

# CATASTROPHES

in the Twenty-First Century



**DEFINING EVENTS**  
of the Twenty-First Century

by Carolyn Williams-Noren



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# CONTENTS

|   |           |
|---|-----------|
| <b>IMPORTANT EVENTS</b>                                 | <b>4</b>  |
| <b>INTRODUCTION</b>                                     | <b>6</b>  |
| Rising Waters in Houston                                |           |
| <b>CHAPTER 1</b>  | <b>12</b> |
| How Have Natural Disasters<br>Affected the Planet?      |           |
| <b>CHAPTER 2</b>  | <b>26</b> |
| How Have Catastrophes in Nature<br>Affected the Planet? |           |
| <b>CHAPTER 3</b>  | <b>40</b> |
| How Have Human Catastrophes<br>Affected the Planet?     |           |
| <b>CHAPTER 4</b>  | <b>54</b> |
| How Has Climate Change Affected the Planet?             |           |
| Source Notes  | 70        |
| For Further Research                                    | 74        |
| Index   | 76        |
| Image Credits   | 79        |
| About the Author  | 80        |

# IMPORTANT EVENTS

2011

In March, a 9.0 magnitude earthquake, severe tsunami, and nuclear meltdown slam northeastern Japan.

2014

Flint, Michigan, changes its water source and treatment system, beginning a series of events that exposes residents to high lead levels and other contaminants for many months.

2010

A 7.0 magnitude earthquake strikes Haiti on January 12. It leaves 316,000 people dead and 1.5 million without shelter.

2014

The largest-ever outbreak of Ebola sickens and kills tens of thousands of people in Guinea, Sierra Leone, Liberia, and beyond.

2005

2010

2015

2010

On April 20, a blowout on the Deepwater Horizon offshore oil rig causes huge explosions and eleven casualties.

2015

Indonesia's worst wildfire season on record burns vast swaths of forest and farmland and blankets southeast Asia with a sickening haze.



# How Have Natural Disasters Affected the Planet?

**N**atural disasters happen without regard for who's in their way. The weather doesn't obey state or national borders. Shifting tectonic plates don't care about a nation's power or powerlessness. A virus, given the chance, will infect a wealthy person and a poor person equally well.

But the same type of disaster often affects different places differently. A 2016 United Nations (UN) study of more than 7,000 catastrophes found that wealthier countries bear greater financial costs after natural disasters. But it also found that, in poorer countries, the average death toll for each disaster is five times higher than in wealthier countries. As former UN Secretary-General Ban Ki-Moon put it, "High-income countries suffer huge economic losses in disasters, but people in low-income countries pay with their lives."<sup>7</sup>

The devastating twenty-first century earthquakes in Japan (2011) and Haiti (2010) illustrate this difference, with greater financial losses in Japan and much greater loss of life and a more difficult recovery in Haiti. When Hurricane Irma, one of many record-breaking Atlantic storms in the 2010s, struck Caribbean islands as well as the US mainland, people experienced the catastrophe and the recovery





Places like Port-au-Prince, Haiti, are particularly vulnerable to natural disasters. The existing poverty can worsen the effects and aftermath of a catastrophe.

differently, depending on the resources available to them. And the largest-ever outbreak of the deadly Ebola virus, centered in West Africa in 2014, was fought off with long, hard effort and much loss of life in Africa, but much more quickly and with fewer human losses in the developed world.

## Earthquake, Haiti, 2010

As 2010 dawned, Haiti was already among the poorest nations in the western hemisphere. More than half the population lived in poverty. The literacy rate was under 50 percent. The health care, housing, transportation, and communication systems were fragile. The country's political history was full of violence and upheaval. Then, on January 12, a 7.0 magnitude earthquake struck. It was Haiti's worst earthquake in more than 200 years.

Frantz Florestal, who lived through the quake in Haiti's capital, Port-au-Prince, described the shaking and the immediate destruction. "You heard the noise under the ground and it's shaking and shaking, and everybody started running. Houses were falling and falling, all

of the fences were falling, people were falling, people were crying."<sup>8</sup>

Buildings shook to pieces.

Landslides wiped out entire communities and destroyed crops and irrigation canals.

Up to 316,000 people died in the quake, and 1.5 million people were left without shelter. An estimated 300,000 people were injured. And, with damage to agriculture and transportation

systems, 3.3 million people faced food shortages. Diera Louis, whose family made a makeshift home in one of 1,300 tent cities, said, "We live under a tarp that was ripped by the wind. My children are walking around naked and shoeless. We have no food to eat."<sup>9</sup>

A cascade of secondary catastrophes followed the earthquake. International aid workers who came to help in the recovery

**"We live under a tarp that was ripped by the wind. My children are walking around naked and shoeless. We have no food to eat."<sup>9</sup>**

*—Diera Louis on life in Haiti after the earthquake*

inadvertently brought with them a disease, cholera, that sickened one million Haitians and killed 10,000. Haiti had not had an outbreak of cholera in at least fifty years. But, due to lack of sanitation and clean water, this outbreak lasted for years after the quake.

In the months after the quake, political unrest over a disputed national election added to the country's misery and made recovery even more difficult. Those who tried to help were often unsuccessful, corrupt, or both. The American Red Cross, which raised nearly half a billion dollars from the public to help Haiti, was accused of misusing funds, spending money primarily on administrative expenses, and making little progress. Kim Bolduc, UN Humanitarian Coordinator, said, "This emergency is probably the most complex in history."<sup>10</sup>

A series of other catastrophes pummeled Haiti in the years after the earthquake, further complicating the recovery. Hurricane Sandy struck the island in 2012. A three-year drought followed. In October 2016, Hurricane Matthew killed at least 1,000 people. Seven years after the earthquake, the UN said 2.5 million people in Haiti were still in need of aid. As of 2017, 55,000 people were still living in camps, many in unsanitary conditions, dreaming of building themselves small houses out of cinder blocks to create a somewhat more stable life.

## Earthquake, Tsunami, and Nuclear Accident, Japan, 2011

On March 11, 2011, Japan weathered a 9.0 magnitude earthquake. Centered in the ocean off the country's northeastern coast, it was the fifth-largest earthquake anywhere in the world since the year 1900 and the most powerful quake ever recorded in Japan. Toshiaki Takahashi, age forty-nine, lived through the earthquake in the city of Sendai. "I never experienced such a strong earthquake in my life," he



had contact with him, inform them about symptoms to look for, and catch any future cases at the earliest sign of illness. Virtually every community in the United States has running water and a well-stocked hospital or clinic where patients can be kept isolated

## Vaccines and Medicines for Ebola

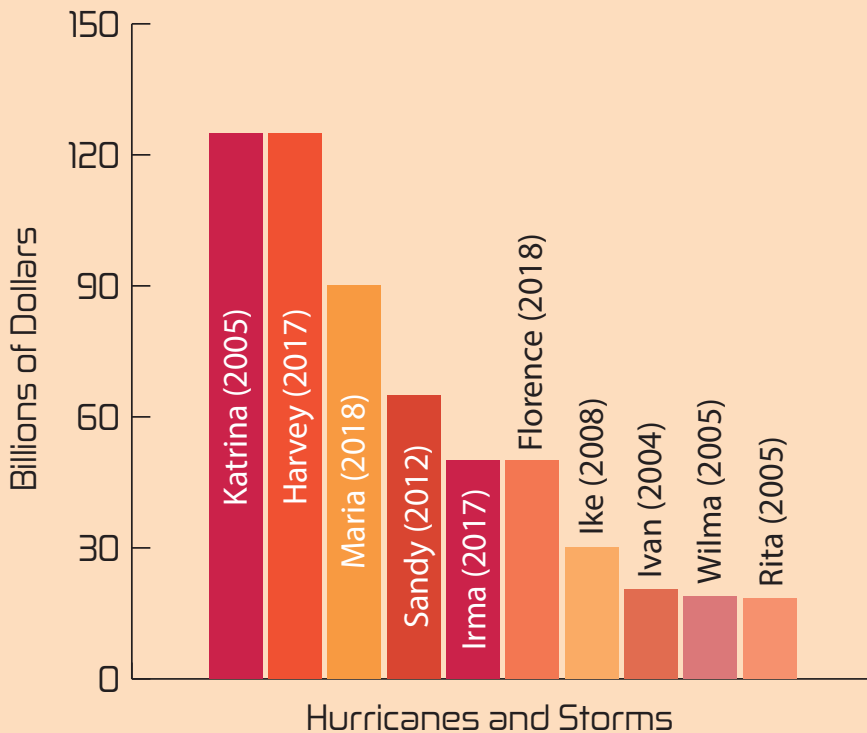
Before the 2014 Ebola outbreak, scientists had spent some time trying to create vaccines and medicines to prevent and treat the disease. But none were yet widely available. So people had to rely only on sanitation and isolation to stop the spread of the disease. And, once a person was sick, there were few treatment options other than fluids and pain relief.

The urban, international outbreak of 2014 brought attention and funding back to the search for solutions. And in 2015, a vaccine trial in Guinea was very successful. None of the at-risk people who received the vaccine became infected. In May 2018, people in the Democratic Republic of the Congo (DRC) began using the same vaccine to control an active Ebola outbreak. The amount of vaccine available was limited, so it was only given to the people with the highest risk: health care workers, people responsible for burying the dead, and people close to those who were sick with the disease.

In November of that year, the DRC started a trial, the first of its kind, to provide and compare four different medicines to treat Ebola. The trial aimed to improve the odds of survival for people affected by this outbreak. It was designed to help scientists know more about which treatments are most effective. By 2019, the outbreak in the DRC had not reached anywhere near the size of the 2014 catastrophe. World Health Organization Director-General Tedros Adhanom Ghebreyesus said, “We hope to one day say that the death and suffering from Ebola is behind us.”

*Quoted in Colin Dwyer, “Ebola Treatment Trials Launched in Democratic Republic of the Congo Amid Outbreak,” NPR, November 27, 2018. [www.npr.org](http://www.npr.org).*

# Costliest Hurricanes and Storms of the 2000s



In addition to the human toll, the wind, rainfall, and flooding caused by major storms and hurricanes can cause devastating economic damage to property. Homes, businesses, and infrastructure may have to be repaired or replaced after a storm strikes a community. Experts assess a total dollar value for the damage a storm does. Above are the costliest storms of the 2000s.

*"Costliest US Tropical Cyclone Tables," NOAA, 2018. [www.nhc.noaa.gov](http://www.nhc.noaa.gov).*

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# INDEX

- Aiken, Ann, 67  
American Red Cross, 15  
Antarctica, 56  
Antigua, 23  
art, 47  
Atlantic Ocean, 12, 60–61  
Ban Ki-Moon, 12  
Bangladesh, 45–47, 49, 65  
Barbuda, 23  
Bea, Robert, 29  
Bergner, Joel, 47  
Bolduc, Kim, 15  
Bolsonaro, Jair, 52  
Brazil, 49–54  
British Petroleum, 31  
Bruna, Emilio, 50  
Burgess, Jan, 42  
cancer, 33, 42  
carbon dioxide, 56–58, 62, 67  
Caribbean islands, 12, 22–23  
China, 65, 68  
climate change, 10, 24, 39, 54–69  
climate history, 54–55  
Collins, Jennifer, 24  
Darusman, Marzuki, 45  
Deepwater Horizon, 26–31, 39  
Democratic Republic of the  
Congo, 21  
Detroit, Michigan, 40, 44  
drought, 15, 63–64, 65  
Dubois, Joost, 37–38  
Ebola virus, 13, 18–22, 24, 64, 68  
energy generation, 39, 69  
Environmental Protection Agency, 44  
European Union, 68  
Flint, Michigan, 40–45, 53  
Flint River, 41  
flooding, 6–9, 16–17, 23, 25, 56, 61,  
65, 69  
Florida, 22, 24, 60–61  
fossil fuels, 56–57, 58  
Frieder, Max, 47  
Fukushima Daiichi nuclear power  
plant, 17  
Gallah, Foday, 18  
Great Pacific Garbage Patch, 34–38  
Guinea, 20, 21  
Gulf of Mexico, 26, 29  
Guterres, António, 23  
Haiti earthquake (2010), 12, 14–15  
Hamdan, Leila, 29  
Harris, Kaleka Lewis, 45  
heat waves, 63–65  
Houston, Monika, 9  
Houston, Texas, 6–10  
Hurricane Harvey, 6–10, 25, 54, 62,  
64, 68  
Hurricane Irma, 12, 22–24, 25, 54,  
64, 68