

UW-Madison: Scientist helps set national earth sciences research priorities for next decade

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MADISON – On May 20, 2020, the National Academies of Science, Engineering and Medicine published a report that provides a framework for the next 10 years of research in the earth sciences. Called Earth in Time, its purpose is to define key research priorities and discuss the required infrastructure and partnerships that will be needed to achieve those goals through 2030.

Andrea Dutton, a geoscience professor at the University of Wisconsin-Madison who studies climate change and sea level rise, was a member of the committee tasked with compiling the 172-page community consensus report. She also provided a briefing about the report to members of Congress on May 22.

Dutton describes her experience on the committee, how it worked with extensive community input to arrive at the report's conclusions, and the importance of studying earth sciences even in the midst of a global viral pandemic.

Q: This is not the first report of its kind. Can you talk about the importance of setting national earth science priorities?

A: There were two previous decadal reports and the purpose is for the National Science Foundation to solicit feedback from the earth science community, to give them guidance for when they propose new programs and justify decisions about their budget. So, they can say: "This is what you told us you want and this is what we're doing." It's the official mechanism to get community-wide input for where (NSF) should be headed in the future.

Earth science issues impact our daily lives in many different ways. So, when policies are developed, it's imperative they are at least informed and evidence-based so we can make good decisions about what to do. This requires continuous investment into research initiatives so that we have the necessary knowledge and expertise at hand when urgent situations arise. We can see that now around the globe, how different countries have responded to the COVID-19 pandemic.

Q: Can you share an example of something that has come about because of a previous earth sciences report?

A: It's very clear these reports have impacted science in a lot of ways. EarthScope came out of one of these reports and it cost many millions of dollars. (EarthScope is an NSF-funded program that deployed thousands of instruments across North America to study geologic processes, including earthquakes and volcanic eruptions.) Some of the results were not anticipated by the people who designed it – for example, signals in how the water cycle changes with drought; the land moves up and down as it gets wet and dries up again. We learned that because we invested in this infrastructure, and these data can shape future research directions.

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