

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 sub-continent 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. Preliminary data¹ 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 threat 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
		Belize	-
Flora	September-October 1963	Haiti	5,000
		Cuba	1,750
		Dominican Republic	400
		Trinidad & Tobago	24
		Jamaica	11
		Grenada	6
		Bahamas	-
Galveston	September 1900	United States of America	6,000
San Felipe / Okeechobee	September 1928	Guadeloupe	2,000
		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

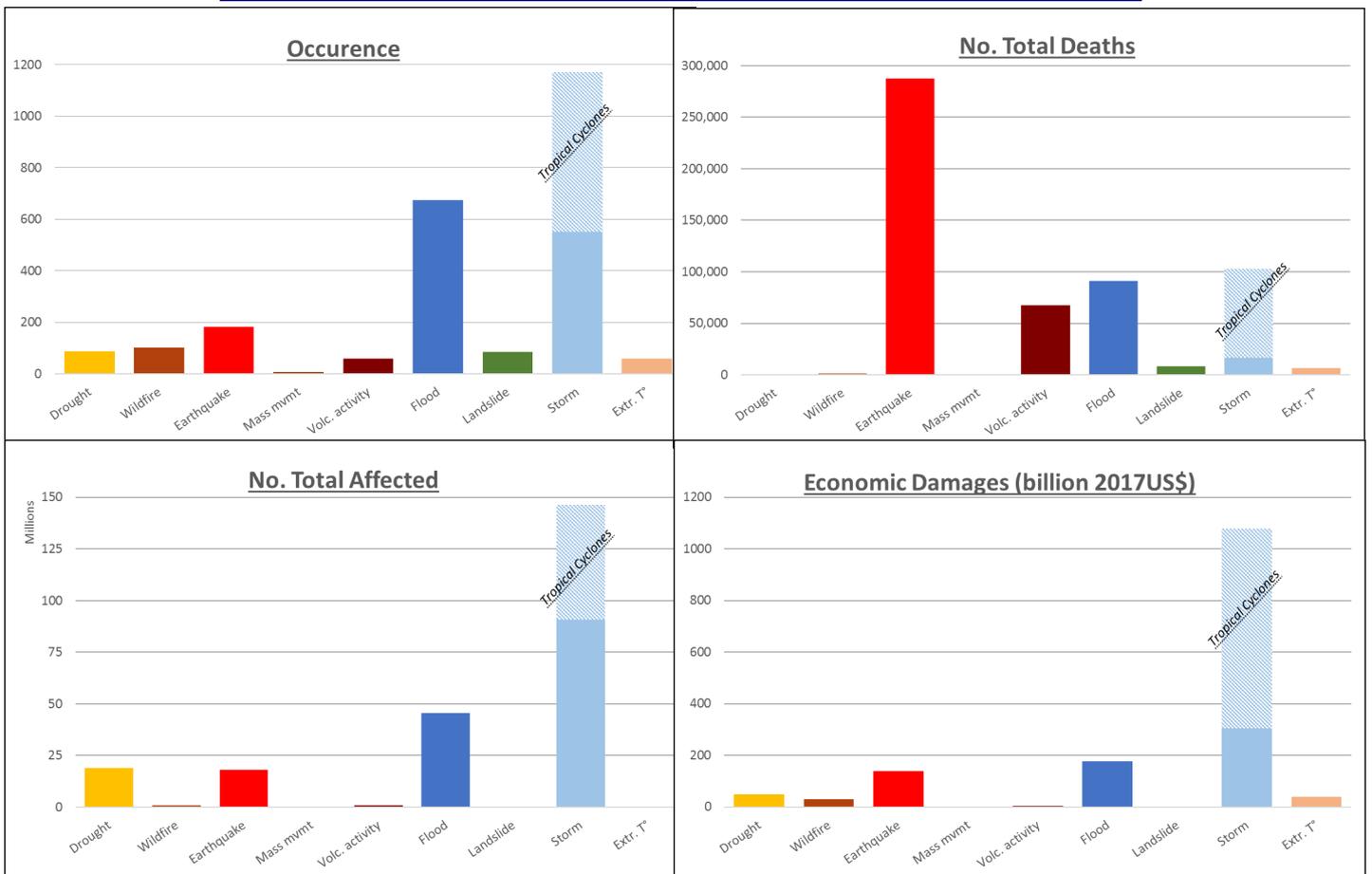
Name	Date	Country	Damages (billion 2017 US\$)
Katrina	August 2005	U.S.A.	156.3
Harvey	August 2017	U.S.A.	58
Irma	September 2017	U.S.A & Caribbean	55.3
Sandy	October 2012	U.S.A.	53.2
Andrew	August 1992	U.S.A.	46.1

¹Data as of the 22nd of September 2017. All figures presented in the CRED CRUNCH come from "EM-DAT: The OFDA/CRED International Disaster Database"

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

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 Please note that disaster data are subject to change as validation and cross-referencing of the sources is undertaken and as new information becomes available. For any enquiries please contact contact@emdat.be or visit www.emdat.be