Centre for Research on the Epidemiology of Disasters CRED

UCLouvain

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2018 REVIEW OF DISASTER EVENTS

Supplementary Information*

BRUSSELS, 24 January, 2019 – In 2018, there were 281 climate-related and geophysical events recorded in the EM-DAT (International Disaster Database) with 10,733 deaths, and over 60 million people affected across the world. In 2018, there were a number of major disasters in certain regions, however there were no mega-disasters which inflate yearly averages, such as the 2010 earthquake in Haiti. Globally, Indonesia recorded nearly half the total deaths from disasters in 2018, while India recorded nearly half the total number of individuals affected. The following data are events recorded in EM-DAT. As estimations become more accurate over time, figures will be adjusted, particularly for economic losses.

Droughts & Extreme Temperatures (39 Events)

The direct impact of climate change on human populations will increasingly be felt through catastrophic phenomena, such as drought and extreme temperatures. The human repercussions of these events, as experienced by the EM-DAT team, are typically poorly reported, especially from low income countries. This is partly due to methodological difficulties in registering deaths and the severe consequences caused by droughts and extreme temperatures.

In 2018, three million people were affected by an ongoing drought in Kenya, while Afghanistan suffered a major drought that impacted 2.2 million people, causing the internal displacement of thousands. In Central America droughts affected over 2.5 million people in Guatemala, Honduras, El Salvador, and Nicaragua, which coincided with international migration patterns. Across Europe, a hot and dry summer caused heatwaves and drought conditions that affected farmers and health systems in numerous countries. Due to the privileged economic situation of many European countries, there are reduced impacts from persistent heat exposure and water shortages on the population.

With the growing impact of climate change, particularly in lower and lower-middle income countries, it is critical to improve the reporting on the human impact of droughts and extreme temperatures.

*CRED/IRSS/UCLouvain is solely responsible for the contents of this document.

USAID

EM-DAT (International Disaster Database) is partly funded by USAID.

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Earthquakes & Tsunamis (20 Events)

In the 21st century, earthquakes and tsunamis have been the deadliest disaster, and this trend continued in 2018. The concentration of the damage was in South-East Asia and Melanesia, specifically in Indonesia and Papua New Guinea respectively. In the early months of the year, a string of earthquakes in Papua New Guinea left 181 dead, and affected over half a million people, many of whom lived in remote highlands which were difficult to reach by aid and rescue operations. In Indonesia, the island of Lombok suffered multiple earthquakes, the deadliest being on August 5th, which killed 564 people. On September 28th, an earthquake triggered mudflows and a tsunami on the island of Sulawesi killing 3,400 people, making it the deadliest disaster of 2018.

Floods (108 Events)

Overall, floods have affected more people than any other type of natural hazard in the 21st century, including 2018. Overall, there was a respite from floods in 2018, with Bangladesh, Pakistan, and Vietnam, which often face relentless floods reporting fewer events this year. However, major floods were reported in other countries. In Somalia, which is already suffering from an ongoing conflict, over 700,000 people were affected by flooding, while in Nigeria, flooding cost 300 lives and impacted nearly four million people. In Japan, heavy rains triggered the deadliest floods since 1982, killing 230 people. The August flooding of India's Kerala state was by far the largest flood event of the year, with 504 dead, and two-thirds of the state's residents affected (over 23 million people). Currently, CRED is undertaking an epidemiological study in this region to investigate the impacts of the flooding on gender and disease.

Storms (84 Events)

Every year, storms impact millions of people, and create billions of dollars (USD) in damage; 2018 was the same. Two major storms struck the United States, while in Asia, China, India, Japan, and the Philippines faced extensive damage from multiple storms. It is anticipated that storms, particularly due to hurricanes Florence (14 billion USD) and Michael (16 billion USD) and typhoon Jebi (12.5 billion USD), will be the costliest type of disaster of 2018. EM-DAT is awaiting final data on the economic damage from these events.

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Volcanic Activity (7 Events)

Volcanic activity rarely makes headlines, and has had minimal impacts since the turn of the century; however, in 2018 this natural hazard resulted in more deaths than have occurred in the previous 18 years combined. In June, the Volcán de Fuego Eruption in Guatemala killed over 400 people and affected over 1.7 million, while late in December, the eruption of Anak Krakatau in Indonesia triggered a tsunami that killed over 400 people on the islands of Sumatra and Java.

Wildfires (9 Events)

Across the world, the trend of devastating wildfires continued from 2017 into 2018. In 2018, the Attica Fires in Greece, killed an estimated 126 people, making it the deadliest wildfire recorded in Europe within EM-DAT records, both this current and previous century. In the United States, the California wildfire season was the deadliest and costliest on record, with Camp Fire killing 88 people, the highest wildfire death toll in the country since the 1920s, and causing an estimated 16.5 billion USD in damage, the costliest wildfire event on record.

Conclusion

Notable features of the year were: intense seismic activity in Indonesia; a string of disasters in Japan; floods in India; and a very eventful year in volcanic activity and wildfires. These events continued to occupy headlines. An ongoing trend of lower death tolls from previous years continued into 2018, potentially demonstrating the efficacy of improved standards of living and disaster management; however, it is critical to avoid complacency towards major gaps in data collection and reporting and resilience, particularly for climate-related disasters, which are forecasted to both increase in frequency and intensity.

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Top 10 Countries by Number of People Affected (2018)

	Country	Total Number of People Affected
1.	**India**	23,900,348
2.	**Philippines**	6,490,216
3.	**China**	6,415,024
4.	**Nigeria**	3,938,204
5.	**Guatemala**	3,291,359
6.	**Kenya**	3,211,188
7.	**Afghanistan**	2,206,750
8.	**USA**	1,762,103
9.	**Japan**	1,599,497
10.	**Madagascar**	1,472,190

Source: EM-DAT (International Disaster Database)

Top 10 Countries by Total Death Toll (2018)

	Country	Total Death Toll
1.	**Indonesia**	4,535
2.	**India**	1,388
3.	**Guatemala**	427
4.	**Japan**	419
5.	**China**	341
6.	**Nigeria**	300
7.	**United States of America**	298
8.	**Pakistan**	240
9.	**Korea DPR**	237
10.	**Philippines**	221

Source: EM-DAT (International Disaster Database)

About CRED: CRED is based in the Institute for Research on Health and Society at UCLouvain in Brussels. The Centre has been active for over 40 years in the fields of international disaster and conflict health studies, with activities linking relief, rehabilitation and development. CRED promotes research, training and technical expertise on humanitarian emergencies, particularly in public health and epidemiology.

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Top 10 Deadliest Disaster Events (2018)

	Event	Country	Death Toll
1.	Earthquake/Tsunami, September	Indonesia	3,400
2.	Earthquake, August	Indonesia	564
3.	Flood, August	India	504
4.	Volcanic Activity/Tsunami, December	Indonesia	453
5.	Volcanic Activity, June	Guatemala	425
6.	Flood, June	Japan	220
7.	Flood, September	Nigeria	199
8.	Heatwave, May	Pakistan	180
9.	Flood, August	Korea DPR	151
10.	Earthquake, February	Papua New Guinea	145

Source: EM-DAT (International Disaster Database)

Death Toll by Disaster Type (2018 vs. average 21st Century)

Event	2018	Average (2000-2017)
Drought	0	1,361
Earthquake	4,321	46,173
Extreme temperature	536	10,414
Flood	2,859	5,424
Landslide	282	929
Mass movement (dry)	17	20
Storm	1,593	12,722
Volcanic activity	878	31
Wildfire	247	71
Total	**10,733**	**77,144**

Source: EM-DAT (International Disaster Database)

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Total Number of People Affected by Disaster Type (2018 vs. average 21st Century)

Event	2018	Average (2000-2017)
Drought	9,368,345	58,734,128
Earthquake	1,517,138	6,783,729
Extreme temperature	396,798	6,368,470
Flood	35,385,178	86,696,923
Landslide	54,908	263,831
Mass movement (dry)	0	286
Storm	12,884,845	34,083,106
Volcanic activity	1,908,770	169,308
Wildfire	256,635	19,243
Total	**61,772,617**	**193,312,310**

Source: EM-DAT (International Disaster Database)

Total Deaths Tolls by Year (21st Century)

Year	Death Toll	Major Events (5000+ Deaths)
2000	9,609	
2001	30,844	Gujarat Earthquake
2002	12,124	
2003	109,827	Bam Earthquake, European Heatwave
2004	242,765	Indian Ocean Earthquake
2005	88,673	Kashmir Earthquake
2006	24,239	Java Earthquake
2007	16,960	
2008	235,256	Cyclone Nargis, Sichuan Earthquake
2009	10,672	
2010	297,140	Haiti Earthquake, Russian Heatwave, Somalia Drought
2011	51,434	Japan Earthquake
2012	10,319	
2013	21,859	North India Floods, Typhoon Haiyan
2014	7,993	
2015	22,774	Nepal Earthquake
2016	8,512	
2017	9,734	
2018	10,733	
Total	**1,221,465**	

Source: EM-DAT (International Disaster Database)

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