

# New report details accomplishments of U.S. global change research program

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The U.S. Global Change Research Program (USGCRP) has made significant accomplishments to advance the science of global environmental change and improve the understanding of its impact on society through activities such as developing Earth-observing systems, improving Earth-system modeling capabilities, and advancing understanding of carbon-cycle processes, says a new [report](#) from the National Academies of Sciences, Engineering, and Medicine. Going forward, the program should continue to build its knowledge base for informing decision makers and the public about rising global challenges, the report recommends.

Created by the Global Change Research Act of 1990, the USGCRP provides coordination of [global change](#) research and activities in 13 participating agencies and departments and publishes synthesis and assessment products that present the results of the research agencies. Global change is defined as changes in the Earth's environment, for example relating to the changing climate, land productivity, ocean resources, atmospheric chemistry, and ecological systems—all of which can alter its capacity to sustain life.

The Academies' report identifies important contributions and achievements of the program since its inception in 1990. One of the first priorities for the program was to address the need for a global observational system. Twenty-five years later, there is now a large and growing portfolio of global measurements from space, guided by the USGCRP's Integrated Observations Interagency Working Group

(ObsIWG), which coordinates observation capabilities and research within member agencies. The report also notes USGCRP's accomplishments in making scientific knowledge more useful to [decision makers](#). For example, the program has documented substantial increases in heavy downpours in most regions of the U.S. over the past 50 years, which can cause flooding that overwhelms the existing infrastructure of sewers and roads. This knowledge has led to the development of tools such as maps of risks for coastal flooding and other extreme hydrological events to inform local planning, zoning, and emergency preparedness.

In the face of increasing impacts from climate change and other global changes, the report recommends that the USGCRP build on its accomplishments by sustaining, expanding, and coordinating observations of the Earth system and maintaining a balanced [program](#) of discovery-driven and use-inspired research to support the needs of the nation at local, regional, national, and global scales.

Provided by National Academy of Sciences

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