



# Natural Disasters Investigation

Florida

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# **Disaster #1**

**Hurricane Irma**

14 days

134 casualties

Families separated.

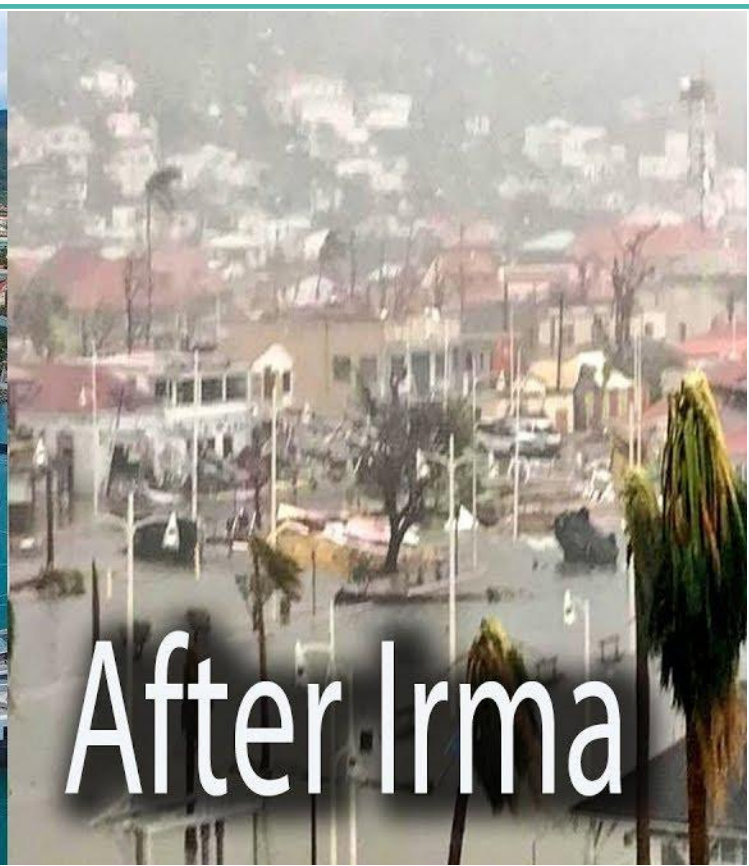
Homes destroyed.

Lives forever changed.





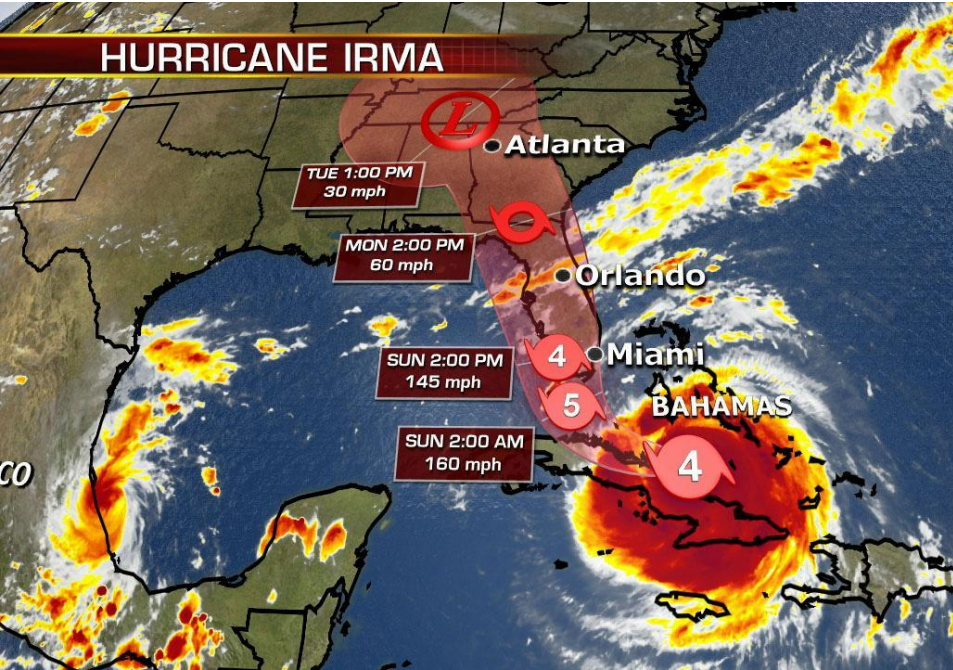
Before Irma



After Irma



# When and Where



## When:

- August 30, 2017 - September 13, 2017
  - Made first landfall on September 10, 2017
  - Category 4 when it hit FL

## Where:

- Miami
  - Florida keys
  - Tampa Bay area
  - Caribbean
  - Cuba
  - Georgia
  - Alabama
  - Tennessee

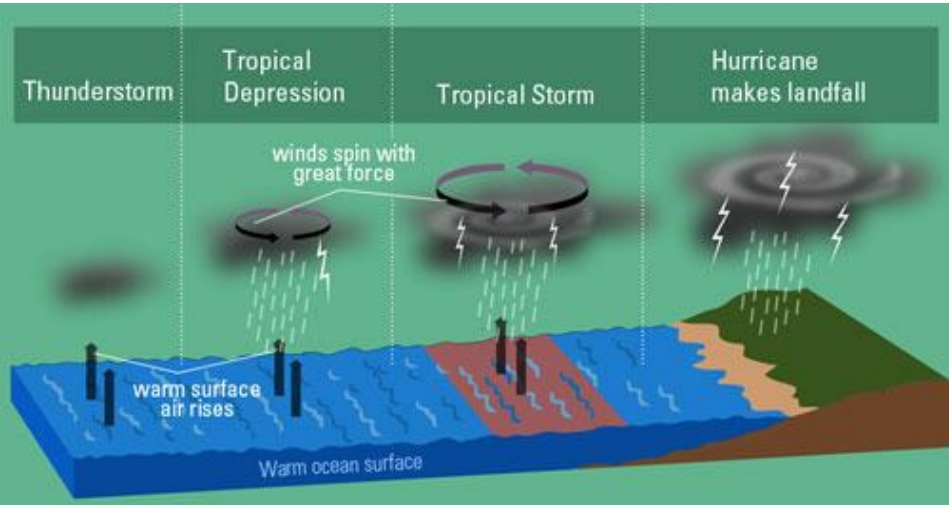
# Warning Signs



## Warning Signs:

- Ocean Swell: water gets to 6 ft in height and waves crash on shore more often around 72 hours in advance of hurricane
  - Barometric pressure drop 36 hours in advance
  - Wind speeds increase
  - Heavy rainstorms
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# How



- Was not caused by climate change, but climate change made the effects of the storm worse
    - It heats the ocean which propels the power of the wave
  - Caused by a tropical wave: winds carried along the subtropics
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# Weather and Damages



- Weather
    - 130 mph winds
    - Hot Weather
  - Damages
    - Flooding
    - \$100 billion in damages to property
    - Contaminated water
    - Power outages across most of the city
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<b>Category 1</b>	<b>74-95 mph</b>
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<b>Category 2</b>	<b>96-110 mph</b>
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<b>Category 3</b>	<b>111-129 mph</b>
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<b>Category 4</b>	<b>130-156 mph</b>
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<b>Category 5</b>	<b>157 mph +</b>
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# How it Affected Human Life



- Most of FL lost power so citizens had spoiled food, could only drink bottled water, dark at night, etc...
  - 134 casualties, more injured
  - Wind knocked over trees, landed on cars and houses
  - Lost homes and family members
  - Separated from family members
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## Disaster #2

Land O Lakes Sinkholes

Imagine this-

You and your family left the house, an innocent day of shopping and going out to lunch. Only to return home to see that it doesn't exist anymore. Your house and everything in it has been swallowed by a giant hole in the ground.

This happened to two families during the Land O Lakes Sinkhole.



# When and Where



- When
  - July 14th, 2017
- Where
  - Near Tampa, FL



# Warning Signs



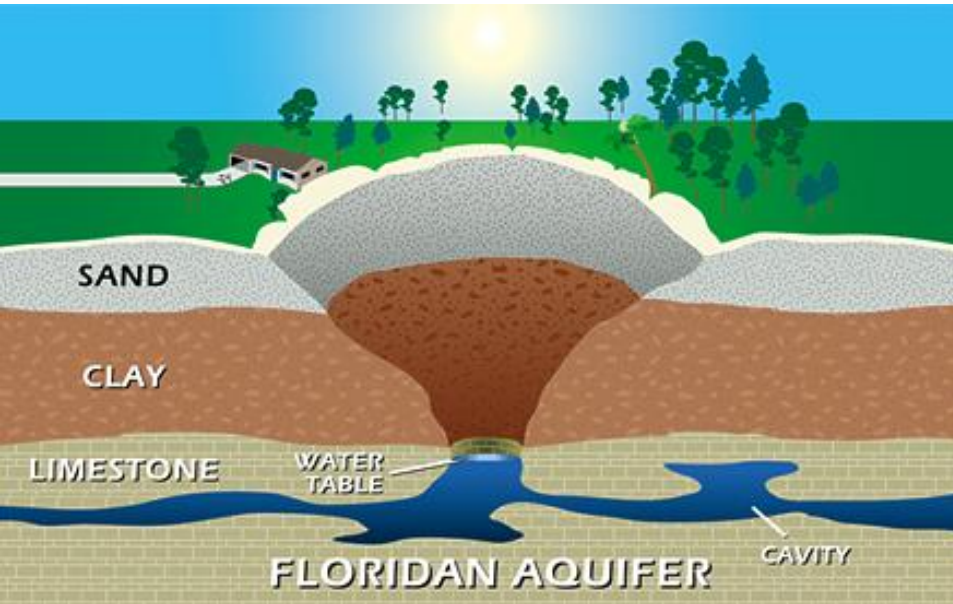
## Warning Signs:

- Fresh cracks in the foundations of houses and buildings.
- Cracks in interior walls.
- Cracks in the ground outside.
- Depressions in the ground.
- Trees or fence posts that tilt or fall.
- Doors or windows become difficult to open or close.

There is no way to know exactly when the sinkhole is about to occur.

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# How



- Most natural sinkholes happen in areas with large deposits of carbonate rocks, like limestone. Over long periods of time, groundwater flowing through the subsurface can dissolve the rock, creating voids and open tunnels.

# Weather and Damages



- Weather
    - Heavy rain
    - Winds
  - Damages
    - The sinkhole swallowed two homes and a lot of property, a third home was in danger of being taken down
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# How it Affected Human Life



- Destroyed people's homes, and their personal items
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## **Disaster #3**

**1997 Miami Tornado**



Have you ever seen the movie the Wizard of Oz?

The 1997 Miami Tornado looks like a scene right out of that movie. Fortunately there were no casualties or serious injuries, but some homes and property were completely destroyed.



# When and Where



- When
  - May 12, 1997
  - F1 Tornado
- Where
  - Miami, FL

# Warning Signs



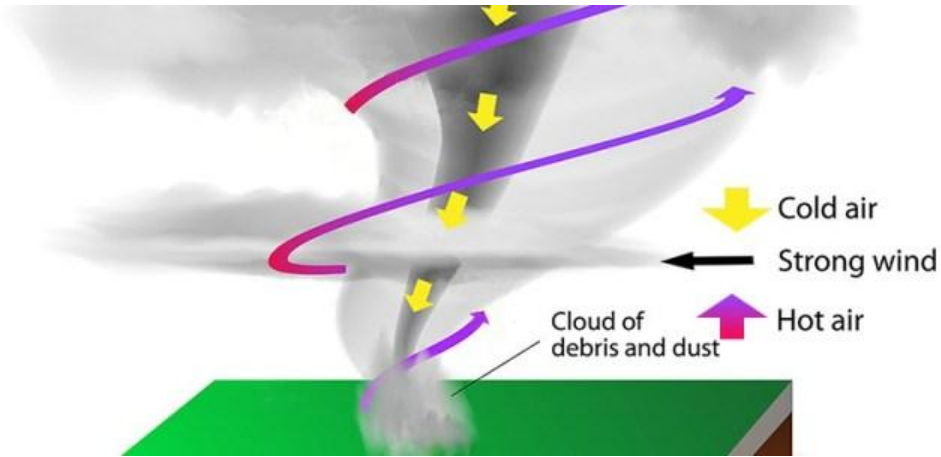
## Warning Signs:

- A dark, often greenish, sky
- Wall clouds or an approaching cloud of debris
- Large hail often in the absence of rain
- Before a tornado strikes, the wind may die down and the air may become very still
- A loud roar similar to a freight train may be heard
- An approaching cloud of debris, even if a funnel is not visible

A tornado warning is an alert issued by national weather forecasting agencies to warn the public that severe thunderstorms with tornadoes are imminent or occurring.

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# How



- Formed from thunderstorms. Warm, moist air from the Gulf of Mexico and cool, dry air from Canada. When these two air masses meet, they create instability in the atmosphere. Most strong and violent tornadoes form within this area of strong rotation.

# Weather and Damages



- Weather
    - 60-70 mph winds
    - Thunderstorms
    - Cold front
  - Damages
    - \$525,000 in damages
    - Swiped a cruise ship
    - Flipped cars
    - Destroyed some homes
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F-0	40–72 mph winds
F-1	73–112 mph
F-2	113–157 mph
F-3	158–206 mph
F-4	207–260 mph
F-5	261–318 mph

# How it Affected Human Life



- People lost homes, valuable items, and cars
  - Properties were destroyed
  - No fatalities
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