

NATURAL DISASTERS IN GLOBAL SCALE

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Globally, 3.9 billion people, or about half the worldwide population, were potentially exposed to natural disasters in 2018. When counting if a region was affected by multiple disasters, this number jumps to 10.7 billion people. In 2018, storms affected 19.4 million people around the world. Among them, 17.1 million people were located in Asia, accounting for 88% of the global total. To evaluate the burden of this type of disaster, the number of people affected has been compared to the people living in the area exposed to storms, identified as the population potentially exposed (PPE). In Asia, the number of PPE to storms was 2.1 billion people for 2018. Hence, the share of directly affected people among the PPE is at 0.8% for Asia, which is not distant from the value for the Americas at 0.6%. However, local extremes exist in certain areas, such as Laos (26.9%) and the Philippines (15.5%).

In relation to the previous decade (2008-2017), in 2018 there were fewer disasters compared to the annual average of 348 events, fewer deaths compared to the annual average of 67,572, fewer number of people affected compared to the annual average of 198.8 million people affected, and lower economic losses compared to the annual average of \$166.7 billion. This decrease is due to the lack of massive disaster events such as the 2010 earthquake in Haiti (222,500 deaths); the 2015/2016 drought in India (330 million people affected); and the 2011 Japan earthquake and tsunami (\$210 billion in damages). The deadliest events in 2018 occurred in Indonesia with the earthquake in September leaving 4,340 people dead or missing, followed by another earthquake in August which left 564 dead or missing. 2018 was a standout year for wildfires (10 events) and volcanic activity (7 events). The Attica Fires in

Greece killed an estimated 100 people, making it the deadliest wildfire recorded in Europe within EM-DAT records. 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 1940s. Additionally, Camp Fire caused an estimated \$16.5 billion in damage, making it the costliest wildfire event ever recorded. As well, in 2018, volcanic activity 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 in December, the eruption of Anak Krakatau in Indonesia triggered a tsunami that killed over 400 people on the islands of Sumatra and Java. Floods have affected more people than any other type of disaster in the 21st century, including in 2018 (127 events). The August flash flooding in 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). Furthermore, flooding in Nigeria cost 300 lives and affected nearly two million people, while in Japan, heavy rains triggered the deadliest floods since 1982, killing 230 people. In terms of economic losses, storms were the costliest type of disaster. In the United States, hurricanes Florence and Michael cost \$14 billion and \$16 billion respectively, while Asia, China, India, Japan, and the Philippines faced extensive damage from multiple storms. The costliest storm was typhoon Jebi in Japan (\$12.5 billion), while for human impacts, multiple storms in the Philippines took over 300 lives in total, and affected over 10 million people. A number of disasters also occurred in countries with ongoing conflicts. Somalia, which commonly experiences drought, suffered flooding which affected 700,000 people, adding to the challenges faced by the population due to conflict. In Afghanistan, in addition to the civil war, which was the deadliest conflict in 2018, drought affected 3.6 million people and displaced hundreds of thousands. Additionally, droughts in Kenya (3 million people affected), Central America (over 2.5 million people affected), Madagascar (over 1.2 million people affected), and elsewhere continued to affect those dependent on agriculture or facing water shortages. Overall, 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 occupied headlines throughout the year, despite an ongoing trend of lower death tolls from previous years continuing into 2018. The lower death tolls potentially demonstrate 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 in resilience, particularly for weather-related disasters considering the anticipated impacts of climate change.

In 2018, there were 315 natural disaster events recorded with 11,804 deaths, over 68 million people affected, and US\$131.7 billion¹ in economic losses across the world. The burden was not shared equally as Asia suffered the highest impact and accounted for 45% of disaster events, 80% of deaths, and 76% of people affected. Globally, Indonesia recorded nearly half the total deaths (47%), while India recorded the highest number of people affected (35%). Earthquakes were the deadliest type of disaster accounting for 45% of deaths, followed by flooding at 24%. Flooding affected the highest number of people, accounting for 50% of the total affected, followed by storms which accounted for 28%. Given Asia's large land mass, higher population relative to other continents, and multiple hazard risks, the results are not surprising.

Conclusions. In order to prevent emergencies, more effort is needed for monitoring of danger sources. The total number of emergencies in the world is increasing due to the lack of preventive measures and the complication of weather conditions.

References:

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