

# Stevens Institute of Technology Summer Project

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07/03/15

# Introduction



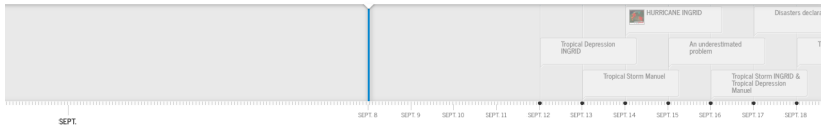
## Natural disasters 2013

In September of 2013 two hurricanes category 1 in the Saffir-Simpson scale, affected 19 of the 31 states in Mexico. Even though both tropical storms were not as destructive as other hurricanes (scales 3-4) the interaction between storms (one in the Pacific Ocean and the other at the Atlantic Ocean) was catastrophic.



SEPTEMBER 12,  
2013  
Tropical Depression  
INGRID

WWW.CNN



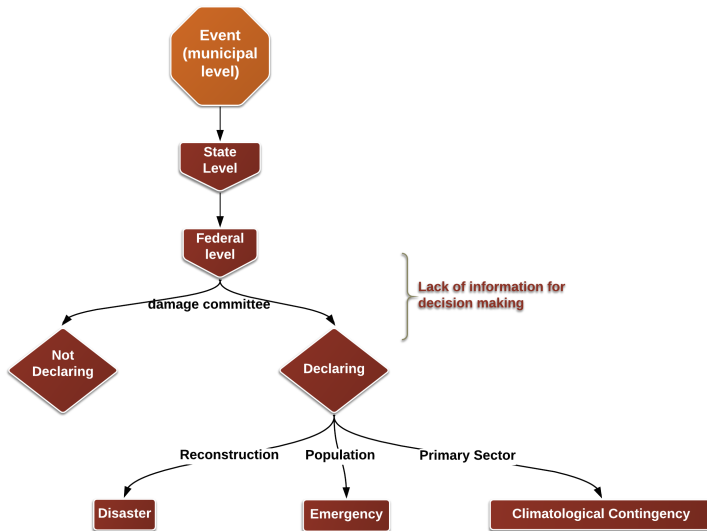
Follow the Disaster Time Line to learn more about the evolution of Ingrid and Manuel tropical storms.

# Disaster Risk Management

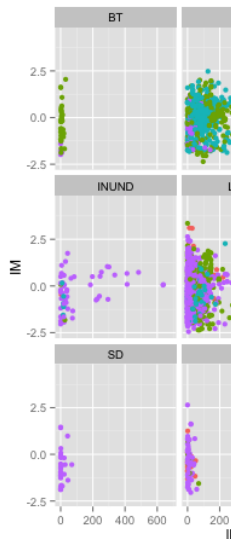
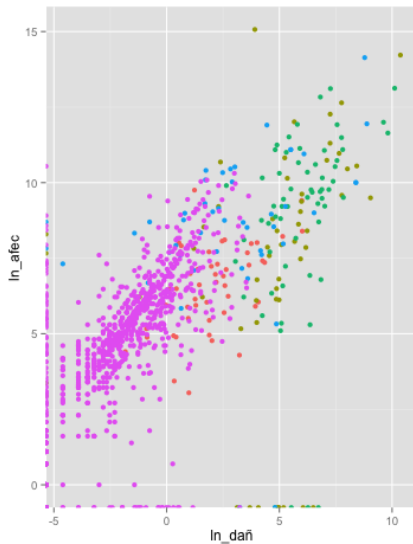


source: CATALYST winter Resilience Academy, 2013

# Problem



# Problem



# Objectives

Develop and apply methods to assess the suitability of using news flows and precipitation data to characterize disaster damages in Mexico looking forward to resource allocation improvement.

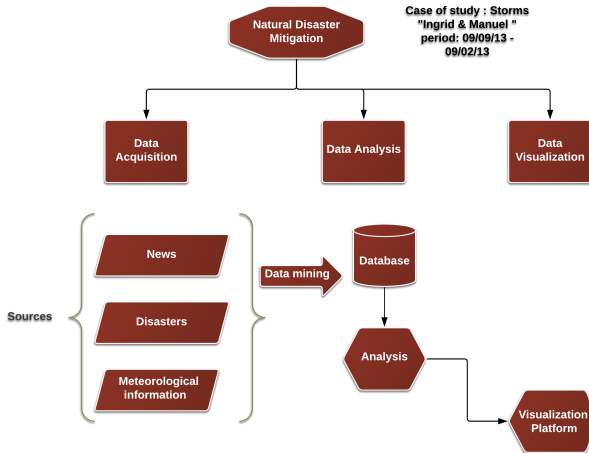
We will work towards an open, real time visualization platform for coordinated disaster mitigation for decision making.

# Working plan

- ▶ Analyze information flows using Newspaper, TV and radio data.
- ▶ Correlation of news flows with precipitation data.
- ▶ Correlation of news flows with damage metrics (evaluation and public expenditure).
- ▶ Accompanying interactive visualization tools

# Workflow

The workflow of the project is the following:



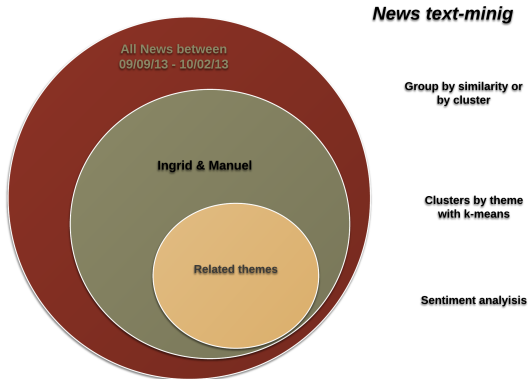


# Information Sources

## Information Sources for Event Analysis

|                                   |                            |          |   |
|-----------------------------------|----------------------------|----------|---|
| <b>Meteorological Information</b> | Tropical Storms route      | NOOA     | <ul style="list-style-type: none"><li>• Day</li><li>• Location</li></ul>  |
|                                   | Precipitation              | SMN      | <ul style="list-style-type: none"><li>• Daily precipitation</li><li>• station</li></ul>                                 |
| <b>Damage Assessment</b>          | Damage Assessment          | CENAPRED | <ul style="list-style-type: none"><li>• State</li><li>• Date</li><li>• Affected population</li><li>• Damages</li></ul>  |
|                                   | Public Expenditure         | FONDEN   | <ul style="list-style-type: none"><li>• State</li><li>• Public expenditure</li><li>• Affected sector</li></ul>          |
|                                   | Disaster Relief Assistance | SEGOB    | <ul style="list-style-type: none"><li>• Municipality</li><li>• latitude and long</li><li>• type of assistance</li></ul> |
| <b>News</b>                       | National News              | EI       | <ul style="list-style-type: none"><li>• Radio</li><li>• TV</li><li>• Newspaper</li><li>• Web</li></ul>                  |

# News Porcesing



# Project Time-Line

## Project Time Line 07/03/13 - 08/16/13

