



## Hack for Humanity 2019 – Framing Lens

As global warming continues to accelerate as a result of anthropogenic climate change, natural hazards such as hurricanes, floods, droughts, wildfires, and earthquakes are becoming more intense and in some cases more frequent. Similarly, the disasters that occur as a result of these natural hazards are becoming more pronounced in both scale and impact. Fueled by human development patterns such as urbanization and economic interdependence, global disaster damages have increased significantly, exposing major logistical challenges to mitigate, prepare for, and respond to disasters. Ultimately, the level of impact a disaster has on society depends on the choices we make – where we build our homes, how we grow our food, how we structure our financial systems, and the governance systems we choose. Each decision and action makes us either more vulnerable to disasters or more resilient to them.

Climate model projections show that with increased global warming, Atlantic hurricanes and their impact will become more intense and severe. While there is still uncertainty within the scientific community regarding how the annual number of hurricanes will change over the 21<sup>st</sup> century, climatologists are confident that Atlantic hurricane activity will result in higher storm surge levels, increased rainfall rates, higher sustained peak winds, and a likely increase in the proportion of hurricanes that reach very intense (i.e. Category 4 and 5).

Hurricane María which made landfall as a strong Category 4 hurricane in Puerto Rico on September 20, 2017 demonstrates the complexity of the domestic challenges that we face when preparing for and responding to hurricanes that make landfall in the United States. As the center of the storm moved across Puerto Rico, widespread hurricane force winds impacted the entire Island, bringing heavy rainfall that produced catastrophic flooding and landslides, sweeping away homes and knocking out the electric grid, cellular service, and water systems, which remained largely unrepaired for months. As Hurricane María moved offshore, Puerto Rico was left with approximately \$90 billion worth of infrastructural damage, a largely disrupted health system, and thousands of displaced residents. The official death toll from this disaster remains contentious as the number has risen from originally 64 to now 2,975, which is still considered by many to be an undercount as a [recent study](#) conservatively estimates the number of excess deaths to be roughly 4,600, many from delayed medical care. This lack of consensus demonstrates the difficulty in assessing mortality in the aftermath of a large scale disaster and highlights deeper issues of accountability.

The impact of Hurricane María not only sheds light on the inattention of the U.S. government to the infrastructure of Puerto Rico but also the coordination challenges and many inefficiencies of the Federal Emergency Management Agency (FEMA). And it's not just Hurricane Maria that is an eye opener. Since 2017 Hurricanes Harvey, Irma, Jose, Florence, and Michael have all had devastating impacts on the United States, exposing the vulnerability of our coastal communities and the overall lack of hazard mitigation and resilience planning at the both the federal and state levels of government.

Using the case of Hurricane María as a lens for examining the current and future challenges that hurricanes pose to the United States, we encourage you to pitch ideas that fall within one of the following critical stages of disaster risk reduction and management: 1) Mitigation; 2) Preparedness, Adaptation, and Coordination; 3) Response; or 4) Reconstruction.