



Meeting the Challenges of Global Change

The U.S. Global Change Research Program in the 2013 Budget

The 2013 Budget reflects the President's commitment to global-change research by sustaining coordinated, government-wide efforts to understand, predict, mitigate, and adapt to global change, including but not limited to climate change, and to inform the Nation's transition to a clean-energy economy. Investments in global-change science over the past several decades have produced major advances in our understanding of global change. Building from these important advances, the U.S. Global Change Research Program (USGCRP) is now poised meet its Congressional mandate more fully and effectively than ever before. **The 2013 Budget provides \$2.6 billion for the multi-agency USGCRP, an increase of 5.6 percent over the 2012 enacted level** (see Table). (All comparisons between 2012 appropriations and the 2013 Budget are in current, not-adjusted-for-inflation dollars. Figure 1 shows historical trends in inflation-adjusted dollars.)

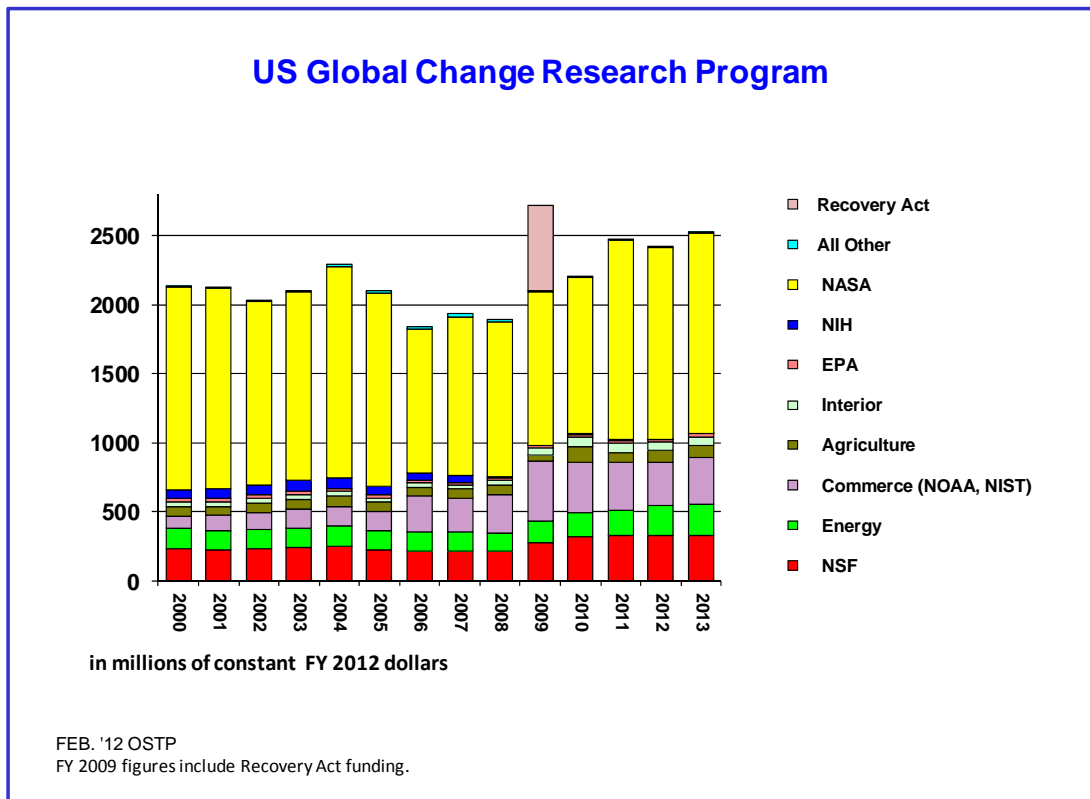


Figure 1.

Over the past three years, the Obama Administration has revitalized and strengthened the USGCRP (see Figure 1). The 2009 Omnibus Appropriations Act reversed downward funding trends that were negatively impacting the program's effectiveness, and the Recovery Act provided an additional one-time boost for key USGCRP programs. The 2013 Budget increases USGCRP funding while emphasizing interagency coordination to improve the program's overall performance and ensure that these important Federal

investments are efficient and non-redundant. All increases are part of a 2013 Budget that, consistent with Budget Control Act caps, freezes non-security discretionary spending at 2011 levels for the second year in a row and reduces projected deficits while making investments needed to enhance coordination, increase effectiveness, and build a sustainable future.

The USGCRP was mandated by Congress in the Global Change Research Act of 1990 (P.L. 101-606) to conduct work aimed at understanding, assessing, and responding to global change. This has included expanding global observing systems, developing enhanced predictive capabilities, creating science-based resources to support policymaking and resource management, and communicating findings broadly among scientific and stakeholder communities. Thirteen departments and agencies participate cooperatively in the USGCRP under a common vision for a Nation globally engaged and guided by science to meet the challenges of global change.

Over two decades, USGRCP participating agencies have conducted an extraordinary range of research that has been the heart of the Nation's capability to understand, assess, predict, and respond to human-induced and natural processes of global change, including but not limited to climate change.

The 2013 Budget supports the four objectives set forth in USGCRP's new decadal strategic plan, to be released within the next few weeks, which are to (1) **Advance Science:** advance scientific knowledge of the integrated natural and human components of the Earth system; (2) **Inform Decisions:** provide the scientific basis to inform and enable timely decisions on adaptation and mitigation; (3) **Conduct Sustained Assessments:** build sustained assessment capacity that improves the United States' ability to understand, anticipate, and respond to global-change impacts and vulnerabilities; and (4) **Communicate and Educate:** advance communications and education to broaden public understanding of global change. Reports and general information about the USGCRP and its various research activities are available on the program's website, www.globalchange.gov.

Selected Agency Highlights of the USGCRP in the 2013 Budget

- The Department of Commerce's **National Oceanic and Atmospheric Administration (NOAA)** is an important contributor to Federal oceanic and atmospheric research and is one of the key providers of climate services in the Federal government. In coordination with the other USGCRP agencies, NOAA's activities include improving global and regional projections of climate change, assessing the vulnerability of communities to the impacts of climate change such as drought and sea level rise, and developing a climate portal to provide relevant data and information to the public. Department of Commerce USGCRP funding totals \$342 million in the 2013 Budget.

- The **National Aeronautics and Space Administration's (NASA)** budget includes a sustained 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 2013 Budget supports several research satellites in development, an initiative to monitor changes in polar ice sheets, enhancements to climate models, and NASA contributions to the USGCRP's National Climate Assessment. NASA will continue to develop a replacement of the Orbiting Carbon Observatory (OCO).

- 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 \$333 million in the 2013 Budget. High priorities for NSF include: data acquisition and information management activities necessary for global-change research; the enhancement of models designed to improve our understanding of Earth-system processes; the development of new, innovative Earth observing instruments and networks; the development of advanced

analytic research methods; and preparation of a scientific workforce equipped to deal with the complexities of global change. NSF also supports fundamental research on the processes used by organizations to identify and evaluate policies for mitigation, adaptation, and other responses to varying environmental conditions.

- The 2013 Budget provides \$68 million for USGCRP programs in the **Department of the Interior**, an increase of \$9 million over the 2012 funding level. Interior's lead science agency, the **U.S. Geological Survey (USGS)**, funds several programs in coordination with the other USGCRP agencies to understand the impacts of climate change on natural resources, including a framework of climate-science centers and landscape-conservation cooperatives that will develop research-based decision-support tools for use by Federal, state, tribal, and local land managers.

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

	FY 2011 Actual	FY 2012 Estimate	FY 2013 Budget	Change FY 12-13 Amount	Percent
U.S. Global Change Research Program (USGCRP)					
National Science Foundation	321	333	333	0	0.0%
Energy	186	211	230	19	9.0%
Commerce (NOAA, NIST)	338	319	342	23	7.2%
Agriculture	75	83	86	3	3.6%
Interior (USGS)	64	59	68	9	15.3%
Environ. Protection Agency	20	19	20	1	5.3%
National Institutes of Health	4	4	4	0	0.0%
NASA	1,431	1,390	1,469	79	5.7%
Smithsonian	7	8	8	0	0.0%
DOT	1	1	3	2	200.0%
[State - non add]	[3]	[2]	[2]	0	0.0%
[Agcy. for Intl. Development - non add]	[25]	[28]	[28]	0	0.0%
Total USGCRP	2,448	2,427	2,563	136	5.6%

USGCRP totals do not include Climate Change International Assistance programs in State and US AID.