

CRED CRUNCH



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"The constant influence of hurricanes"

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Focus on tropical cyclones on American continent

"Hurricanes, cyclones, and typhoons are the same weather phenomenon; we just use different names for these storms in different places. In the Atlantic and Northeast Pacific, the term "hurricane" is used. The same type of disturbance in the Northwest Pacific is called a "typhoon" and "cyclones" occur in the South Pacific and Indian Ocean" (NOAA, 2017).

The 2017 season of tropical cyclones was spectacular in terms of number of events hitting the Caribbean, and the Central and North American subcontinents in a short period of time. Hurricanes are distinguished in this region by the high number of countries situated in the path of a single event. The Caribbean region is composed of numerous small islands, vulnerable to extreme climate events. Six Category 5 landfalls (with wind speeds greater than 252 km/h) hit the Caribbean Islands during this season, where five observed with Irma and one with Maria (Washington Post, 22/09/17).

Hurricanes and cyclones are extreme events that bring high destruction in terms of number of deaths and economic damages. <u>Preliminary data</u> of the recent hurricanes are:

- ♦ Harvey: 69 deaths, 450,000 people affected and 58 billion US\$ of damages.
- ♦ Irma: 83 deaths, 5.7 million people affected and 50 billion US\$ of damages.
- ♦ Maria: 55 deaths/missing, 100,000 people affected and billions US\$ of damages.

Hurricane Mitch has been the deadliest tropical cyclone since 1900. In 1998, 14,600 people died or were reported as missing in Honduras. More than 3,300 people in Nicaragua and almost 900 people in El Salvador, Guatemala, Belize, Mexico, Costa Rica and Panama died in the hurricane.

Previously, Honduras was badly hit by hurricane Fifi, which caused the death of 8,000 people. Hurricane Flora seriously hit the Caribbean in 1963, and finally in 1900, Hurricane Galveston killed at least 6,000 people in the United States. (A)

In terms of people affected, Cuba has seen three major hurricanes in the last **20** years that affected between 2.5 to 6 million people each. (B)

Since 1900, the **United States** was mainly affected through an economic standpoint, accounting for the **5 costliest tropical hurricanes on the continent**. Though the economic damages are not yet known for Hurricane Harvey (estimated to US\$ 58 billion), current data rank its economic damages as the second costliest hurricane since 1900. The costliest disaster to date is Hurricane Katrina in 2005 that caused losses of over 150 billion (2017US\$). Hurricane Maria stand also as one of the costliest hurricane in history with estimated damages of 55 billion US\$. (C)

Tropical cyclones on the American continent largely occur in the North Atlantic and Eastern Pacific zones (D).

The disaster profile (E) of those zones shows that storms, and particularly tropical cyclones, result in major disasters in those regions. Only earthquakes cause more deaths than storms, due to the 2010 earthquake in Haiti (220,000 dead). Since 1900, tropical cyclones have killed more than 86,000 people. More than half of the storms (1172) in this time period were tropical cyclones (621). In total, storms affected around 150 million people in the last century, with one third being by tropical cyclones, alone. Furthermore, tropical cyclones, more than other types of disasters, are the leading cause of economic damages in the last century, causing 774 billion (2017 US\$) in losses. This number is subject to rise again considering recent events.

Hurricanes are a major threath for the American continent and can leave behind long lasting economic and human consequences. Constant preparedness and disaster risk reduction actions need to be taken, not only regarding direct consequences of hurricanes but also in regard to the associated disasters, such as urban flooding and dam bursting.

A) 5 deadliest tropical cyclones on American continent

Name	Date	Country	No. total deaths	
Mitch	October- November 1998	Honduras	14,600	
		Nicaragua	3,332	
		El Salvador	475	
		Guatemala	384	
		Belize	9	
		Mexico	9	
		Costa Rica	8	
		Panama	3	
Fifi	September 1974	Honduras	8,000	
F111		Belize	-	
	September- October 1963	Haiti	5,000	
		Cuba	1,750	
Flora		Dominican	400	
		Republic		
		Trinidad &	24	
		Tobago		
		Jamaica	11	
		Grenada	6	
		Bahamas	-	
	September 1900	United		
Galveston		States of	6,000	
		America		
	September 1928	Guadeloupe	2,000	
San Felipe / Okeechobee		U.S.A.	1,836	
		Puerto Rico	300	
		Montserrat	-	
		St Kitts and Nevis	-	

C) Top 5 countries with largest population affected by tropical cyclones

Name	Date	Country	No. total affected (million)
Michelle	November 2001	Cuba	5.9
Irma	September 2017	Cuba	5.7
Frances	September 2004	U.S.A.	5
Floyd	September 1999	U.S.A.	3
Dennis	July 2005	Cuba	2.5

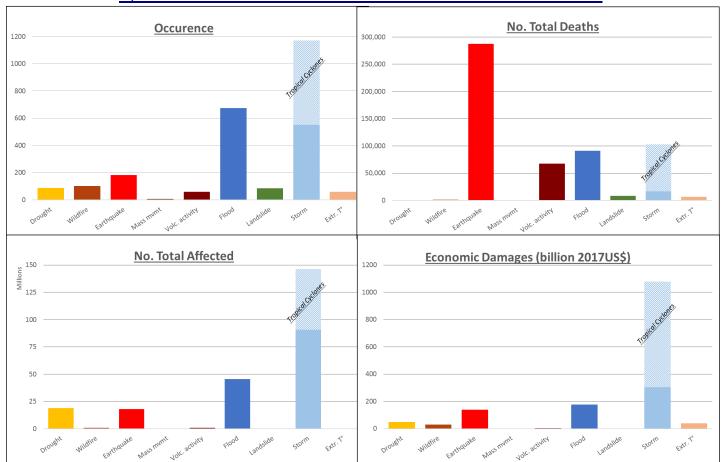
B) Top 5 countries with greatest economic damages by tropical cyclones

Name	Date	Country	Damages (billion 2017 US\$)
Katrina	August 2005	U.S.A.	156.3
Harvey	August 2017	U.S.A.	58
Irma	September 2017	U.S.A & Caribbean	55.3
Sandy	October 2012	U.S.A.	53.2
Andrew	August 1992	U.S.A.	46.1

D) Tropical Cyclone basins: North Atlantic and Eastern Pacific zones



E) Profile of the North Atlantic and Eastern Pacific zones: 1900-2017²



² Natural disaster category is divided into sub-groups, disaster types and sub-types. Storm include extra-tropical storm, tropical cyclone and convective storm. Find the complete classification on: www.emdat.be/classification