

America's climate choices: Advancing the science of climate change

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At the request of Congress, the National Academy of Sciences convened a series of coordinated activities to provide advice on actions and strategies the nation can take to respond to climate change. This suite of activities included a panel report on Advancing the Science of Climate Change. The report concludes that a strong, credible body of scientific evidence shows that climate change is occurring, is caused largely by human activities, and poses significant risks for a broad range of human and natural systems. As decision makers respond to these risks, the nation's scientific enterprise can contribute both by continuing to improve understanding of the causes and consequences of climate change, and by improving and expanding the options available to limit the magnitude of climate change and adapt to its impacts. To make this possible, the nation needs a comprehensive, integrated, and flexible climate change research enterprise that is closely linked with action-oriented programs at all levels. The report recommends that a single federal entity or program be given the authority and resources to coordinate a national research effort integrated across many disciplines and aimed at improving both understanding and responses to climate change. The U.S. Global Change Research Program, established in 1990, could fulfill this role, but it would need to address weaknesses in the current program and form partnerships with action-oriented programs at all levels. A comprehensive climate observing system, improved climate models and other analytical tools, investment in human capital, and better linkages between research and decision making are also essential for advancing the science of climate change.