



## A New Era for Research on Climate and Global Change *The U.S. Global Change Research Program in the 2011 Budget*

**The 2011 Budget includes an expanded commitment to global change research** as part of a government-wide effort to mitigate U.S. greenhouse gas emissions and move toward a clean energy economy. Investments in climate science over the past several decades have contributed to an improved understanding of global climate. To continue to assist the government and society to understand, predict, project, mitigate, and adapt to climate change, **the 2011 Budget provides \$2.6 billion for the multi-agency U.S. Global Change Research Program (USGCRP), an increase of 21 percent or \$439 million over the 2010 enacted level** (see Table).

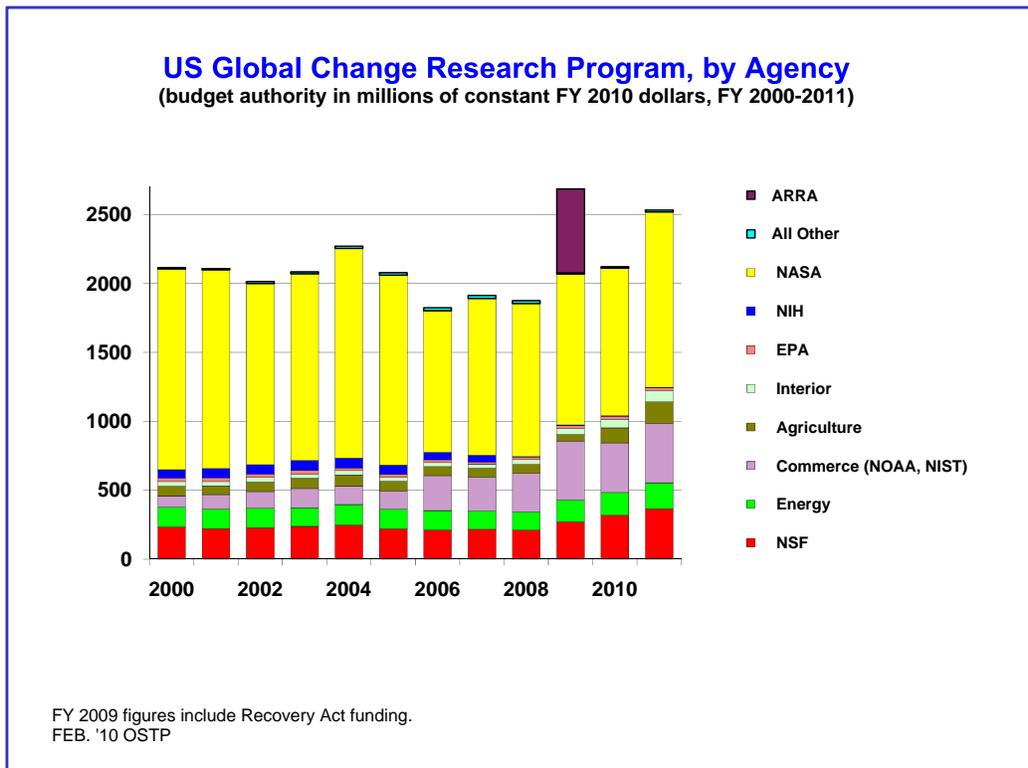


Figure 1.

After several years of declining funding, the Obama Administration has revitalized the USGCRP (see Figure 1). The 2009 Omnibus Appropriations Act signed by President Obama reversed the downward funding trends in the USGCRP, and the Recovery Act provided an additional one-time boost for key climate programs; the recently enacted 2010 appropriations keep USGCRP on an upward trajectory, and the 2011 Budget sustains the commitment with a substantial \$439 million increase.

**The U.S. Global Change Research Program (USGCRP)** was mandated by Congress in the Global Change Research Act of 1990 (P.L. 101-606) to improve understanding of uncertainties in climate science, expand global observing systems, develop science-based resources to support policymaking and resource management, and communicate findings broadly among scientific and stakeholder communities. Thirteen departments and agencies participate in the USGCRP. The Office of Science and Technology Policy (OSTP) and the Office of Management and Budget (OMB) work closely with the USGCRP to establish research priorities and funding plans to ensure the program is aligned with the Administration’s priorities and reflects agency planning.

Besides enhancing research and modeling of the physical climate system, the Budget will allow for a comprehensive, coordinated focus on four areas of particular need: Earth observations, adaptation research, integrated assessment, and climate services. Reports and general information about the USGCRP are available on the program's website: [www.globalchange.gov/](http://www.globalchange.gov/).

**Selected Agency Highlights of the USGCRP in the 2011 Budget**

- The Department of Commerce's **National Oceanic and Atmospheric Administration (NOAA)** is a leading sponsor of oceanic and atmospheric research and is one of the key sponsors of climate science capabilities in the Federal government. The 2011 Budget allocates \$437 million for the Department of Commerce's USGCRP efforts, predominantly from NOAA, an increase of \$77 million or 21 percent over the 2010 level.

- The **National Aeronautics and Space Administration's (NASA)** budget includes a bold new investment in climate science. NASA's Earth science program conducts first-of-a-kind demonstration flights of sensors in air and space in an effort to foster scientific understanding of the Earth system and to improve the ability to forecast climate change and natural disasters. The President has directed NASA to accelerate the development of new satellites that the National Research Council recommended as Earth science priorities, in addition to flying several research satellites currently in development, conducting a campaign to monitor changes in polar ice sheets, and pursuing enhancements to climate models. NASA will also develop and fly a replacement of the Orbiting Carbon Observatory (OCO), a mission designed to identify global carbon sources and sinks that was lost when its launch vehicle failed in 2009.

- The **National Science Foundation (NSF)** is the primary source of support for academic research for most non-biomedical disciplines, funding basic research across the entire spectrum of the sciences and engineering. NSF USGCRP support totals \$370 million in the 2011 Budget, an increase of 16 percent over the 2010 level.

- The 2011 Budget provides \$81 million for USGCRP programs in the **Department of the Interior**, an increase of \$18 million or 29 percent over the 2010 funding level. Interior's lead science agency, the **U.S. Geological Survey (USGS)**, funds several programs to understand the impacts of climate change on natural resources, including the Climate Effects Network, the National Climate Change and Wildlife Science Center (NCCESC), and biological and geological carbon sequestration assessments.

**Table. U.S. Global Change Research Program**  
(budget authority in millions)

	FY 2009 Actual	FY 2009 ARRA 1/	FY 2010 Estimate	FY 2011 Budget	Change FY 10-11 Amount	Change FY 10-11 Percent
<b>U.S. Global Change Research Program (USGCRP)</b>						
National Science Foundation	269	121	319	<b>370</b>	51	16.0%
Energy	157	76	165	<b>191</b>	26	15.8%
Commerce (NOAA, NIST)	424	170	360	<b>437</b>	77	21.4%
Agriculture	47	0	109	<b>157</b>	48	44.0%
Interior (USGS)	45	0	63	<b>81</b>	18	28.6%
Environ. Protection Agency	18	0	21	<b>22</b>	1	4.8%
National Institutes of Health	5	0	4	<b>4</b>	0	0.0%
NASA	1,086	237	1,071	<b>1,285</b>	214	20.0%
Smithsonian	6	0	7	<b>11</b>	4	57.1%
DOT	2	0	3	<b>3</b>	0	0.0%
<b>Total USGCRP</b>	2,059	604	2,122	<b>2,561</b>	439	20.7%

USGCRP figures do not include Climate Change International Assistance programs in US AID (\$43 mil. in 2011.)

1/ Allocations of Recovery Act (P.L. 111-5) appropriations.

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