Science and Technology in the Federal Budget

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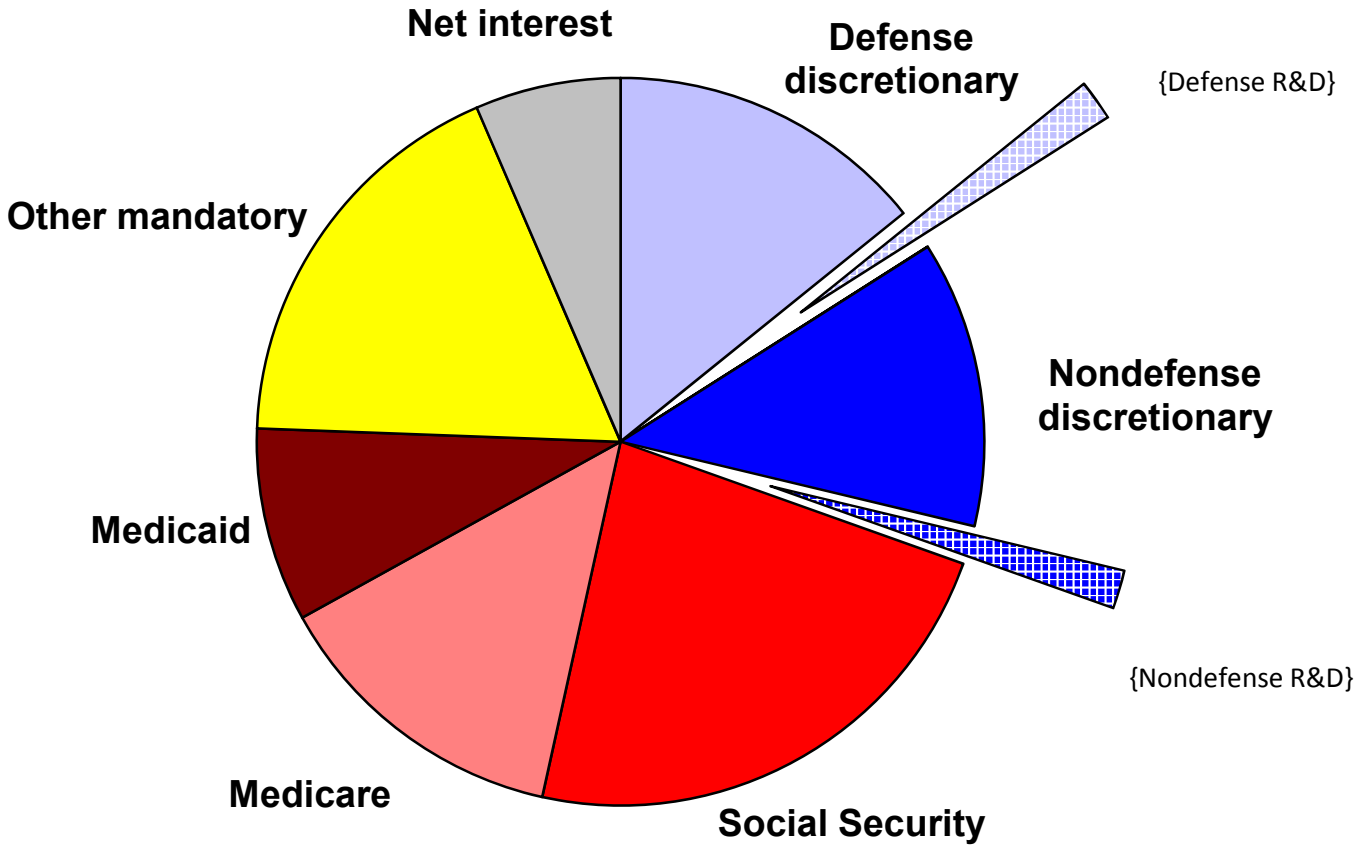
White House Office of Science & Technology Policy
March 2014
For the Stanford Rising Environmental Leaders Program

Office of Science and Technology Policy (OSTP)

- OSTP provides S&T advice to the president and other White House offices, leads federal S&T policymaking, coordinates interagency S&T efforts and R&D spending, and consults with non-federal stakeholders on S&T matters.
- Director John Holdren is also President Obama's science advisor.
- OSTP manages National Science and Technology Council (NSTC) interagency groups.
- OSTP supports the President's Council of Advisors on Science and Technology (PCAST).

Composition of the Proposed FY 2015 Budget
Total Outlays = $3.9 trillion



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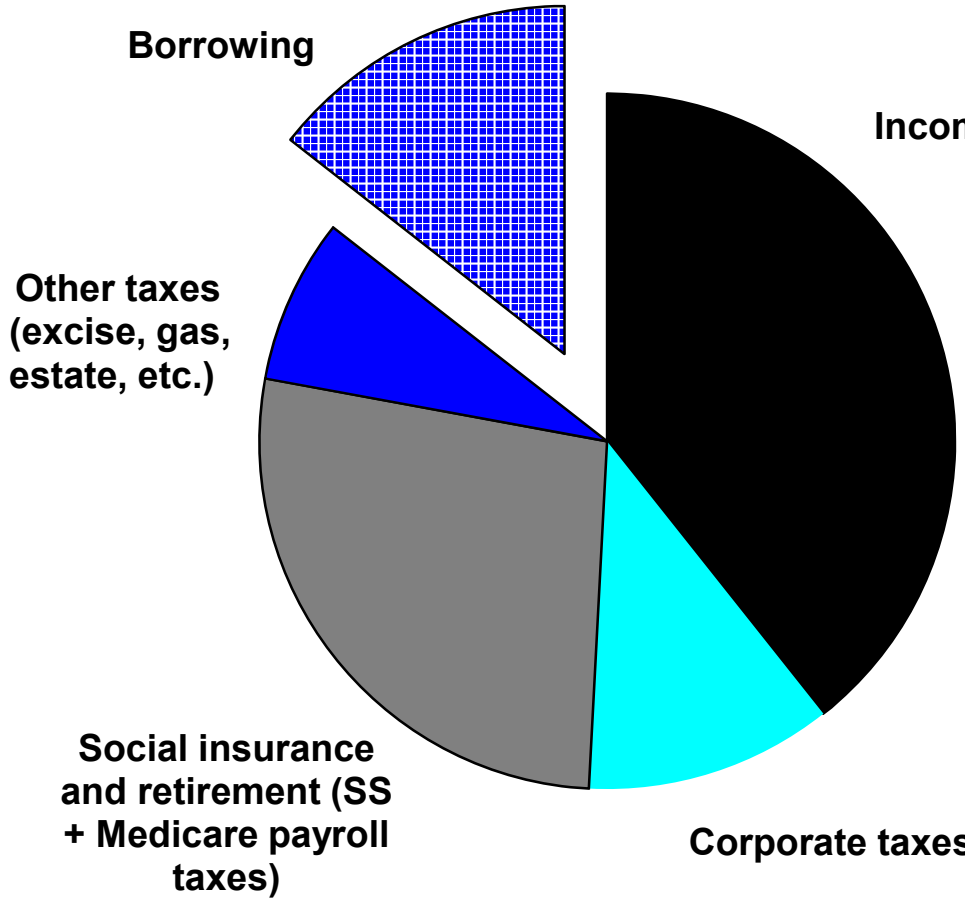
Composition of the Proposed FY 2015 Budget by Source of Funds
Total Outlays = $3.9 trillion



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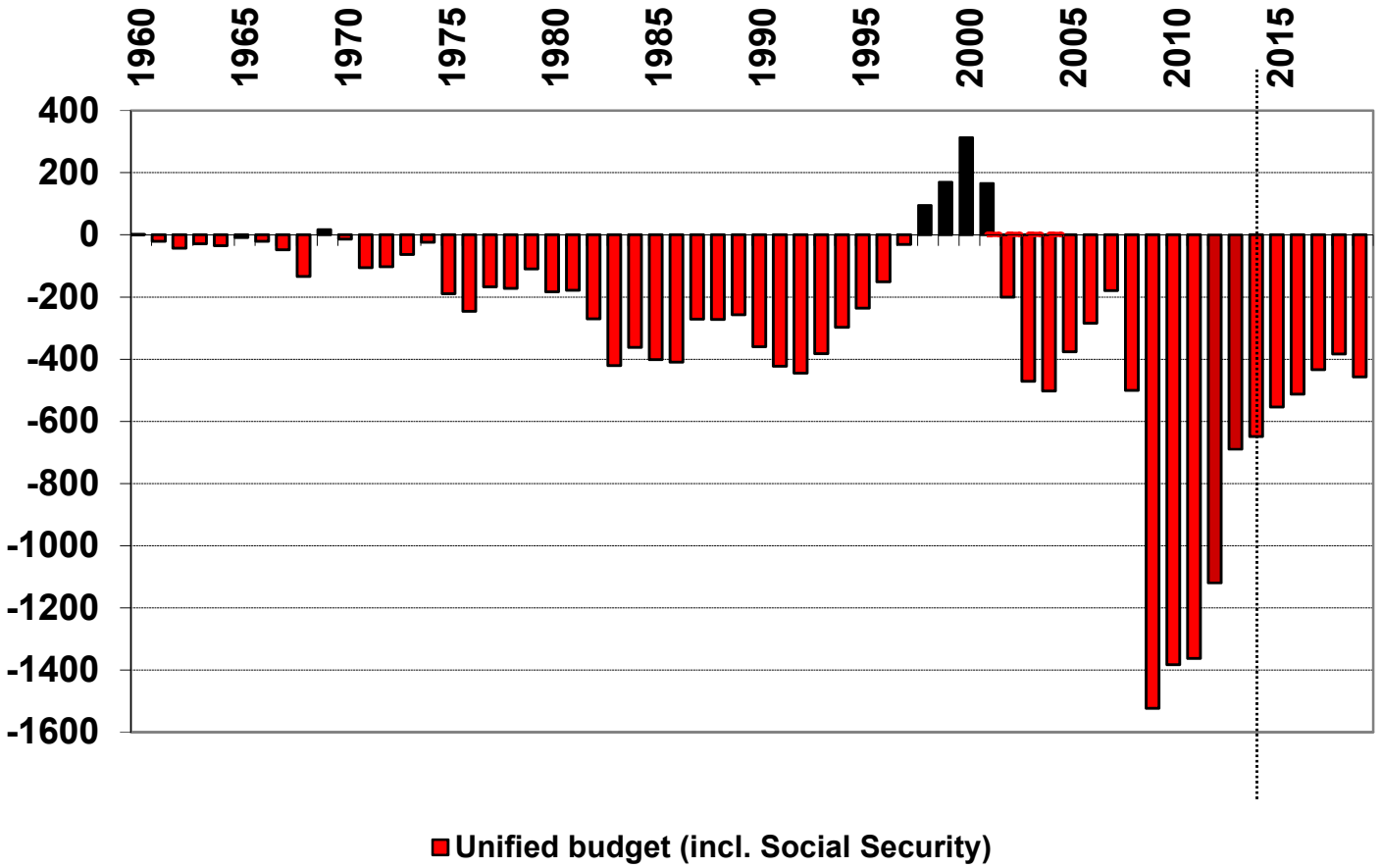
Federal Budget Deficit (or Surplus), FY 1960-2019

in billions of CONSTANT FY 2014 dollars



FY 2014 data are estimates. FY '15-'19 data are budget projections.
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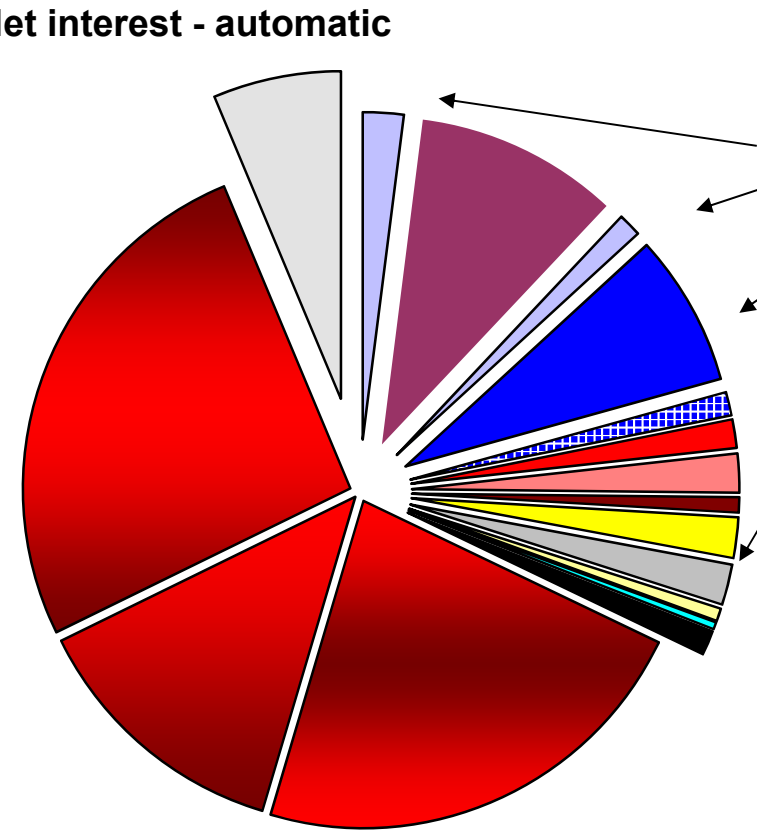
Does the Federal government have a debt ceiling?

- Yes. The debt ceiling is currently suspended until March 2015 but on that date the Federal government will be at the ceiling of $17+ trillion and will need to raise it immediately.
- The limit includes public debt and government debt.

How the Budget Becomes Law
FY 2015 Proposal = $3.9 trillion



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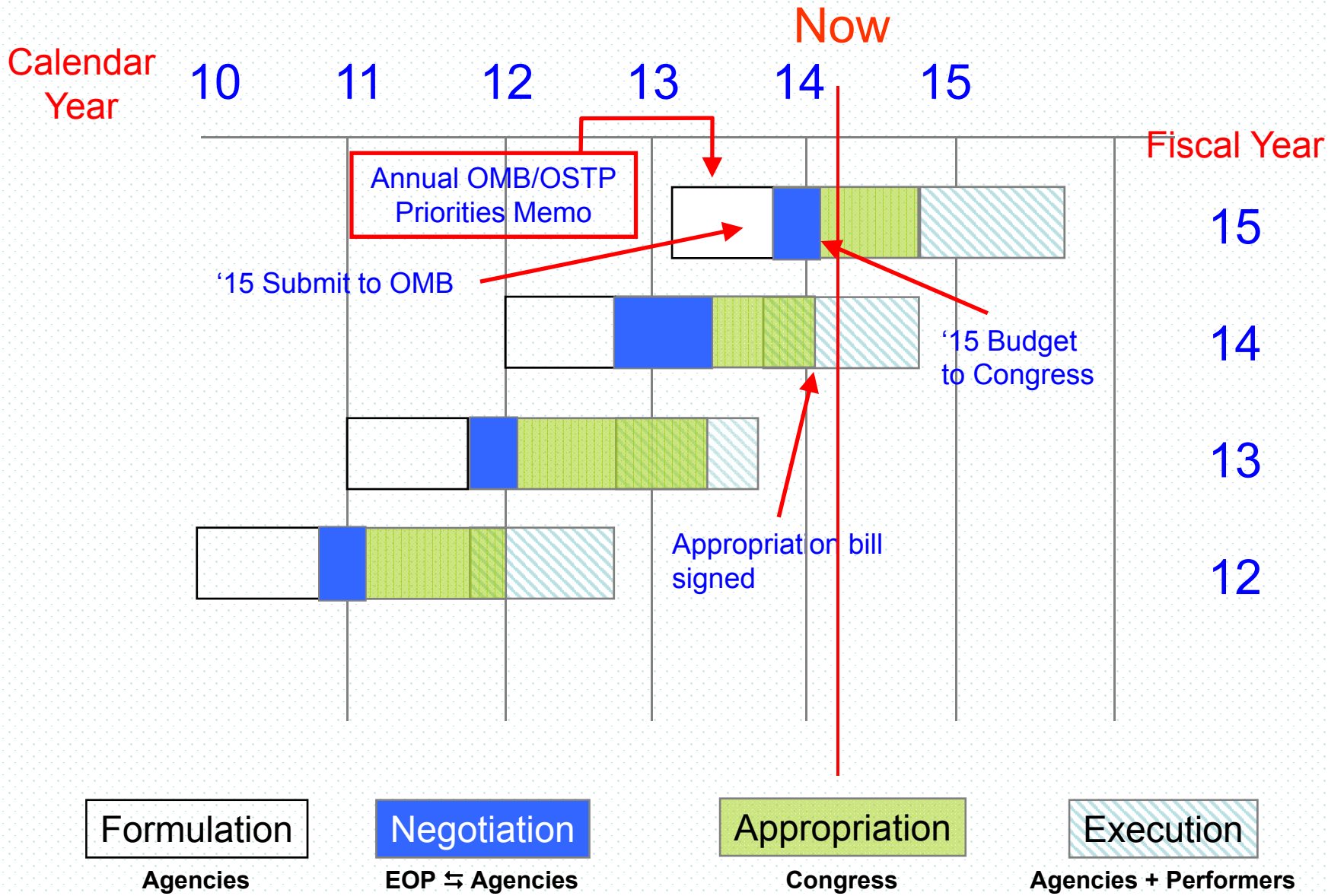
Budget Timeline



Is there an official definition for R&D?

- Yes. NSF keeps it. OMB and others' definitions of R&D follow it, and the definitions are coordinated internationally.
- "S&T" is not defined officially; neither is "innovation."
- NSF does annual surveys to measure U.S. R&D
- OMB asks agencies to submit R&D funding data as part of the budget process

4. *Research, development, and R&D plant.* Amounts for R&D and R&D plant include all direct, incidental, or related costs resulting from, or necessary to, performance of R&D and costs of R&D plant as defined below, regardless of whether the R&D is performed by a federal agency (intramurally) or by private individuals and organizations under grant or contract (extramurally). R&D excludes routine product testing, quality control, mapping and surveys, collection of general-purpose statistics, experimental production, and the training of scientific personnel.

a. *Research* is defined as systematic study directed toward fuller scientific knowledge or understanding of the subject studied. Research is classified as either basic or applied according to the objectives of the sponsoring agency.

Basic research is defined as systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind.

Applied research is defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

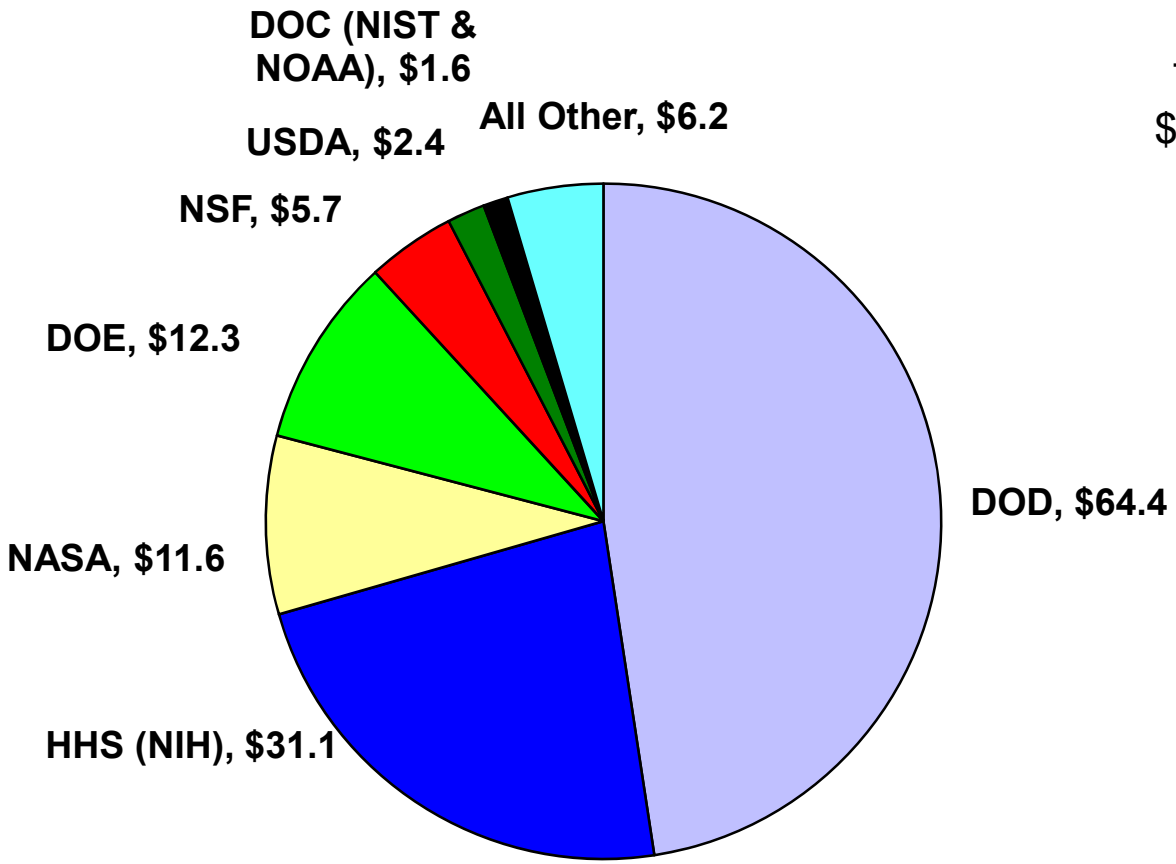
b. *Development* is defined as systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

To better differentiate between the part of the federal R&D budget that supports science and key enabling technologies (including technologies for military and nondefense applications) and the part that primarily supports testing and evaluation (mostly of defense-related systems), NSF collects from the DOD development dollars in two categories: advanced technology development and major systems development.

DOD uses service codes 6.1 through 6.7 to classify data into the survey categories. Within DOD's research categories, basic research is classified as 6.1, and applied research is classified as 6.2. Within DOD's development categories, advanced technology development is classified as 6.3. Major systems development is classified as 6.4 through 6.7 and includes component developmental prototypes, demonstration and development of management support, and operational system development.

Total R&D by Agency: 2015 Budget

Budget Authority in billions of dollars



Total R&D = $135.4 billion

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The FY 2014 Budget Process (1)

Spring 2012 – Agencies begin to formulate their FY 2014 proposals.

Summer 2012 – Agencies formulate their FY 2014 proposals based on broad strategic guidance from OMB (Office of Management and Budget) (and OSTP for science agencies).

September 2012 – Agencies deliver their budgets to OMB. Agencies brief OMB (and OSTP, and other WH offices) on their budgets.

Fall 2012 – Agencies negotiate with OMB over their FY 2014 proposals. OSTP has an advisory role. Agencies respond to OMB (and OSTP) questions.

November 2012 – PASSBACK (decisions on agency budgets, including additions or subtractions to the original agency proposals).

November – January – Appeals. If agencies are unhappy with their passbacks, they can appeal. OMB resolves appeals. (Appeals can go to the OMB Director, the West Wing, and in a few cases to the President.)

February 2013 – Settlement. Agencies finalize their requests. OMB, OSTP, and agencies then work on finalizing budget documents.

April 2013 – President releases his proposed FY 2014 budget and transmits it to Congress.

“R&D Priorities Memo” for FY 2015

July 26, 2013

M-13-16

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Sylvia Mathews Burwell
Director
Office of Management and Budget

Dr. John P. Holdren
Director
Office of Science and Technology Policy

SUBJECT: Science and Technology Priorities for the FY 2015 Budget

The FY 2014 Budget Process (2)

Spring 2013 – Agency officials (including OSTP) and public witnesses testify at congressional budget and oversight hearings; authorizing committees try to write and pass authorization bills or offer formal 'views and estimates' on budgets. Appropriations committees also hold hearings.

Spring-Summer 2013 – Congress approves its FY 2014 budget

resolution, its big-picture budget plan. (Deadline: April 15. Not met: in reality December 2013.)

- Appropriations committees receive 302(a) allocations from the budget resolution: total discretionary spending.

- Appropriations committees determine 302(b) allocations dividing total discretionary spending among 12 bills.

The FY 2014 Budget Process (3)

October 1, 2013 – FY 2014 begins. Discretionary programs must have a signed appropriations bill, or shut down. To allow more time, lawmakers pass continuing resolutions (CR's). Because Congress couldn't agree on appropriations bills or a CR, there was a 16-day government shutdown. Eventually, Congress sent the President a CR.

(For FY 2014, we were under a CR through 1/15 covering all 12 appropriations bills, extended by a 2nd CR through 1/18.)

January 16, 2014 – Congress approved a 12-bill omnibus appropriations bill.
January 17, 2014 - President Obama signed the bill into law.

Bill language: (legal text in the bill)

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

For necessary expenses of the Office of Science and Technology Policy, in carrying out the purposes of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6601–6671), hire of passenger motor vehicles, and services as authorized by

5 U.S.C. 3109, not to exceed $2,800 for official reception and representation expenses, and rental of conference rooms in the District of Columbia, $7,154,000

Report language : (explanatory statements in an accompanying report)

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

Fiscal Year 2009 enacted	$5,303,000
Fiscal Year 2010 request	6,154,000
Recommended in the bill	7,154,000
Bill compared with:	
Fiscal Year 2009 enacted	+1,851,000
Fiscal Year 2010 request	+1,000,000

The Office of Science and Technology Policy (OSTP) is essential to the restoration of science to its proper place in the formulation of policy and the operations of the federal government. The Committee recommendation is $1,851,000 above the amount appropriated for fiscal year 2009 and $1,000,000 above the budget request. This increase is provided to ensure that OSTP has adequate staff to fulfill key requirements in the coming year.

OSTP is directed to develop a plan for achieving and sustaining global Earth observations in collaboration with NOAA, NSF, NASA, USGS, the Department of Energy and other appropriate agencies and in consultation with the Earth science community, and to direct implementation of this Earth observations plan as called for in the National Academy of Sciences report *Earth Science and Applications from Space: National Imperatives for the Next Decade and Beyond*. This plan should include satellite, suborbital, ground- and ocean-based observations and be delivered to the Committees on Appropriations of the House and Senate no later than April 1, 2010.

The Committee anticipates that OSTP will need to provide leadership and active coordination on hydrology research and water resources, understanding terrestrial managed and unmanaged ecosystems and their role in climate change, nanotechnology, including its societal dimensions, and science, technology, engineering and mathematics (STEM) education. Each of these areas involves significant activities of multiple departments and agencies.

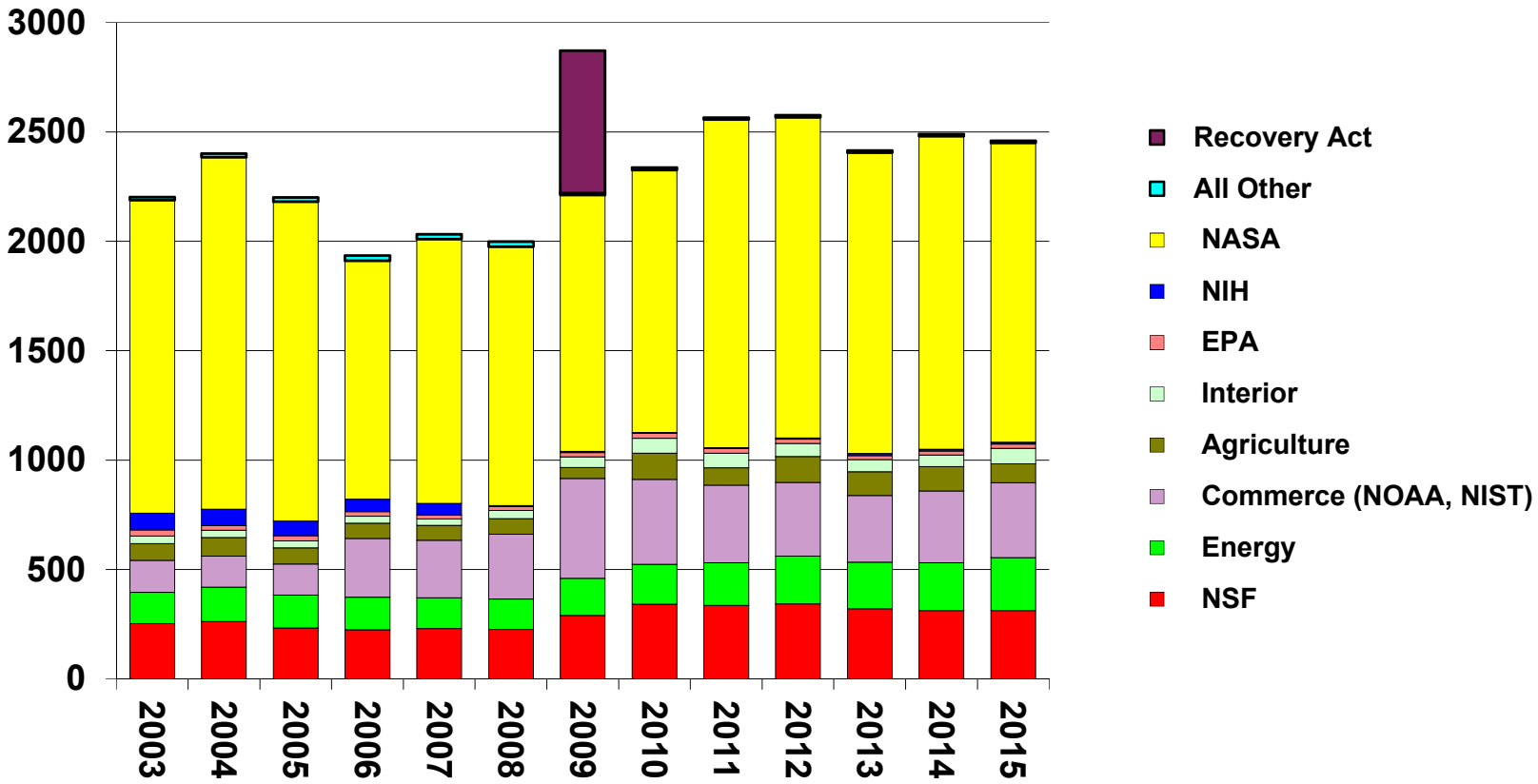
“Over the past eight years, the United States has reduced our total carbon pollution more than any other nation on Earth. But we have to act with more urgency -- because a changing climate is already harming Western communities struggling with drought, and coastal cities dealing with floods… The shift to a cleaner energy economy won’t happen overnight, and it will require some tough choices along the way. But the debate is settled. Climate change is a fact. ”

- President Barack Obama

January 28, 2014

US Global Change Research Program, by Agency

(budget authority in millions of constant FY 2014 dollars)



FY 2009 figures include Recovery Act funding.
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Global Change Research in the 2015 Budget

Understanding and responding to global climate change

- $2.5 billion for the U.S. Global Change Research Program (USGCRP).
- USGCRP supports research to improve our ability to understand, assess, predict, and respond to global change.
- The 2015 Budget supports an integrated suite of climate change observations, process-based research, modeling and assessment, and adaptation science activities.
- USGCRP investments support the President's Climate Action Plan.
- Additional climate investments, including $1 billion for a new Climate Resilience Fund, are proposed in the Opportunity, Growth, and Security Initiative.

President's Strategy for American Innovation

Securing Our Economic Growth and Prosperity

Catalyze Breakthroughs for National Priorities

- Unleash a clean energy revolution
- Accelerate biotechnology, nanotechnology, and advanced manufacturing
- Develop breakthroughs in space applications
- Drive breakthroughs in health care technology
- Create a quantum leap in educational technologies

Promote Market-Based Innovation

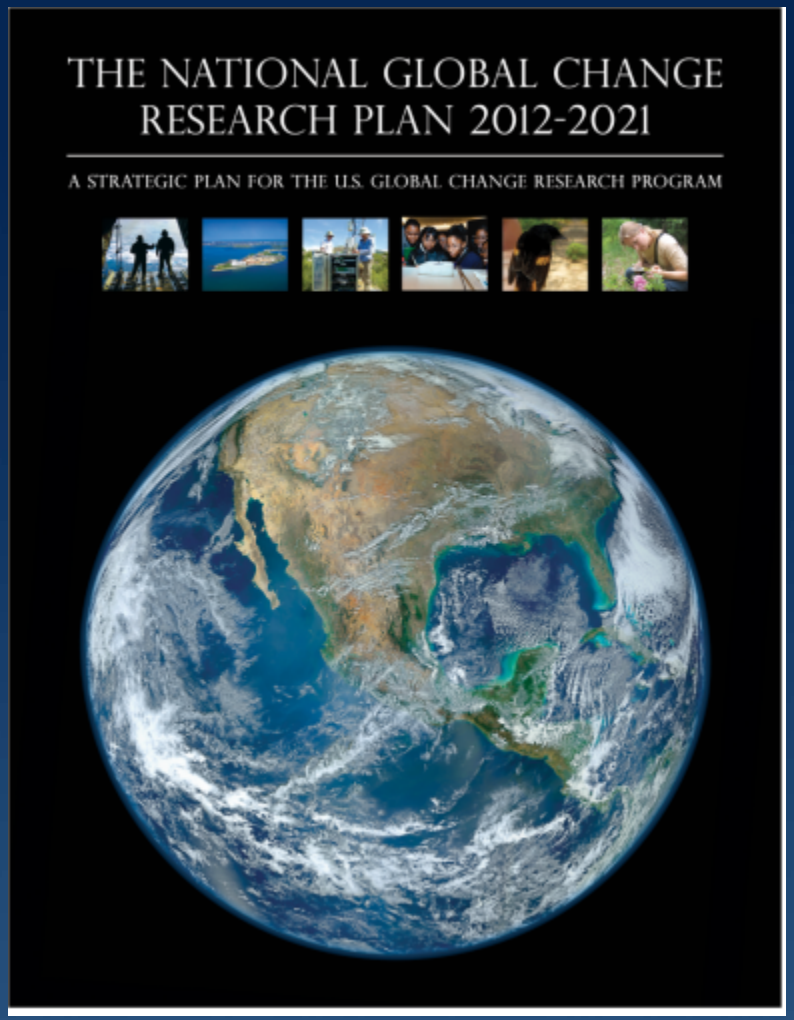
- Accelerate business innovation with the R&E tax credit
- Promote investments in ingenuity through effective intellectual property policy
- Encourage high-growth and innovation-based entrepreneurship
- Promote innovative, open, and competitive markets

Invest in the Building Blocks of American Innovation

- Educate Americans with 21st century skills and create a world-class workforce
- Strengthen and broaden American leadership in fundamental research
- Build a leading physical infrastructure
- Develop an advanced information technology ecosystem

Source: http://www.whitehouse.gov/innovation/


OUR CHANGING PLANET
THE U.S. GLOBAL CHANGE RESEARCH PROGRAM FOR FISCAL YEAR 2013
A Supplement to the President's Budget for Fiscal Year 2013
A Report by the U.S. Global Change Research Program and the Subcommittee on Global Change Research


THE NATIONAL GLOBAL CHANGE RESEARCH PLAN 2012-2021
A STRATEGIC PLAN FOR THE U.S. GLOBAL CHANGE RESEARCH PROGRAM

THANK YOU

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www.whitehouse.gov/ostp