Science is Essential to
Addressing Natural Hazards

WHY SCIENCE SUPPORT IS NEEDED NOW

Natural hazards are a significant cause for loss of life and property in the U.S. From dramatically increasing wildfires to the historically extreme 2020 hurricane season, across the nation we are feeling the negative impacts of natural hazards. At the same time, scientific understanding and monitoring of natural hazards has increased, better preparing our communities for inevitable disasters such as floods, tornadoes, and earthquakes. The challenges continue to arise, putting more pressure on our first responders, communities, and scientists to ensure that we are keeping ahead of the next disaster.

Increasing diversity in STEM is vital to understanding and addressing natural hazards.

The response to COVID-19, which has affected every community across the world, representing various nationalities, religions, races, ethnicities, genders, sexual orientations, and socioeconomic backgrounds on a scale unlike any in humanity's history. Solutions to complex, global problems, like pandemics, require a diversity of perspectives and approaches. Without support for increasing diversity in STEM, these solutions will be undercut.

The U.S. is currently facing a skilled worker shortage in the science and technology sectors, and without a new infusion of STEM-trained individuals, this shortage will worsen. The Bureau of Labor Statistics estimates that the U.S. economy will need a further one million more STEM professionals by 2030.

Science helps in understanding and mitigating natural hazard risks to vulnerable communities.

The Internal Displacement Monitoring Centre estimates on average more than 232,000 people in the U.S. alone are at risk of being displaced by natural disasters every year. Just in 2019, the country experienced around 916,000 disaster-related displacements. Support for science will help us understand the which populations are most vulnerable to the harmful impacts of a changing climate, potential migration patters and how to best prepare for future challenges.

Landslides affect every state and U.S. territory, causing between $1.6 and $3.2 billion in damages and 25 and 50 deaths in the U.S. each year. Moreover, with the Western U.S. still under tremendous threat from wildfires, the landslide risk in 2020 may prove to be especially grave.

AGU SCIENCE VOTES THE FUTURE

The value of science for addressing natural hazards requires robust investment.

Natural hazards are inevitable, but disasters are not. Scientific research improves our understanding of the ways in which our society is affected by natural hazards and plays a vital role in developing and improving technologies to assist in national security. Investments in risk reduction research and measures will help mitigate (if not prevent) disasters and promote resilience.

Weather variability can result in as much as $485 billion a year in economic output in the U.S. Better forecasting and predictability could help reduce impacts extreme weather impacts to the economy.

OUR COMMITTMENT

The American Geophysical Union (AGU) and its network of Earth and space scientists are committed to:

- Studying the natural world and its impacts on society

- Investigating ways to reduce any negative geophysical, ecological, societal and economic effects

- Helping create resilient communities and nations, especially the most vulnerable

- Educating the public

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