “disasters”

# Premise on scales

The magnitude of the losses becomes visible according to observation and systematisation scales on space and time

# Collection of data on small disasters



**Example:**

Data card ID: **2005-0403**

7 people dead

5 victims (homeless)

50 affected

1 house destroyed

10 houses affected

Event type: **Landslide**

Date: **2005-10-05**

San Salvador

San Salvador

Urban area

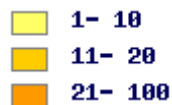
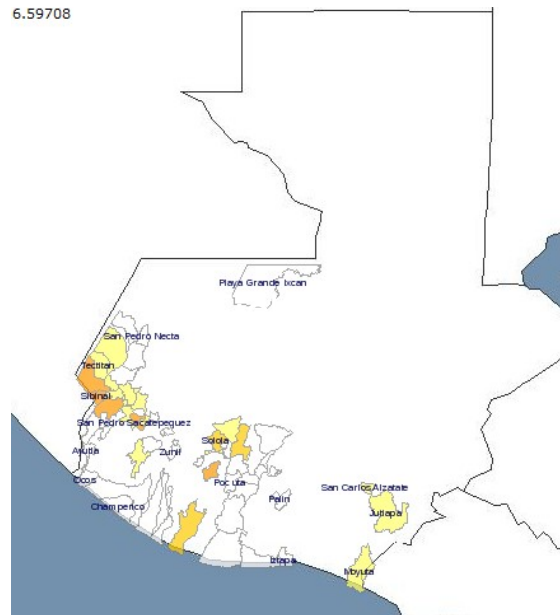


# Spatial disaggregation of large-scale disasters

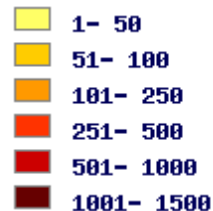
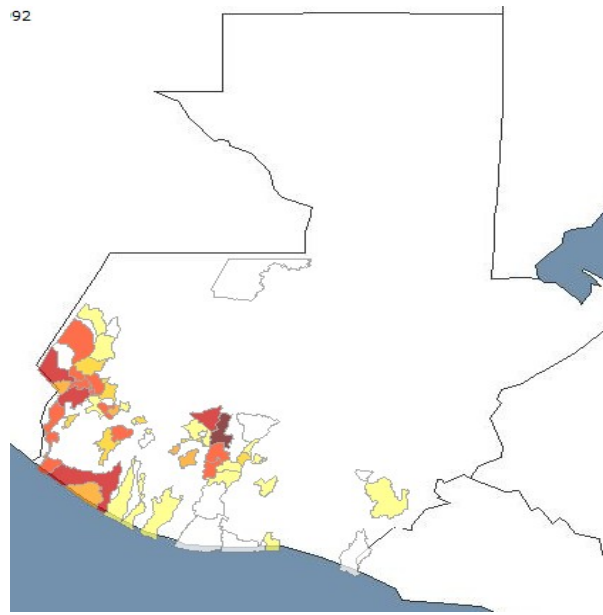
**Hurricane Stan: 73 municipalities = 73 datacards systematised**

People dead

6.59708



People affected



422 people dead  
790 missing people  
157 886 people affected  
228 406 victims

29390 houses affected  
10 375 houses destroyed

+ many other losses  
registered



# Main fields

## Basic loss variables

Dead people

Health centres

Affected people

Educational centres

Destroyed houses

+ sectors

Affected houses

+ user's fields

Damaged crops

Affected routes

## Description

Date

Source of information

Type of event / cause

Administrative unit

Description

+ user's fields

# Type of events

## Hydro-meteorological Climate related

Flood

Landslide

Hurricane

Tornado

Flash flood

Rainfall

Change in coastline

Hail

Torrential flow

Avalanche

Storm surge

Fog

Snowfall

Heatwave

Sedimentation

Drought

## Geological

Volcanic activity

Earthquake

Tsunami

## Other

Epidemic

Plague

Structural collapse

Fire

Forest fire

Contamination

Panic

Explosion

# Features of development of databases

The databases are created and built *by* and *for* local entities.

Databases: can be personalised to meet local requirements

The software is free open source code

The databases are meant for the public domain.

# SINAPROC: National disaster database of Panamá



Central office



COE

Emergency



Red cross, academic

Regional offices



Operations Center



Community



SIG and Hazard assessment  
office (SIG)

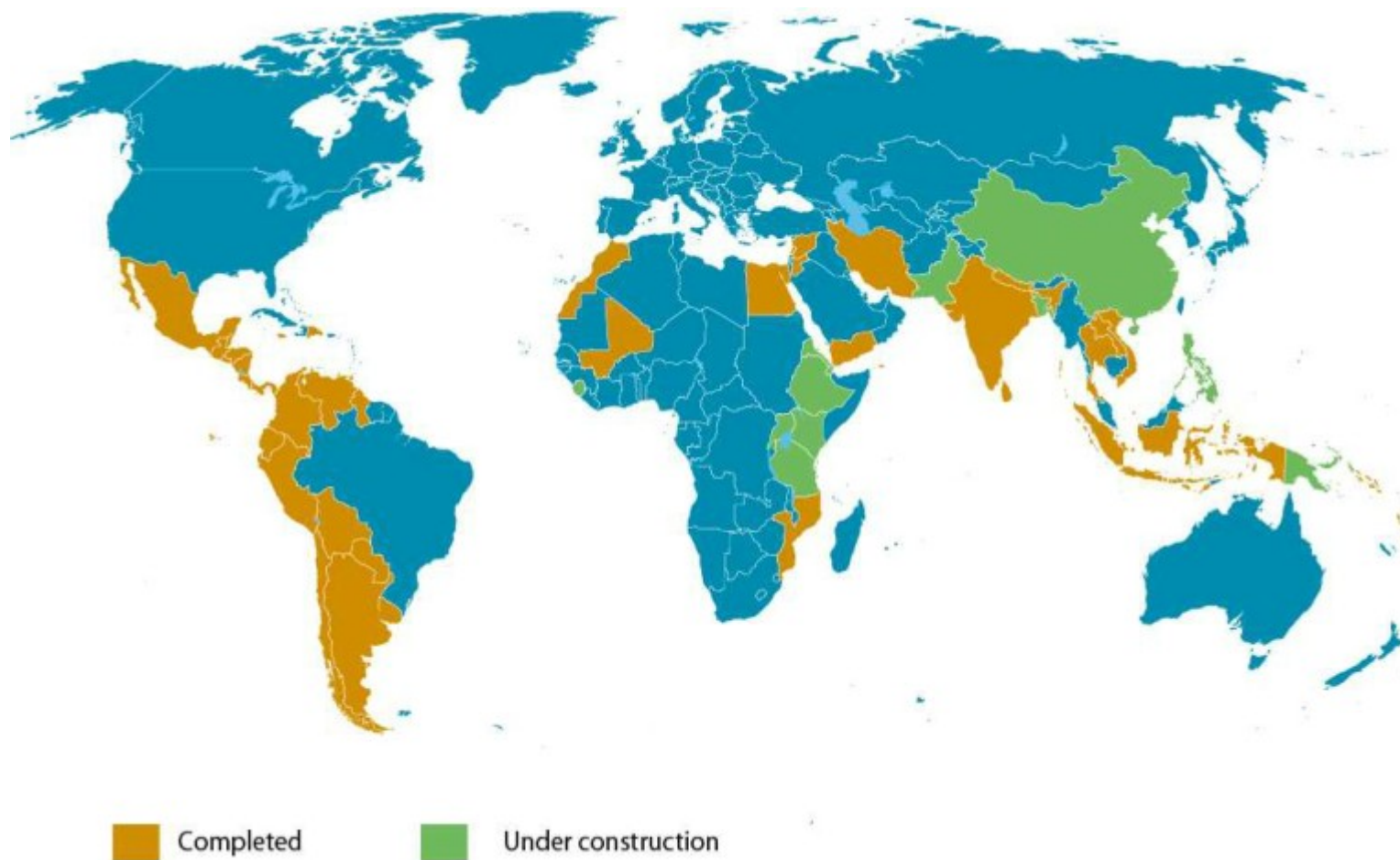
**National disaster database of Panamá**

<http://online.desinventar.org>

# Building El Salvador database: a multisectorial approach



# Disaster loss databses around the globe



With the support of



United Nations  
International Strategy for Disaster Reduction



**DESINVENTAR** .org

Disaster Information System

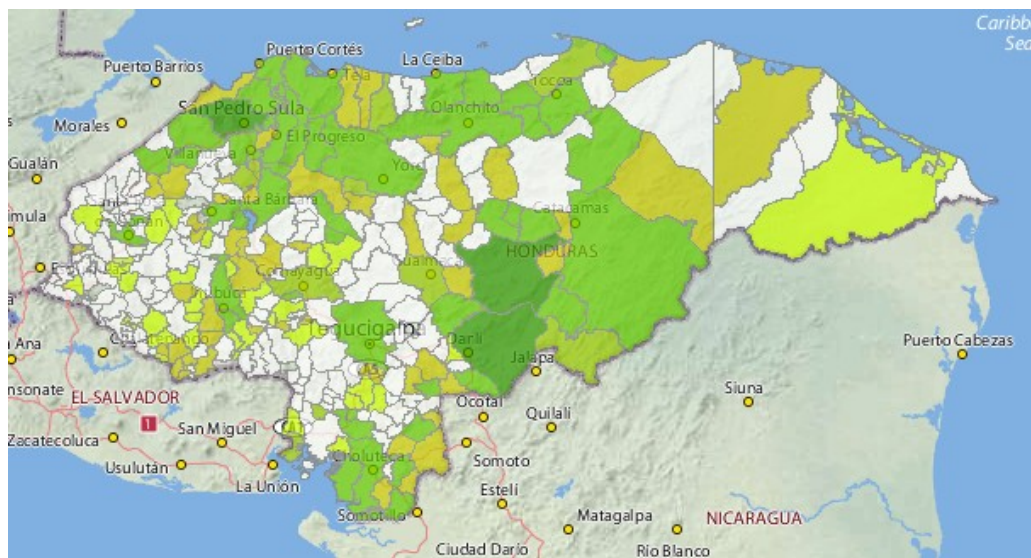
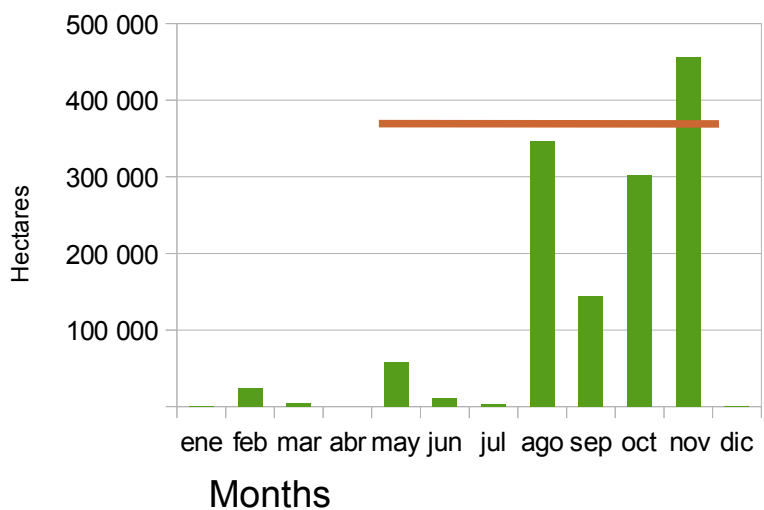
# Some examples of analysis and type of data



# Crop damage in Honduras, 1970-2010

## Crop losses in hectares

### Hurricane season

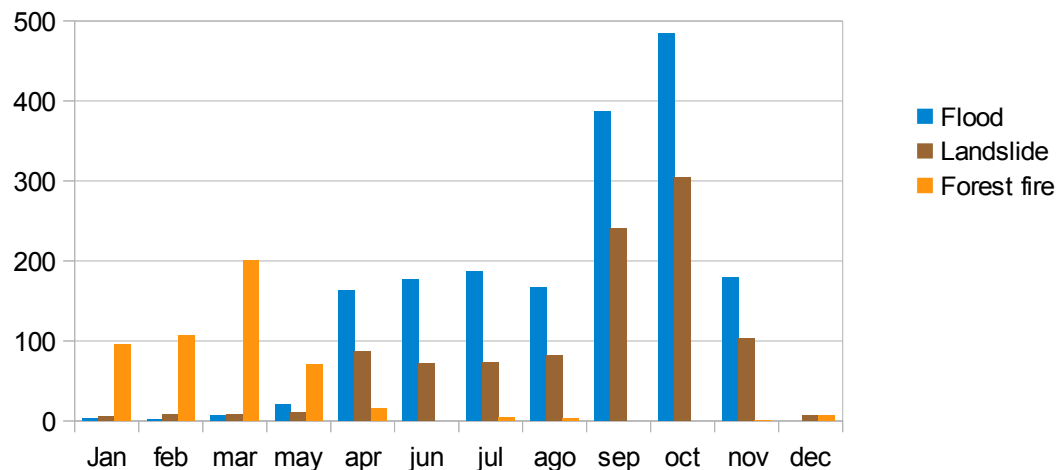


- Between 1- 100
- Between 101- 500
- Between 501- 1000
- Between 1001- 50000
- Between 50001- 100000

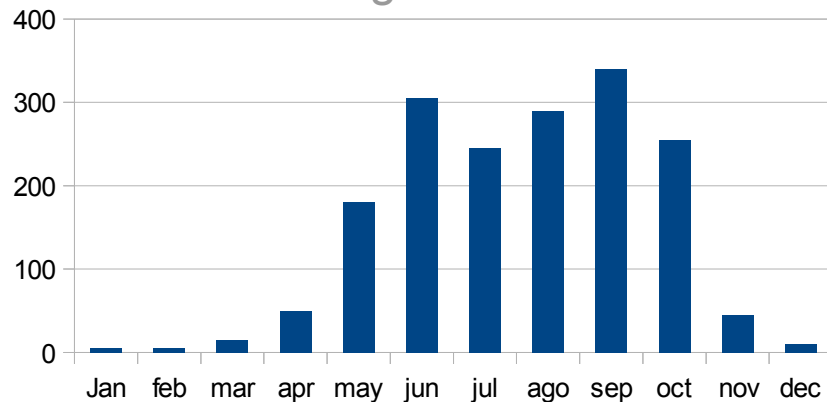
# Multiannual monthly pattern: rainfall and disaster records

El Salvador, 1970-2011

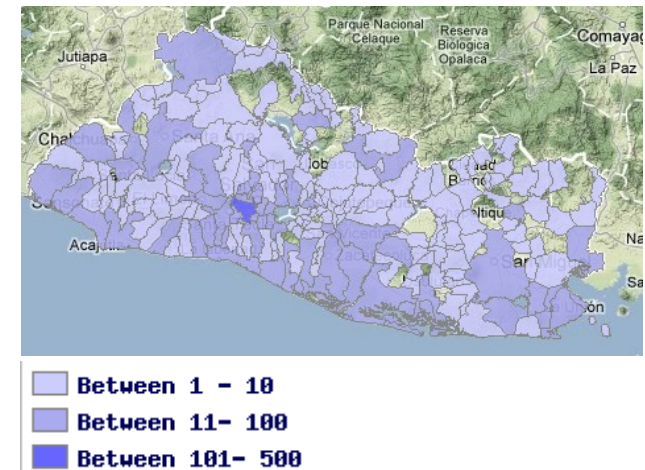
Number of disasters



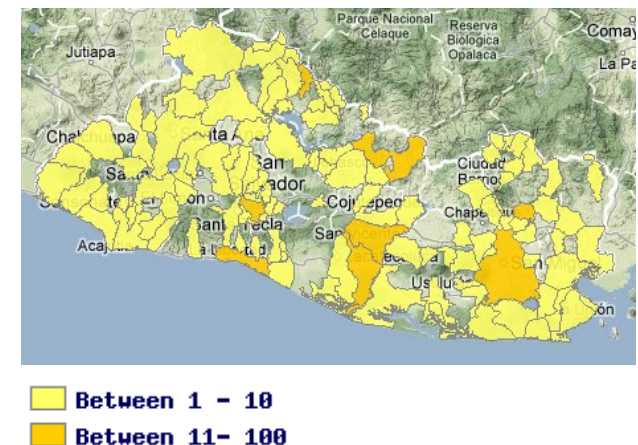
Average rainfall



Floods and landslides



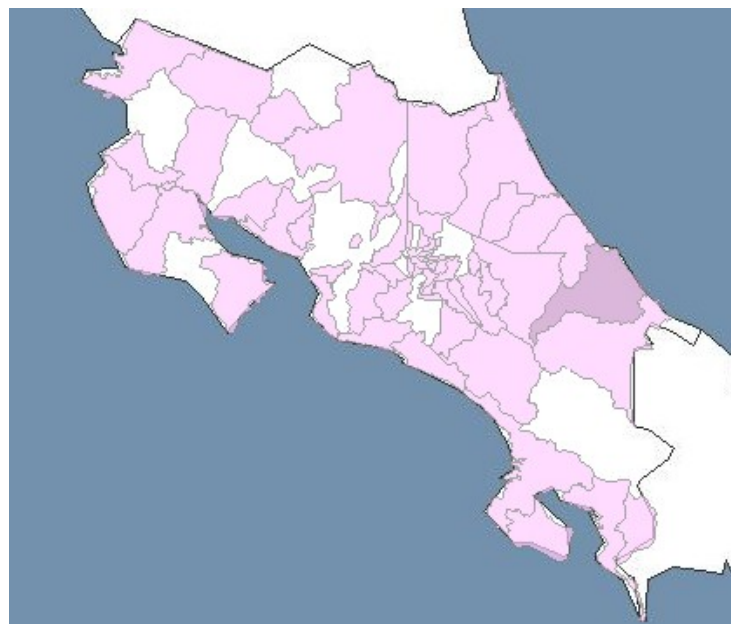
Forest fire



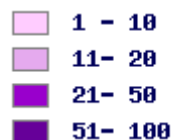
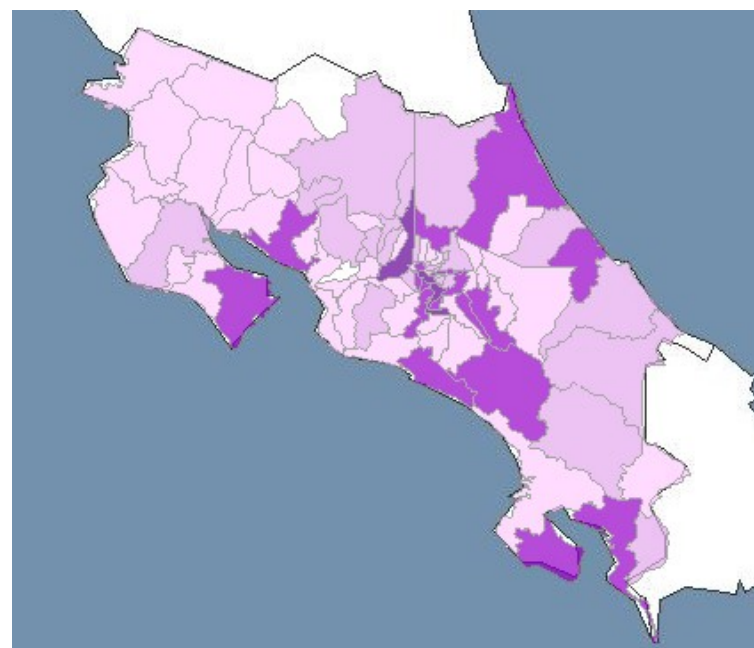
# Effects in health sector and sanitation system Costa Rica

## Number of records

1988-1999



2000-2011



# Manifestation of risks: Intensive and extensive risk disasters

Disaster conceptualised as manifestation of risks.



# Figures on intensive risk disasters

8 countries, since 1970

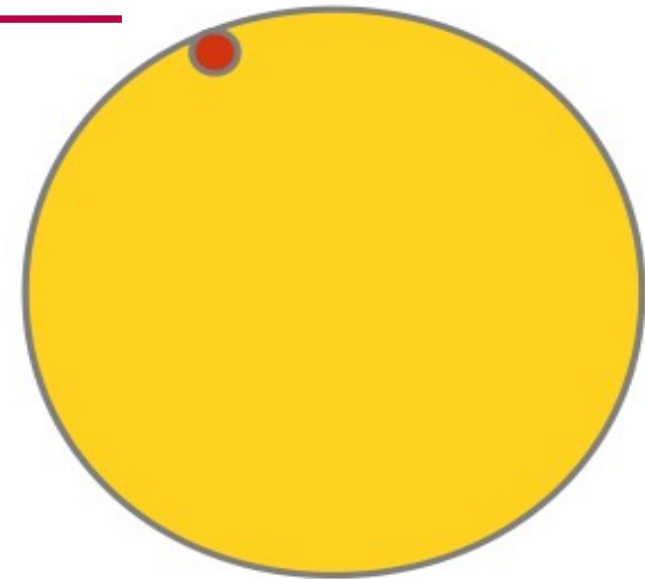
## Intensive risk disasters

Less than 1 percent of datacards (200 datacards)

75% hydrometeorological events

Losses affected mainly medium to small cities (less than 100 000 inhabitants)

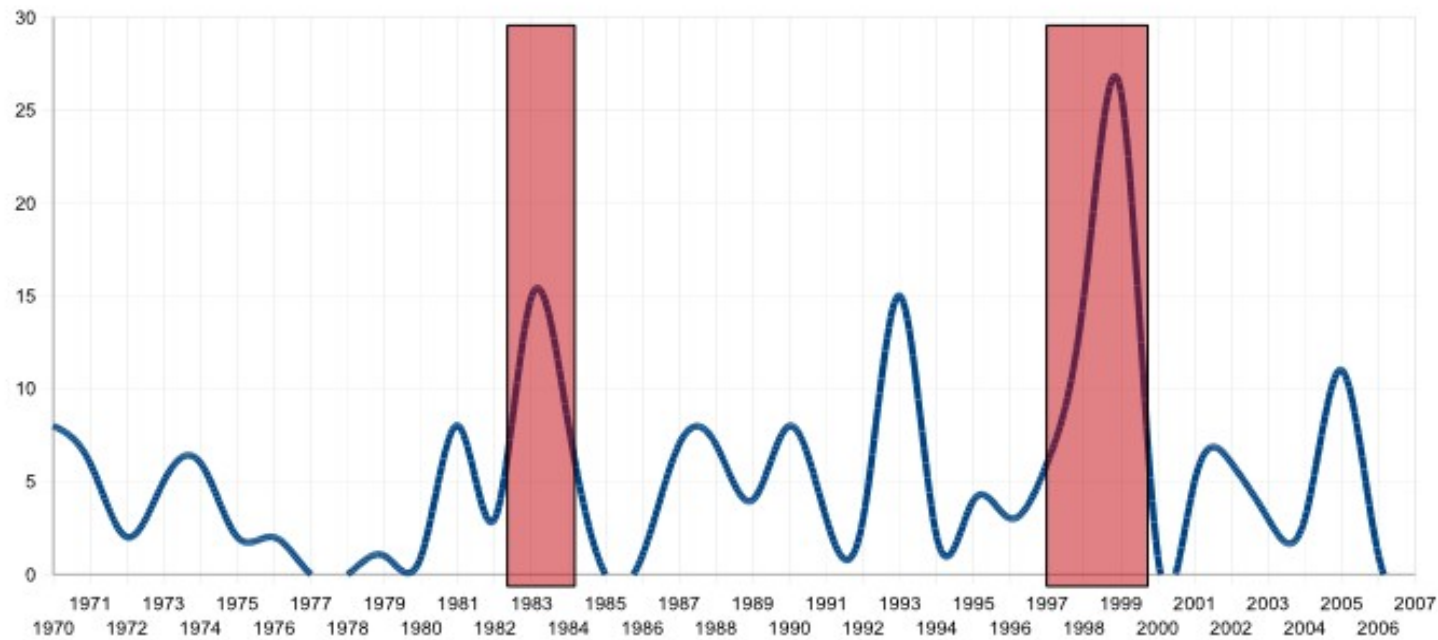
During ENOS intensive risk report had increased.





# Temporal evolution of intensive risk (hydrometeorological events)

**# number of records intensive risk disasters**

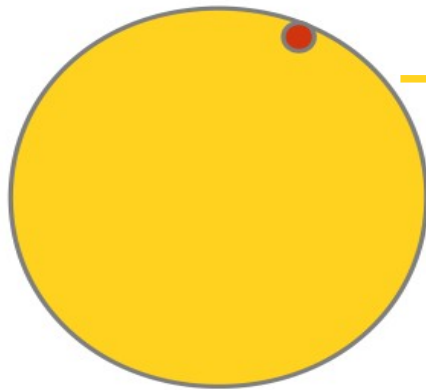


El Niño 1982-1983

El Niño 1998

La Niña 1999-2000

## Figures on extensive risk disasters



### **Extensive risk disasters**

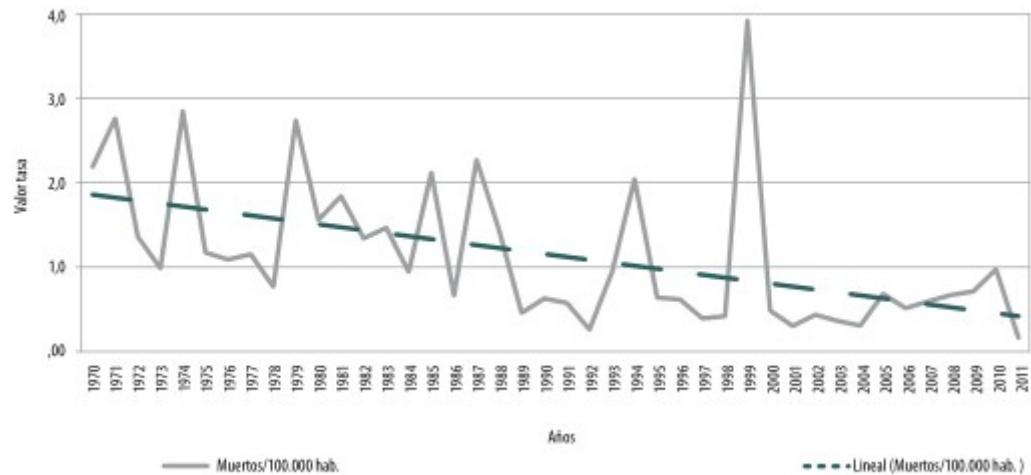
90% percent of datacards (+ 70 000 datacards)

98% hydrometereological events

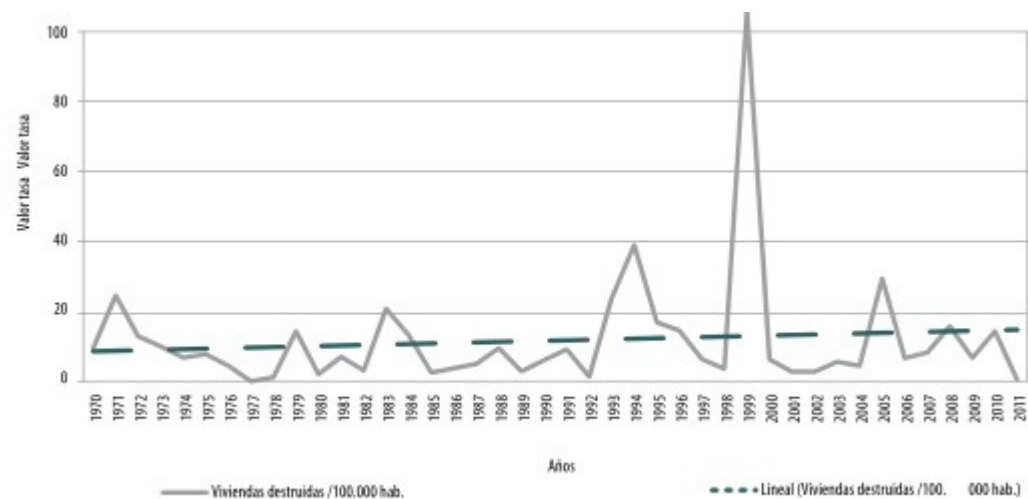


# Tendencies of damages, Colombia

Loss of life,  
per 100 000  
inhabitantes



Destroyed houses,  
Per 100 000  
inhabitantes





The frequency and intensity of disaster are increasing specially due to

inadequate land use planning (urban and rural)

politics of development



**DESINVENTAR** .org  
Disaster Information System

# Thank you

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