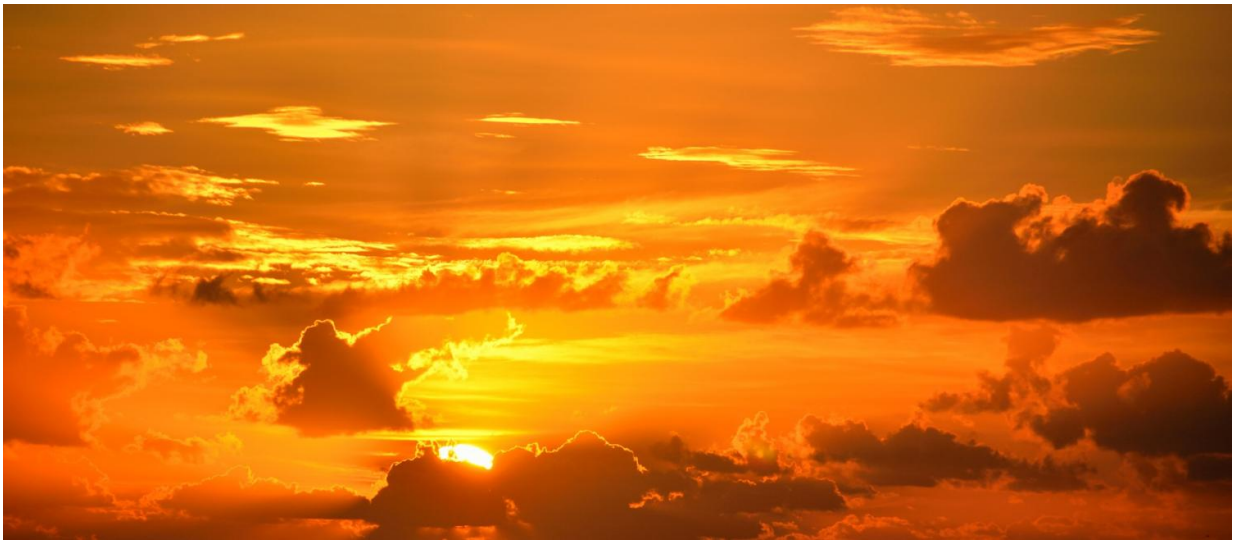
How can we use the National Climate Assessment to prepare for climate change?

January 3 2019, by Sarah Fecht



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Every four years, the National Climate Assessment evaluates the state of climate science and the impact of climate change in the U.S., now and into the future. The most recent NCA was released on Black Friday, and although the Trump Administration has done its best to ignore it, many cities, states, businesses, and local communities are ready to take action on climate change—and they're wondering how to go about it.

Until recently, a federal advisory committee was tasked with developing recommendations on how to make the NCA's findings more useful for

adapting to and mitigating climate change. The Trump administration dissolved the group in 2017, but the group was revived as the Independent Advisory Committee (IAC) under the leadership of Richard Moss, a visiting scientist at the Earth Institute. At the fall meeting of the American Geophysical Union in Washington, D.C., a panel of committee members and additional experts described why a new approach is needed and gave a preview of the ideas explored in the report, which is due out in early 2019. The report is currently undergoing peer-review.

"We know climate change is making problems like wildfires and floods more common across the country," Moss explains. "How do we use science to get better prepared?"

The Friday morning panel touched on many topics considered in the soon-to-be-released report, from the types of information that government officials need for decision-making, to ideas for how to evaluate climate science for its fitness for use in adaptation strategies, and how to harness methods like citizen science and artificial intelligence to improve support for resilience planning. Moss's presentation focused on how the national assessment could be extended to help.

One is to highlight the adaptation and mitigation challenges that communities are already facing. Some of these challenges involve preparing for worsening extreme events—from wildfires and heat waves to coastal and inland flooding. In other cases, communities want to upgrade infrastructure, plan economic development, or conserve parks and other resources, to make them resilient to an uncertain climate future. An assessment of the science relevant to these challenges could be useful, says Moss.

A second idea would be to use the assessment to bring together scientists

and communities in long-term partnerships to clarify information needs, share and evaluate experience, and identify best practices. Social science research has found that information is more relevant, credible, and trusted when users and researchers communicate regularly throughout the process of preparing it.

Third, science and engineering analysis is needed to design adaptation options, improve cost-benefit analyses, and aid in implementation. "There's more to taking action than making a decision," says Moss. "What are the right ways to source and use climate and impacts science to update codes and standards, rate public bonds, or establish zoning requirements?" Depending on the climate phenomena, there are different types of models and analyses communities could use. Some cities are starting to use climate science to move toward improving resilience, and others are interested in learning from and adapting the methods for their own communities. "The assessment could evaluate the right methods to use," observes Moss.

A fourth and crucial point concerns whether to wait for the federal government to make these changes happen, or whether states and cities could collaborate with universities, non-profit groups, and private firms to do so. "There are challenges in coordinating diverse interests and organizations to do something like this. But people are expressing frustration that the federal government is not moving in the direction of how to solve these problems," Moss says. "While a continued federal role in supporting and assessing climate science is essential, we can't afford to wait to make progress in establishing how to use what we know to take action."

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