

Federal Research and Development Funding by Budget Function: Fiscal Years 2005-07

Detailed Statistical Tables | NSF 07-303 | December 2006

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General Notes

This annual report contains information on federal funding of the research and development and R&D plant components of U.S. federal agency programs, as proposed by the administration for FY 2007. R&D data in this report are classified into the same federal budget function categories used in the *Budget of the United States Government, Fiscal Year 2007*, prepared by the Office of Management and Budget (OMB). Proposed FY 2007 funding levels are for budget authority (defined below), which is the basis for initial congressional action. Data reported here as preliminary or proposed will be revised in future budget function reports to reflect congressional appropriation and actual program-funding decisions.

Detailed data are included on preliminary estimates of federal funding of R&D for FY 2006. This report also includes detailed data (by subfunction) on actual budget authorizations of R&D by federal agencies in FY 2005 and aggregate data (by broad function) on actual R&D budget authorizations in FY 2004 and earlier years.

Definitions

Research, Development, and R&D Plant

In this report, R&D refers to research (both basic and applied) and development activities in the sciences and engineering.

Research is systematic study directed toward fuller scientific knowledge or understanding of the subject studied. Research is classified as either basic or applied according to the objective 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.

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. It excludes quality control, routine product testing, and production.

Funds for conducting R&D include those for personnel, program supervision, and administrative support directly associated with R&D activities. Expendable or movable equipment needed to conduct R&D, for example, microscopes or spectrometers, is also included.

R&D plant includes such R&D facilities as reactors, wind tunnels, or particle accelerators or the construction, repair, or alteration of such facilities.

This report excludes all non-R&D activities performed within budget functions that conduct R&D and all functions in which no R&D is conducted.

Budget Authority, Obligations, and Outlays

The federal R&D funding data presented here, with a few noted exceptions, are provided in budget authority. Budget authority is used because it is the initial budget parameter for congressional action on the President's proposed budget. Budget authority imposes a ceiling on obligations and outlays; obligations and outlays flow from budget authority.

Budget authority is the primary source of legal authorization to enter into obligations that will result in outlays. Budget authority is most commonly granted in the form of appropriations by the congressional committees assigned to determine the budget for each function.

Obligations represent the amounts for orders placed, contracts awarded, services received, and similar transactions during a given period, regardless of when the funds were appropriated and when the future payment of money is required.

Outlays represent the amounts for checks issued and cash payments made during a given period, regardless of when the funds were appropriated or obligated.

Budget Functions

All activities covered by the federal budget, including R&D, are classified into 20 broad functional categories. The federal budget total comprises funding for these 20 functions. An agency's activities are not necessarily included in only one function. Instead, the programs of one agency typically are distributed across functions, and each function often includes programs from multiple agencies. No overlap occurs among functions or among the various agency programs within those functions. In a few cases, components of a major national effort are funded through multiple functions, such as the human genome activities, which are funded under the health and general science categories.

Notably, each specific R&D activity is assigned to only one function area, consistent with the official codes used in budget documents, even though the R&D activity may address several functional concerns. For example, except for those of the U.S. Army Corps of Engineers, all R&D activities sponsored by the Department of Defense (DOD) are classified as defense, even though some activities have secondary objectives, such as space or health. Moreover, only R&D activities funded by the Department of Health and Human Services and the Department of Labor are classified in the health function category. Yet some R&D funding from at least three additional agencies—the Departments of Defense, Energy, and Veterans Affairs—has a major health component.

The functional categories and definitions used in this report are the same as those used in the federal budget, with one exception. R&D activities categorized as general science, space, and technology (function 250) are reported separately here.

Subfunction 251 contains R&D activities for general science and basic research, and subfunction 252 contains R&D activities for space research and technology. However, not all federally sponsored basic research is categorized in function 251; some basic research is included in 12 of the remaining 19 functional categories.

Five federal budget functions—Medicare (function 570), Social Security (function 650), net interest (function 900), allowances (function 920), and undistributed offsetting receipts (function 950)—have no R&D components. Consequently, they are not discussed in this report, except where R&D is described as a proportion of total federal budget authority.

For FY 2005–07, no R&D was authorized for general government (function 800), as was the case in the last report. In previous years, small amounts of R&D were authorized for this budget function.

Appendix A lists (by name and function code) the 15 individual R&D functions funded by federal agencies.

Data Sources

Within the overall federal budget, there is no separately identified R&D budget as such nor are most appropriations for R&D so labeled except in the case of certain program areas, such as defense, energy, health, and environment. Consequently, most funds for R&D are not line items in agency budget submissions but are included within general program funding. To determine funding for federal R&D, OMB requires agencies with annual R&D funding greater than \$10 million to submit data on their R&D programs as part of their annual budget submissions. Specifically, the agencies provide data—reported, in accordance with OMB Circular A-11, MAX Schedule C, "Research and Development Activities"—on funding levels for basic research, applied research, development, R&D facilities, and capital equipment for R&D.

The data in this report represent agencies' best estimates of actual and proposed federal funding for R&D collected during the period between February and April 2006. These data are based primarily on information provided to OMB by 24 agencies and account for an estimated 99 percent of all federally sponsored R&D activities. Also included in this report is R&D information that became available from individual agencies after the administration's budget was prepared and reported in the *Budget of the United States Government*. This information consists of budget justification documents that agencies submit to Congress and supplemental, program-specific information obtained from agency budget and program staff through mid-March 2006.

The FY 2006 supplemental bill was signed into law as Public Law 109-234 on 15 June 2006, and the preliminary FY 2006 budget authority data in this report were revised to reflect additional R&D funding specified in the law. Therefore, budget numbers for individual activities, programs, or agencies may differ slightly from those published in the President's budget or in agency budget documents.

Data Tables

| Table | Federal budget authority |
|-------|--|
| | by budget function: FY 2005–07 |
| 1 | R&D and R&D plant |
| 2 | R&D |
| 3 | % distribution, R&D and R&D plant |
| 4 | % distribution, R&D |
| 5 | basic research |
| 6 | R&D and R&D plant as % of total budget authority |
| 7 | R&D as % of total budget authority |
| | Specific budget function: FY 2005–07 |
| | Administration of justice (750) |
| 8 | R&D and R&D plant |
| 9 | R&D |
| | Agriculture (350) |
| 10 | R&D and R&D plant |
| 11 | R&D |
| | Commerce and housing credit (370) |
| 12 | R&D and R&D plant |
| 13 | R&D |
| | Community and regional development (450) |
| 14 | R&D |
| | Education, training, employment, and social services (500) |
| 15 | R&D and R&D plant |
| 16 | R&D |
| | Energy (270) |
| 17 | R&D and R&D plant |
| 18 | R&D |
| | General science and basic research (251) |
| 19 | R&D and R&D plant |
| 20 | R&D |
| | Health (550) |
| 21 | R&D and R&D plant |
| 22 | R&D |
| | National Institutes of Health |
| 23 | R&D and R&D plant |
| 24 | R&D |
| | Income security (600) |
| 25 | R&D |
| | International affairs (150) |

| 26 | R&D |
|----|--|
| | National defense (050) |
| 27 | R&D and R&D plant |
| 28 | R&D |
| 29 | obligational authority for research, development, test, and evaluation |
| | Natural resources and environment (300) |
| 30 | R&D and R&D plant |
| 31 | R&D |
| | Space research and technology (252) |
| 32 | R&D and R&D plant |
| 33 | R&D |
| | Transportation (400) |
| 34 | R&D and R&D plant |
| 35 | R&D |
| | Veterans benefits and services (700) |
| 36 | R&D |
| | R&D obligations and budget authority, by budget function: FY 1955–2007 |
| 37 | all functions, and budget authority for basic research |
| 38 | national defense and civilian functions |

| TABLE 1. Federal research and develo | pment and R&D pla | ant budget authority | by budget function: FY 2005–07 |
|--------------------------------------|-------------------|----------------------|--------------------------------|
| | | | |

| 2007 rank | Budget function | 2005 actual | 2006 preliminary | 2007 proposed | 2005–06 | 2006–07 |
|-----------|------------------------------------|-------------|------------------|---------------|---------|---------|
| | | | \$ millions | | % cha | ange |
| | All functions conducting R&D | 131,259 | 135,205 | 136,850 | 3.0 | 1.2 |
| 1 | National defense | 74,641 | 77,630 | 78,388 | 4.0 | 1.0 |
| 2 | Health | 29,129 | 29,088 | 29,025 | -0.1 | -0.2 |
| 3 | Space research and technology | 9,656 | 10,411 | 11,478 | 7.8 | 10.2 |
| 4 | General science and basic research | 7,477 | 7,495 | 8,321 | 0.2 | 11.0 |
| 5 | Natural resources and environment | 2,245 | 2,202 | 2,043 | -1.9 | -7.2 |
| 6 | Agriculture | 2,094 | 2,128 | 1,711 | 1.6 | -19.6 |
| 7 | Transportation | 1,866 | 1,741 | 1,507 | -6.7 | -13.5 |
| 8 | Energy | 1,324 | 1,419 | 1,363 | 7.2 | -3.9 |
| 9 | Administration of justice | 779 | 1,011 | 895 | 29.8 | -11.5 |
| 10 | Veterans benefits and services | 742 | 765 | 765 | 3.1 | 0.0 |
| 11 | Education, training, employment, | | | | | |
| | and social services | 495 | 522 | 519 | 5.5 | -0.6 |
| 12 | Commerce and housing credit | 475 | 457 | 486 | -3.9 | 6.4 |
| 13 | International affairs | 255 | 255 | 255 | 0.0 | 0.0 |
| 14 | Community and regional development | 45 | 55 | 68 | 22.2 | 23.6 |
| 15 | Income security | 35 | 27 | 27 | -22.9 | 0.0 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

| TABLE 2. | Federal research and | development budge | t authority, by | budget function: | FY 2005-07 |
|----------|----------------------|-------------------|-----------------|------------------|------------|
| | | | | | |

| 2007 rank | Budget function | 2005 actual | 2006 preliminary | 2007 proposed | 2005–06 | 2006–07 |
|-----------|------------------------------------|-------------|------------------|---------------|---------|---------|
| | | | \$ millions | | % cha | ange |
| | All functions conducting R&D | 126,601 | 130,827 | 132,578 | 3.3 | 1.3 |
| 1 | National defense | 74,047 | 76,884 | 77,781 | 3.8 | 1.2 |
| 2 | Health | 28,824 | 28,959 | 28,902 | 0.5 | -0.2 |
| 3 | Space research and technology | 7,300 | 8,256 | 9,268 | 13.1 | 12.3 |
| 4 | General science and basic research | 6,570 | 6,672 | 7,294 | 1.6 | 9.3 |
| 5 | Natural resources and environment | 2,168 | 2,136 | 2,004 | -1.5 | -6.1 |
| 6 | Agriculture | 1,820 | 1,866 | 1,610 | 2.5 | -13.7 |
| 7 | Transportation | 1,847 | 1,723 | 1,488 | -6.7 | -13.7 |
| 8 | Energy | 1,296 | 1,370 | 1,346 | 5.7 | -1.7 |
| 9 | Administration of justice | 758 | 994 | 895 | 31.2 | -10.0 |
| 10 | Veterans benefits and services | 742 | 765 | 765 | 3.1 | 0.0 |
| 11 | Education, training, employment, | | | | | |
| | and social services | 470 | 479 | 478 | 1.9 | -0.2 |
| 12 | Commerce and housing credit | 423 | 386 | 395 | -8.8 | 2.5 |
| 13 | International affairs | 255 | 255 | 255 | 0.0 | 0.0 |
| 14 | Community and regional development | 45 | 55 | 68 | 22.2 | 23.6 |
| 15 | Income security | 35 | 27 | 27 | -22.9 | 0.0 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

TABLE 3. Distribution of total federal research and development and R&D plant budget authority, by budget function: FY 2005–07 (Percent distribution)

| | | 2005 | 2006 | 2007 |
|-----------|------------------------------------|--------|-------------|----------|
| 2007 rank | Budget function | actual | preliminary | proposed |
| | All functions conducting R&D | 100.0 | 100.0 | 100.0 |
| 1 | National defense | 56.9 | 57.4 | 57.3 |
| 2 | Health | 22.2 | 21.5 | 21.2 |
| 3 | Space research and technology | 7.4 | 7.7 | 8.4 |
| 4 | General science and basic research | 5.7 | 5.5 | 6.1 |
| 5 | Natural resources and environment | 1.7 | 1.6 | 1.5 |
| 6 | Agriculture | 1.6 | 1.6 | 1.3 |
| 7 | Transportation | 1.4 | 1.3 | 1.1 |
| 8 | Energy | 1.0 | 1.0 | 1.0 |
| 9 | Administration of justice | 0.6 | 0.7 | 0.7 |
| 10 | Veterans benefits and services | 0.6 | 0.6 | 0.6 |
| 11 | Education, training, employment, | | | |
| | and social services | 0.4 | 0.4 | 0.4 |
| 12 | Commerce and housing credit | 0.4 | 0.3 | 0.4 |
| 13 | International affairs | 0.2 | 0.2 | 0.2 |
| 14 | Community and regional development | * | * | * |
| 15 | Income security | * | * | * |

* = less than 0.05%.

NOTE: Detail may not add to total because of rounding.

TABLE 4. Distribution of total federal research and development budget authority, by budget function: FY 2005–07 (Percent distribution)

| | | 2005 | 2006 | 2007 |
|-----------|------------------------------------|--------|-------------|----------|
| 2007 rank | Budget function | actual | preliminary | proposed |
| | All functions conducting R&D | 100.0 | 100.0 | 100.0 |
| 1 | National defense | 58.5 | 58.8 | 58.7 |
| 2 | Health | 22.8 | 22.1 | 21.8 |
| 3 | Space research and technology | 5.8 | 6.3 | 7.0 |
| 4 | General science and basic research | 5.2 | 5.1 | 5.5 |
| 5 | Natural resources and environment | 1.7 | 1.6 | 1.5 |
| 6 | Agriculture | 1.4 | 1.4 | 1.2 |
| 7 | Transportation | 1.5 | 1.3 | 1.1 |
| 8 | Energy | 1.0 | 1.0 | 1.0 |
| 9 | Administration of justice | 0.6 | 0.8 | 0.7 |
| 10 | Veterans benefits and services | 0.6 | 0.6 | 0.6 |
| 11 | Education, training, employment, | | | |
| | and social services | 0.4 | 0.4 | 0.4 |
| 12 | Commerce and housing credit | 0.3 | 0.3 | 0.3 |
| 13 | International affairs | 0.2 | 0.2 | 0.2 |
| 14 | Community and regional development | * | * | 0.1 |
| 15 | Income security | * | * | * |

* = less than 0.05%.

NOTE: Detail may not add to total because of rounding.

TABLE 5. Federal budget authority for basic research, by budget function: FY 2005–07

| | | 2005 | 2006 | 2007 | | |
|-----------|------------------------------------|--------|-------------|----------|---------|---------|
| 2007 rank | Budget function | actual | preliminary | proposed | 2005-06 | 2006–07 |
| | | | \$ millions | | % cha | ange |
| | All functions conducting R&D | 27,678 | 27,834 | 28,188 | 0.6 | 1.3 |
| 4 | National defense | 1,508 | 1,502 | 1,452 | -0.4 | -3.3 |
| 1 | Health | 15,826 | 15,995 | 16,026 | 1.1 | 0.2 |
| 3 | Space research and technology | 2,486 | 2,318 | 2,214 | -6.7 | -4.5 |
| 2 | General science and basic research | 6,238 | 6,353 | 6,916 | 1.8 | 8.9 |
| 7 | Natural resources and environment | 195 | 194 | 164 | -0.7 | -15.2 |
| 5 | Agriculture | 789 | 797 | 740 | 1.0 | -7.1 |
| 10 | Transportation | 65 | 65 | 68 | 0.1 | 4.6 |
| 13 | Energy | 31 | 12 | 8 | -61.3 | -33.3 |
| 11 | Administration of justice | 42 | 75 | 41 | 80.2 | -45.1 |
| 6 | Veterans benefits and services | 297 | 306 | 306 | 3.0 | 0.0 |
| 8 | Education, training, employment, | | | | | |
| | and social services | 130 | 143 | 148 | 10.0 | 3.5 |
| 9 | Commerce and housing credit | 53 | 56 | 87 | 5.3 | 55.7 |
| 12 | International affairs | 18 | 18 | 18 | 0.0 | 0.0 |
| - | Community and regional development | 0 | 0 | 0 | na | na |
| - | Income security | 0 | 0 | 0 | na | na |

– = not ranked; no dollar amount for basic research.

na = not applicable.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Order of budget functions is same as order for federal R&D budget authority by budget function shown in table 2.

TABLE 6. Federal research and development and R&D plant budget authority as percentage of total budget authority, by budget function: FY 2005–07

| | | 2005 | 2006 | 2007 |
|-----------|------------------------------------|--------|-------------|----------|
| 2007 rank | Budget function | actual | preliminary | proposed |
| | All functions conducting R&D | 8.2 | 8.2 | 8.7 |
| 4 | National defense | 14.8 | 13.8 | 15.3 |
| 6 | Health | 11.6 | 9.9 | 10.4 |
| 3 | Space research and technology | 63.3 | 66.3 | 71.4 |
| 2 | General science and basic research | 81.6 | 81.2 | 81.7 |
| 7 | Natural resources and environment | 6.8 | 6.7 | 7.1 |
| 8 | Agriculture | 7.2 | 8.6 | 6.3 |
| 10 | Transportation | 2.4 | 2.3 | 1.9 |
| 1 | Energy ^a | 103.1 | 90.8 | 113.1 |
| 9 | Administration of justice | 1.9 | 2.5 | 2.1 |
| 11 | Veterans benefits and services | 1.1 | 1.1 | 1.0 |
| 13 | Education, training, employment, | | | |
| | and social services | 0.5 | 0.5 | 0.6 |
| 5 | Commerce and housing credit | 47.3 | 22.7 | 12.6 |
| 12 | International affairs | 0.8 | 0.9 | 0.8 |
| 14 | Community and regional development | 0.1 | 0.2 | 0.6 |
| 15 | Income security | * | * | * |

* = less than 0.05%.

^a R&D as percentage of total budget authority is greater than 100% because gross budget authority has been reduced by offsetting receipts.

NOTES: Total budget authority includes discretionary and mandatory budget authority, less offsets. Order of budget functions is same as order for federal R&D and R&D plant budget authority by budget function shown in table 1.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, supplemental data obtained from agencies' budget offices, and Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2007* (Washington, DC: U.S. Government Printing Office, 2006).

| TABLE 7. Federal research and development budget authority as percentage of total budget authority, by budget |
|---|
| function: FY 2005–07 |

| | | 2005 | 2006 | 2007 |
|-----------|------------------------------------|--------|-------------|----------|
| 2007 rank | Budget function | actual | preliminary | proposed |
| | All functions conducting R&D | 7.9 | 8.0 | 8.4 |
| 4 | National defense | 14.6 | 13.7 | 15.2 |
| 5 | Health | 11.4 | 9.8 | 10.3 |
| 3 | Space research and technology | 47.9 | 52.6 | 57.7 |
| 2 | General science and basic research | 71.7 | 72.2 | 71.7 |
| 7 | Natural resources and environment | 6.6 | 6.5 | 7.0 |
| 10 | Agriculture | 2.4 | 7.0 | 2.1 |
| 8 | Transportation | 6.3 | 2.5 | 5.5 |
| 1 | Energy ^a | 100.9 | 87.7 | 111.7 |
| 9 | Administration of justice | 1.9 | 2.4 | 2.1 |
| 11 | Veterans benefits and services | 1.1 | 1.1 | 1.0 |
| 14 | Education, training, employment, | | | |
| | and social services | 0.5 | 0.4 | 0.6 |
| 6 | Commerce and housing credit | 42.1 | 19.2 | 10.3 |
| 12 | International affairs | 0.8 | 0.9 | 0.8 |
| 13 | Community and regional development | 0.1 | 0.2 | 0.6 |
| 15 | Income security | * | * | * |

* = less than 0.05%.

^a R&D as percentage of total budget authority is greater than 100% because gross budget authority has been reduced by offsetting receipts.

NOTES: Total budget authority includes discretionary and mandatory budget authority, less offsets. Order of budget functions is same as order for federal R&D budget authority by budget function shown in table 2.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C, agencies' budget justification documents, supplemental data obtained from agencies' budget offices, and Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2007* (Washington, DC: U.S. Government Printing Office, 2006).

TABLE 8. Federal research and development and R&D plant budget authority for administration of justice (750): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 779 | 1,011 | 895 | -11.5 |
| Department of Justice (DOJ) | 99 | 102 | 98 | -3.9 |
| Office of Justice Programs (754) | 55 | 58 | 54 | -6.9 |
| Federal Bureau of Investigation (751) | 33 | 33 | 33 | 0.0 |
| Federal Prison System (753) | 11 | 11 | 11 | 0.0 |
| Department of Homeland Security (DHS) (751) | 680 | 909 | 797 | -12.3 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from DOJ and DHS budget offices.

TABLE 9. Federal research and development budget authority for administration of justice (750): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 758 | 994 | 895 | -10.0 |
| Department of Justice (DOJ) | 99 | 102 | 98 | -3.9 |
| Office of Justice Programs (754) | 55 | 58 | 54 | -6.9 |
| Federal Bureau of Investigation (751) | 33 | 33 | 33 | 0.0 |
| Federal Prison System (753) | 11 | 11 | 11 | 0.0 |
| Department of Homeland Security (DHS) (751) | 659 | 892 | 797 | -10.7 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from DOJ and DHS budget offices.

| TABLE 10. Federal research and development and R&D plant budget authority for agriculture (350): FY 2005–07 |
|---|
| (Millions of dollars) |

| | 2005 | 2006 | 2007 | 2006–0 |
|--|--------|-------------|----------|-----------|
| Funding category and agency | actual | preliminary | proposed | (% change |
| Total | 2,094 | 2,128 | 1,711 | -19. |
| Agricultural research and services (352) | | | | |
| Department of Agriculture (USDA) | | | | |
| Agricultural Research Service | 1,310 | 1,318 | 1,028 | -22 |
| Research on plant sciences | 416 | 425 | 355 | -16 |
| Research on animal sciences | 198 | 212 | 200 | -5 |
| Research on commodity conversion | 192 | 194 | 185 | -4 |
| Research on human nutrition | 83 | 84 | 84 | -C |
| Research on soil, water, and air sciences | 113 | 116 | 74 | -35 |
| Integration of agricultural systems | 56 | 61 | 61 | (|
| Agricultural library services | 23 | 22 | 25 | 14 |
| Trust funds | 16 | 18 | 18 | (|
| Facilities and equipment | 213 | 187 | 26 | -86 |
| Cooperative State Research, Education, | | | | |
| and Extension Service | 654 | 667 | 540 | -19 |
| National Research Initiative | 180 | 181 | 248 | 3 |
| Payments under the Hatch Act | 179 | 177 | 177 | (|
| Payments to 1890 colleges and Tuskegee Institute | 37 | 37 | 38 | |
| McEntire-Stennis Cooperative Forestry | 22 | 22 | 22 | -1 |
| Special research grants | 120 | 124 | 0 | -100 |
| Other research programs | 116 | 126 | 55 | -56 |
| Economic Research Service | 74 | 75 | 83 | 1(|
| Animal and Plant Health Inspection Service | 21 | 25 | 27 | 8 |
| Natural Resources Conservation Service | 14 | 15 | 14 | -(|
| Federal Grain Inspection Service | 7 | 7 | 8 | 14 |
| National Agricultural Statistics Service | 5 | 5 | 5 | (|
| Agricultural Marketing Service | 7 | 14 | 4 | -71 |
| Foreign Agricultural Service | 2 | 2 | 2 | (|

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Data for 2006 reflect supplemental appropriations enacted in Public Law 109-234.

SOURCES: USDA submission to Office of Management and Budget per MAX Schedule C, USDA budget justification documents, and supplemental data obtained from USDA budget office.

| TABLE 11. Federal research and development budget authority for agriculture (350): FY 2005–07 | |
|---|--|
| (Millions of dollars) | |

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|-----------|
| Funding category and agency | actual | preliminary | proposed | (% change |
| Total | 1,820 | 1,866 | 1,610 | -13.7 |
| Agricultural research and services (352) | | | | |
| Department of Agriculture (USDA) | | | | |
| Agricultural Research Service | 1,036 | 1,059 | 929 | -12.2 |
| Research on plant sciences | 392 | 397 | 328 | -17.3 |
| Research on animal sciences | 187 | 197 | 185 | -6.4 |
| Research on commodity conversion | 181 | 181 | 171 | -5.0 |
| Research on human nutrition | 78 | 79 | 77 | -1.4 |
| Research on soil, water, and air sciences | 107 | 108 | 69 | -36. |
| Integration of agricultural systems | 53 | 57 | 57 | -0. |
| Agricultural library services | 23 | 22 | 25 | 14. |
| Trust funds | 16 | 18 | 18 | 0. |
| Cooperative State Research, Education, | | | | |
| and Extension Service | 654 | 667 | 540 | -19. |
| National Research Initiative | 180 | 181 | 248 | 37. |
| Payments under the Hatch Act | 179 | 177 | 177 | 0. |
| Payments to 1890 colleges and Tuskegee Institute | 37 | 37 | 38 | 1. |
| McEntire-Stennis Cooperative Forestry | 22 | 22 | 22 | -0. |
| Special research grants | 120 | 124 | 0 | -100. |
| Other research programs | 116 | 126 | 55 | -56 |
| Economic Research Service | 74 | 75 | 83 | 10. |
| Animal and Plant Health Inspection Service | 21 | 25 | 27 | 8. |
| Natural Resources Conservation Service | 14 | 12 | 12 | 0. |
| Federal Grain Inspection Service | 7 | 7 | 8 | 14. |
| National Agricultural Statistics Service | 5 | 5 | 5 | 0. |
| Agricultural Marketing Service | 7 | 14 | 4 | -71. |
| Foreign Agricultural Service | 2 | 2 | 2 | 0. |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: USDA submission to Office of Management and Budget per MAX Schedule C, USDA budget justification documents, and supplemental data obtained from USDA budget office.

TABLE 12. Federal research and development and R&D plant budget authority for commerce and housing credit (370): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|--|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 475 | 457 | 486 | 6.4 |
| Other advancement of commerce (376) | | | | |
| Department of Commerce | | | | |
| National Institute of Standards and Technology | 444 | 423 | 450 | 6.5 |
| Scientific and technical research and services | 304 | 315 | 382 | 21.3 |
| Construction of research facilities | 30 | 48 | 68 | 40.9 |
| Industrial technology services | | | | |
| Advanced Technology Program | 111 | 60 | 0 | -100.0 |
| Bureau of the Census | 23 | 26 | 29 | 11.5 |
| National Telecommunications and Information Administration | 7 | 7 | 6 | -14.3 |
| Departmental administration | 1 | 1 | 1 | 0.0 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Department of Commerce (DOC) submission to Office of Management and Budge per MAX Schedule C and supplemental data obtained from DOC budget office.

TABLE 13. Federal research and development budget authority for commerce and housing credit (370): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|--|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 423 | 386 | 395 | 2.5 |
| Other advancement of commerce (376) | | | | |
| Department of Commerce | | | | |
| National Institute of Standards and Technology | 393 | 353 | 360 | 2.1 |
| Scientific and technical research and services | 282 | 293 | 360 | 22.9 |
| Industrial technology services | | | | |
| Advanced Technology Program | 111 | 60 | 0 | -100.0 |
| Bureau of the Census | 23 | 26 | 29 | 11.5 |
| National Telecommunications and Information Administration | 7 | 7 | 6 | -14.3 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Department of Commerce (DOC) submission to Office of Management and Budget per MAX Schedule C and supplemental data obtained from DOC budget office.

TABLE 14. Federal research and development budget authority for community and regional development (450): FY 2005–07 (Millions of dollars)

| 2005 | 2006 | 2007 | 2006-07 |
|--------|--------------|--------------------------------------|---------------------------------|
| actual | preliminary | proposed | (% change) |
| 45 | 55 | 68 | 23.6 |
| 45 | 55 | 68 | 23.6 |
| | actual 45 | actual preliminary 45 55 45 55 | actualpreliminaryproposed455568 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Department of Housing and Urban Development (HUD) submission to Office of Management and Budget per MAX Schedule C and supplemental data obtained from HUD budget office.

TABLE 15. Federal research and development and R&D plant budget authority for education, training, employment, and social services (500): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 495 | 522 | 519 | -0.6 |
| Research and general education aids (501, 502, 503) | 368 | 395 | 392 | -0.8 |
| Department of Education programs | 228 | 224 | 218 | -2.7 |
| Smithsonian Institution programs | 140 | 171 | 174 | 1.8 |
| Social services (506) | 125 | 125 | 125 | 0.0 |
| Rehabilitation services (ED) | 80 | 78 | 81 | 3.8 |
| Administration for Children and Families (DHHS) | 42 | 44 | 44 | 0.0 |
| Administration on Aging (DHHS) | 3 | 3 | 0 | -100.0 |
| Training and employment (504) | 2 | 2 | 2 | 0.0 |
| Employment and Training Administration (DOL) | 2 | 2 | 2 | 0.0 |

DHHS = Department of Health and Human Services.

DOL = Department of Labor.

ED = Department of Education.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

TABLE 16. Federal research and development budget authority for education, training, employment, and social services (500): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 470 | 479 | 478 | -0.2 |
| Research and general education aids (501, 502, 503) | 343 | 352 | 351 | -0.3 |
| Department of Education programs | 228 | 224 | 218 | -2.7 |
| Smithsonian Institution programs | 115 | 128 | 133 | 3.9 |
| Social services (506) | 125 | 125 | 125 | 0.0 |
| Rehabilitation services (ED) | 80 | 78 | 81 | 3.8 |
| Administration for Children and Families (DHHS) | 42 | 44 | 44 | 0.0 |
| Administration on Aging (DHHS) | 3 | 3 | 0 | -100.0 |
| Training and employment (504) | 2 | 2 | 2 | 0.0 |
| Employment and Training Administration (DOL) | 2 | 2 | 2 | 0.0 |

DHHS = Department of Health and Human Services.

DOL = Department of Labor.

ED = Department of Education.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

TABLE 17. Federal research and development and R&D plant budget authority for energy (270): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Fotal | 1,324 | 1,419 | 1,363 | -3.9 |
| Department of Energy | 1,236 | 1,339 | 1,274 | -4.8 |
| Fossil energy (271) | 448 | 479 | 330 | -31.1 |
| Petroleum, coal, and gas program ^a | 440 | 473 | 330 | -30.2 |
| Cooperative R&D | 8 | 6 | 0 | -100.0 |
| Clean coal technology ^a | 0 | 0 | 0 | na |
| Energy supply ^b (271) | 720 | 780 | 888 | 13.9 |
| Efficiency and renewables ^b | 554 | 530 | 670 | 26.4 |
| Electricity transmission and distribution | 84 | 132 | 123 | -6.8 |
| Nuclear energy | 82 | 118 | 95 | -19.3 |
| Radioactive waste management (271) | 68 | 80 | 56 | -30.0 |
| Energy conservation ^b (272) | 0 | 0 | 0 | na |
| Nuclear Regulatory Commission (276) | 67 | 60 | 67 | 11.7 |
| Tennessee Valley Authority (271) | 21 | 20 | 22 | 10.0 |

na = not applicable.

^a Clean coal technology has been merged with the petroleum, coal, and gas program.

^b Energy conservation and solar and renewables programs have been consolidated as the efficiency and renewables program, in energy supply (271).

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

TABLE 18. Federal research and development budget authority for energy (270): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Fotal | 1,296 | 1,370 | 1,346 | -1.7 |
| Department of Energy | 1,208 | 1,290 | 1,257 | -2.5 |
| Fossil energy (271) | 441 | 461 | 330 | -28.4 |
| Petroleum, coal, and gas program ^a | 433 | 455 | 330 | -27.5 |
| Cooperative R&D | 8 | 6 | 0 | -100.0 |
| Clean coal technology ^a | 0 | 0 | 0 | na |
| Energy supply ^b (271) | 699 | 749 | 871 | 16.3 |
| Efficiency and renewables ^b | 533 | 499 | 653 | 30.9 |
| Electricity transmission and distribution | 84 | 132 | 123 | -6.8 |
| Nuclear energy | 82 | 118 | 95 | -19.3 |
| Radioactive waste management (271) | 68 | 80 | 56 | -30.0 |
| Energy conservation ^b (272) | 0 | 0 | 0 | na |
| Nuclear Regulatory Commission (276) | 67 | 60 | 67 | 11.7 |
| Tennessee Valley Authority (271) | 21 | 20 | 22 | 10.0 |

na = not applicable.

^a Clean coal technology has been merged with the petroleum, coal, and gas program.

^b Energy conservation and solar and renewables programs have been consolidated as the efficiency and renewables program in energy supply (271).

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

| TABLE 19. Federal research and development and R&D plant budget authority for general science and basic research (251): FY 2005–0 | 7 |
|---|---|
| (Millions of dollars) | |

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|-----------|
| Agency | actual | preliminary | proposed | (% change |
| Total | 7,477 | 7,495 | 8,321 | 11.(|
| National Science Foundation (NSF) | 4,102 | 4,175 | 4,523 | 8.3 |
| Mathematical and physical sciences | 1,069 | 1,085 | 1,150 | 6. |
| Geosciences | 697 | 703 | 745 | 6. |
| Engineering | 557 | 581 | 629 | 8. |
| Biological sciences | 577 | 577 | 608 | 5. |
| Computer and information science and engineering | 490 | 496 | 527 | 6. |
| U.S. polar research programs | 349 | 389 | 438 | 12. |
| Major research equipment | 174 | 191 | 240 | 26. |
| Social, behavioral, and economic sciences | 197 | 200 | 214 | 6. |
| Office of cyberinfrastructure | 123 | 127 | 182 | 43. |
| Integrative activities | 131 | 137 | 131 | -4. |
| Education and human resources | 150 | 140 | 144 | 2. |
| Budget authority adjustment ^a | -411 | -452 | -486 | 7. |
| Department of Energy (DOE) | 3,375 | 3,320 | 3,798 | 14 |
| Basic energy sciences | 1,084 | 1,134 | 1,421 | 25 |
| High energy physics | 723 | 716 | 775 | 8 |
| Biological and environmental research | 567 | 580 | 510 | -12. |
| Human genome | 63 | 63 | 75 | 18 |
| All other research | 504 | 517 | 435 | -15. |
| Nuclear physics | 394 | 367 | 454 | 23. |
| Fusion energy sciences | 267 | 288 | 319 | 10. |
| Advanced scientific computing research | 226 | 235 | 319 | 35. |
| Small business innovation research ^b | 114 | 0 | 0 | n |

^a Budget authority adjustment subtracts costs for research facilities, major equipment support, and other non-R&D from total NSF budget authority.

^b DOE treats this activity as a budget execution program (i.e., funds are collected from existing appropriations and are not allocated until three-quarters into the fiscal year).

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Not all federally sponsored basic research is categorized in subfunction 251.

| TABLE 20. Federal research and development budget authority for general science and basic research (251): F | Y 2005–07 |
|---|-----------|
| (Millions of dollars) | |

| | 2005 | 2006 | 2007 | 2006–07 |
|--|--------|-------------|----------|------------|
| Agency | actual | preliminary | proposed | (% change) |
| Total | 6,570 | 6,672 | 7,294 | 9.3 |
| National Science Foundation (NSF) | 3,738 | 3,782 | 4,049 | 7.1 |
| Mathematical and physical sciences | 1,069 | 1,085 | 1,150 | 6.0 |
| Geosciences | 697 | 703 | 745 | 6.0 |
| Engineering | 557 | 581 | 629 | 8.2 |
| Biological sciences | 577 | 577 | 608 | 5.4 |
| Computer and information science and engineering | 490 | 496 | 527 | 6.1 |
| U.S. polar research programs | 349 | 389 | 438 | 12. |
| Social, behavioral, and economic sciences | 197 | 200 | 214 | 6.9 |
| Office of cyberinfrastructure | 123 | 127 | 182 | 43. |
| Integrative activities | 131 | 137 | 131 | -4. |
| Education and human resources | 150 | 140 | 144 | 2. |
| Budget authority adjustment ^a | -602 | -654 | -718 | 9. |
| Department of Energy (DOE) | 2,832 | 2,890 | 3,245 | 12. |
| Basic energy sciences | 740 | 867 | 1,100 | 26. |
| High energy physics | 635 | 658 | 709 | 7. |
| Biological and environmental research | 532 | 563 | 478 | -15. |
| Human genome | 63 | 63 | 75 | 18. |
| All other research | 469 | 500 | 403 | -19.3 |
| Nuclear physics | 356 | 329 | 395 | 20. |
| Advanced scientific computing research | 214 | 225 | 304 | 35.1 |
| Fusion energy sciences | 241 | 248 | 259 | 4.4 |
| Small business innovation research ^b | 114 | 0 | 0 | na |

na = not applicable.

^a Budget authority adjustment subtracts costs for research facilities, major equipment support, and other non-R&D from total NSF budget authority.

^b DOE treats this activity as a budget execution program (i.e., funds are collected from existing appropriations and are not allocated until three-quarters into the fiscal year).

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Not all federally sponsored basic research is categorized in subfunction 251.

TABLE 21. Federal research and development and R&D plant budget authority for health (550): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 29,129 | 29,088 | 29,025 | -0.2 |
| Health care services and health research and training (551, 552) | 28,983 | 28,936 | 28,877 | -0.2 |
| Department of Health and Human Services | | | | |
| Agency for Healthcare Research and Quality | 341 | 341 | 341 | 0.0 |
| Centers for Disease Control and Prevention | 521 | 565 | 538 | -4.7 |
| Centers for Medicare and Medicaid Services | 80 | 70 | 41 | -41.4 |
| Health Resources and Services Administration | 57 | 33 | 33 | 0.0 |
| National Institutes of Health | 27,875 | 27,805 | 27,810 | 0.0 |
| Departmental management (other) | 109 | 122 | 114 | -6.6 |
| Consumer and occupational health and safety (554) | 146 | 152 | 148 | -2.6 |
| Food and Drug Administration (DHHS) | 143 | 149 | 145 | -2.7 |
| Occupational Safety and Health Administration (DOL) | 3 | 3 | 3 | 0.0 |

DOL = Department of Labor.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Data for 2006 reflect supplemental appropriations enacted in Public Law 109-234.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

TABLE 22. Federal research and development budget authority for health (550): FY 2005–07

| (Millions of dollars) |
|-----------------------|
|-----------------------|

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 28,824 | 28,959 | 28,902 | -0.2 |
| Health care services and health research and training (551, 552) | 28,686 | 28,817 | 28,763 | -0.2 |
| Department of Health and Human Services | | | | |
| Agency for Healthcare Research and Quality | 341 | 341 | 341 | 0.0 |
| Centers for Disease Control and Prevention | 521 | 565 | 538 | -4.7 |
| Centers for Medicare and Medicaid Services | 80 | 70 | 41 | -41.4 |
| Health Resources and Services Administration | 57 | 33 | 33 | 0.0 |
| National Institutes of Health | 27,578 | 27,686 | 27,696 | 0.0 |
| Departmental management (other) | 109 | 122 | 114 | -6.6 |
| Consumer and occupational health and safety (554) | 138 | 142 | 139 | -2.1 |
| Food and Drug Administration (DHHS) | 135 | 139 | 136 | -2.2 |
| Occupational Safety and Health Administration (DOL) | 3 | 3 | 3 | 0.0 |

DOL = Department of Labor.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Data for 2006 reflect supplemental appropriations enacted in Public Law 109-234.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

| TABLE 23. | Federal research and development and R&D plant budget authorit | y for the Nationa | I Institutes of Healt | h: FY 2005–07 |
|----------------|--|-------------------|-----------------------|---------------|
| (Millions of d | ollars) | | | |
| | | 0005 | 000/ | 0007 |

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|-----------|
| Agency, by 2007 funding level | actual | preliminary | proposed | (% change |
| Fotal | 27,875 | 27,805 | 27,810 | 0.0 |
| National Cancer Institute | 4,758 | 4,724 | 4,685 | -0.8 |
| National Institute of Allergy and Infectious Diseases | 4,341 | 4,322 | 4,337 | 0.4 |
| National Heart, Lung, and Blood Institute | 2,850 | 2,830 | 2,809 | -0. |
| National Institute of Diabetes and Digestive and | | | | |
| Kidney Diseases | 1,808 | 1,798 | 1,788 | -0. |
| National Institute of General Medical Sciences | 1,754 | 1,746 | 1,734 | -0. |
| National Institute of Neurological Disorders and Stroke | 1,505 | 1,501 | 1,491 | -0. |
| National Institute of Mental Health | 1,351 | 1,343 | 1,335 | -0. |
| National Institute of Child Health and Human Development | 1,232 | 1,227 | 1,220 | -0. |
| National Center for Research Resources | 1,110 | 1,094 | 1,093 | -0. |
| National Institute on Aging | 1029 | 1,024 | 1,017 | -0. |
| National Institute on Drug Abuse | 985 | 976 | 971 | -0. |
| National Institute of Environmental Health Sciences ^a | 705 | 700 | 696 | -0 |
| Office of the Director | 405 | 528 | 668 | 26. |
| National Eye Institute | 656 | 654 | 649 | -0 |
| National Institute of Arthritis and Musculoskeletal | | | | |
| and Skin Diseases | 496 | 493 | 490 | -0. |
| National Human Genome Research Institute | 480 | 477 | 474 | -0 |
| National Institute on Alcohol Abuse and Alcoholism | 428 | 425 | 422 | -0. |
| National Institute on Deafness and Other Communication | | | | |
| Disorders | 381 | 380 | 378 | -0 |
| National Institute of Dental and Cranofacial Research | 375 | 373 | 370 | -0 |
| National Library of Medicine | 315 | 315 | 313 | -0. |
| National Institute of Biomedical Imaging and Bioengineering | 291 | 288 | 287 | -0. |
| National Center for Minority Health and Health Disparities | 196 | 195 | 194 | -0. |
| National Institute of Nursing Research | 128 | 127 | 126 | -0. |
| National Center for Complementary and Alternative Medicine | 118 | 117 | 116 | -0. |
| Buildings and facilities | 110 | 81 | 81 | 0. |
| John E. Fogarty International Center | 67 | 66 | 67 | 0. |

^a Includes funding from Superfund-related transfers and appropriations.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Institute totals exclude non-R&D components of institute budgets.

SOURCES: Departmental submission to Office of Management and Budget per MAX Schedule C and supplemental data obtained from National Institutes of Health budget office.

TABLE 24. Federal research and development budget authority for the National Institutes of Health: FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–0 |
|--|--------|-------------|----------|-----------|
| Agency, by 2007 funding level | actual | preliminary | proposed | (% change |
| Total | 27,578 | 27,686 | 27,696 | 0. |
| National Cancer Institute | 4,750 | 4,716 | 4,677 | -0. |
| National Institute of Allergy and Infectious Diseases | 4,193 | 4,292 | 4,312 | 0. |
| National Heart, Lung, and Blood Institute | 2,850 | 2,830 | 2,809 | -(|
| National Institute of Diabetes and Digestive and | | | | |
| Kidney Diseases | 1,808 | 1,798 | 1,788 | -0 |
| National Institute of General Medical Sciences | 1,754 | 1,746 | 1,734 | -(|
| National Institute of Neurological Disorders and Stroke | 1,505 | 1,501 | 1,491 | -(|
| National Institute of Mental Health | 1,351 | 1,343 | 1,335 | -(|
| National Institute of Child Health and Human Development | 1,232 | 1,227 | 1,220 | -(|
| National Center for Research Resources | 1,080 | 1,094 | 1,093 | -(|
| National Institute on Aging | 1,029 | 1,024 | 1,017 | - |
| National Institute on Drug Abuse | 985 | 976 | 971 | - |
| National Institute of Environmental Health Sciences ^a | 705 | 700 | 696 | - |
| Office of the Director | 405 | 528 | 668 | 2 |
| National Eye Institute | 656 | 654 | 649 | - |
| National Institute of Arthritis and Musculoskeletal | | | | |
| and Skin Diseases | 496 | 493 | 490 | - |
| National Human Genome Research Institute | 480 | 477 | 474 | - |
| National Institute on Alcohol Abuse and Alcoholism | 428 | 425 | 422 | - |
| National Institute on Deafness and Other Communication | | | | |
| Disorders | 381 | 380 | 378 | -(|
| National Institute of Dental and Cranofacial Research | 375 | 373 | 370 | -(|
| National Library of Medicine | 315 | 315 | 313 | -(|
| National Institute of Biomedical Imaging and Bioengineering | 291 | 288 | 287 | -(|
| National Center for Minority Health and Health Disparities | 196 | 195 | 194 | -(|
| National Institute of Nursing Research | 128 | 127 | 126 | -(|
| National Center for Complementary and Alternative Medicine | 118 | 117 | 116 | -(|
| John E. Fogarty International Center | 67 | 66 | 67 | (|

^a Includes funding from Superfund-related transfers and appropriations.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Institute totals exclude non-R&D and R&D facilities components of institute budgets.

SOURCES: Departmental submission to Office of Management and Budget per MAX Schedule C and supplemental data obtained from National Institutes of Health budget office.

| TABLE 25. Federal research and development budget authority for income security (600): FY 200 | 5–07 |
|---|------|
| (Millions of dollars) | |

| | 2005 | 2006 | 2007 | 2006-07 |
|--------------------------------------|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 35 | 27 | 27 | 0.0 |
| Social Security Administration (650) | 35 | 27 | 27 | 0.0 |

NOTE: Percent change derived from unrounded data.

SOURCES: Social Security Administration (SSA) submission to Office of Management and Budget per MAX Schedule C and supplemental data obtained from SSA budget office.

| TABLE 26. Federal research and development budget authority for international affairs (150): FY 2005–07 | |
|---|--|
| (Millions of dollars) | |

| | 2005 | 2006 | 2007 | 2006–07 |
|--|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 255 | 255 | 255 | 0.0 |
| Agency for International Development (151) | 223 | 223 | 223 | 0.0 |
| International Security Assistance (152) | 32 | 32 | 32 | 0.0 |

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

TABLE 27. Federal research and development and R&D plant budget authority for national defense (050): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|--|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 74,641 | 77,630 | 78,388 | 1.0 |
| Department of Defense, military (051) (DOD) | 70,269 | 73,215 | 74,076 | 1.2 |
| RDT&E | 68,826 | 71,776 | 73,156 | 1.9 |
| Defense agencies | 20,608 | 19,704 | 20,810 | 5.6 |
| Defense Advanced Research Projects Agency | 2,947 | 2,979 | 3,294 | 10.6 |
| Missile Defense Agency | 8,827 | 7,682 | 9,310 | 21.2 |
| Other defense agencies | 8,834 | 9,044 | 8,205 | -9.3 |
| Department of the Air Force | 20,550 | 21,998 | 24,397 | 10.9 |
| Department of the Army | 10,456 | 11,071 | 10,855 | -1.9 |
| Department of the Navy | 16,901 | 18,837 | 16,912 | -10.2 |
| Operational test and evaluation | 311 | 166 | 182 | 9.0 |
| Other military funding ^a | 1,443 | 1,439 | 920 | -36. |
| Department of Energy, atomic energy defense activities (053) (DOE) | 4,009 | 4,062 | 3,975 | -2. |
| Environmental restoration and waste management | 53 | 19 | 20 | 5.3 |
| Naval reactors development | 772 | 759 | 771 | 1.0 |
| Nonproliferation | 220 | 322 | 272 | -15. |
| Weapons activities | 2,962 | 2,959 | 2,908 | -1. |
| Other defense activities | 2 | 3 | 4 | 33.3 |
| Department of Homeland Security (DHS) | 363 | 353 | 337 | -4. |

RDT&E = research, development, test, and evaluation.

^a This item includes appropriate personnel costs in direct support of conduct of R&D, other appropriations funding certain DOD programs, and medical research funded outside RDT&E accounts.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Data for 2006 reflect supplemental appropriations enacted in Public Law 109-234.

SOURCES: DOD, DOE, and DHS submissions to Office of Management and Budget per MAX Schedule C; DOD, RDT&E Programs (R-1).

TABLE 28. Federal research and development budget authority for national defense (050): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|-----------|
| unding category and agency | actual | preliminary | proposed | (% change |
| otal | 74,047 | 76,884 | 77,781 | 1.: |
| Department of Defense, military (051) (DOD) | 70,134 | 73,129 | 74,057 | 1. |
| RDT&E | 68,826 | 71,776 | 73,156 | 1. |
| Defense agencies | 20,608 | 19,704 | 20,810 | 5. |
| Defense Advanced Research Projects Agency | 8,827 | 7,682 | 9,310 | 21. |
| Missile Defense Agency | 2,947 | 2,979 | 3,294 | 10. |
| Other defense agencies | 8,834 | 9,044 | 8,205 | -9. |
| Department of the Air Force | 20,550 | 21,998 | 24,397 | 10. |
| Department of the Army | 10,456 | 11,071 | 10,855 | -1. |
| Department of the Navy | 16,901 | 18,837 | 16,912 | -10 |
| Operational test and evaluation | 311 | 166 | 182 | 9. |
| Other military funding ^a | 1,308 | 1,353 | 901 | -33. |
| Department of Energy, atomic energy defense activities (053) (DOE) | 3,561 | 3,409 | 3,387 | -0. |
| Environmental restoration and waste management | 53 | 19 | 20 | 5. |
| Naval reactors development | 700 | 690 | 711 | 3. |
| Nonproliferation | 146 | 163 | 171 | 4. |
| Weapons activities | 2,660 | 2,534 | 2,481 | -2. |
| Other defense activities | 2 | 3 | 4 | 33. |
| Department of Homeland Security (DHS) | 352 | 347 | 337 | -2 |

RDT&E = research, development, test, and evaluation.

^a This item includes appropriate personnel costs in direct support of conduct of R&D, other appropriations funding certain DOD programs, and medical research funded outside RDT&E accounts.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Data for 2006 reflect supplemental appropriations enacted in Public Law 109-234.

SOURCES: DOD, DOE, and DHS submissions to Office of Management and Budget per MAX Schedule C; DOD, RDT&E Programs (R-1).

| | 2005 | 2006 | 2007 | 2006—0 |
|--|--------|-------------|----------|-----------|
| Funding category and agency | actual | preliminary | proposed | (% change |
| Total RDT&E (budget authority) | 68,826 | 71,776 | 73,156 | 1. |
| Total RDT&E (TOA) ^a | 69,296 | 71,882 | 73,156 | 1. |
| Basic research | 1,485 | 1,470 | 1,422 | -3 |
| Defense agencies | 240 | 260 | 284 | 9 |
| Department of the Air Force | 374 | 363 | 370 | 2 |
| Department of the Army | 393 | 372 | 312 | -16 |
| Department of the Navy | 478 | 475 | 456 | -4 |
| Applied research | 4,788 | 5,168 | 4,478 | -13 |
| Defense agencies | 1,924 | 2,049 | 2,181 | 6 |
| Department of the Air Force | 924 | 1,071 | 973 | -9 |
| Department of the Army | 1,138 | 1,250 | 685 | -45 |
| Department of the Navy | 802 | 799 | 639 | -20 |
| Advanced technology development | 6,768 | 6,610 | 5,183 | -21 |
| Defense agencies | 3,340 | 3,188 | 3,152 | -1 |
| Department of the Air Force | 925 | 1,010 | 805 | -20 |
| Department of the Army | 1,480 | 1,389 | 722 | -48 |
| Department of the Navy | 1,008 | 1,022 | 505 | -50 |
| Operational test and evaluation | 15 | 0 | 0 | I |
| Advanced component development and prototypes | 14,572 | 13,925 | 15,387 | 10 |
| Defense agencies | 8,842 | 7,717 | 9,285 | 20 |
| Department of the Air Force | 1,767 | 2,201 | 2,742 | 24 |
| Department of the Army | 871 | 507 | 441 | -13 |
| Department of the Navy | 3,091 | 3,500 | 2,919 | -16 |
| System development and demonstration | 16,558 | 19,365 | 19,277 | -C |
| Defense agencies | 428 | 645 | 551 | -14 |
| Department of the Air Force | 4,341 | 4,830 | 4,571 | -5 |
| Department of the Army | 4,371 | 5,061 | 6,239 | 23 |
| Department of the Navy | 7,418 | 8,829 | 7,915 | -10 |
| Management support | 4,728 | 4,032 | 3,938 | -2 |
| Defense agencies | 1,109 | 975 | 786 | -19 |
| Department of the Air Force | 1,129 | 975 | 1,042 | 6 |
| Department of the Army | 1,197 | 1,139 | 1,164 | 2 |
| Department of the Navy | 998 | 778 | 765 | -1 |
| Operational test and evaluation | 296 | 166 | 182 | 9 |
| Operational systems development | 20,398 | 21,312 | 23,471 | 10 |
| Defense agencies | 4,972 | 4,871 | 4,571 | -6 |
| Department of the Air Force | 11,018 | 11,611 | 13,893 | 19 |
| Department of the Army | 1,127 | 1,362 | 1,293 | -5 |
| Department of the Navy | 3,281 | 3,468 | 3,713 | 7 |
| Adjustment for RDT&E budget authority ^a | -470 | -106 | 0 | -100 |

| TABLE 29. Total obligational authority for Department of Defense research, development, test, and evaluation budget: FY 2005–07 | |
|---|--|
| (Millions of dollars) | |

RDT&E = research, development, test, and evaluation.

TOA = total obligational authority.

^a Detailed budget information on Department of Defense (DOD) RDT&E activities is available only in TOA, which is the sum of new budget authority, unobligated budget authority from previous years, and other authorized credits. Adjustment converts TOA to budget authority by subtracting unobligated budget from authority from previous years and other authorized credits from TOA.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data. Data for 2006 reflect supplemental appropriations enacted in Public Law 109-234.

SOURCES: Data derived from DOD, RDT&E Programs (R-1); and Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2007* (Washington, DC: U.S. Government Printing Office, 2006).

| TABLE 30. | Federal research and development and R&D plant budget authorit | y for natural resour | rces and environme | ent (300): FY 2005–07 |
|----------------|--|----------------------|--------------------|-----------------------|
| (Millions of d | ollars) | | | |
| | | 0005 | 000/ | 0007 |

| | 2005 | 2006 | 2007 | 2006-0 |
|---|--------|-------------|----------|-----------|
| Funding category and agency | actual | preliminary | proposed | (% change |
| Total | 2,245 | 2,202 | 2,043 | -7. |
| Pollution control and abatement (304) | | | | |
| Environmental Protection Agency | 641 | 600 | 557 | -7 |
| Science and technology | 599 | 568 | 528 | -7 |
| Superfund | 39 | 30 | 28 | -8 |
| Leaking underground storage tanks | 1 | 1 | 1 | C |
| Oil spill response research | 1 | 1 | 1 | C |
| Other accounts | 2 | 0 | 0 | |
| Conservation and land management (302) | 358 | 354 | 342 | -3 |
| Forest Service (USDA) | 316 | 313 | 302 | -; |
| Department of the Interior ^a | 42 | 41 | 40 | -2 |
| Recreational resources (303) | 190 | 198 | 187 | |
| U.S. Geological Survey (DOI) | 172 | 179 | 173 | - |
| National Park Service (DOI) | 18 | 19 | 14 | -2 |
| Water resources (301) | 36 | 53 | 20 | -6 |
| Army Corps of Engineers (DOD) | 21 | 37 | 11 | -7 |
| Bureau of Reclamation (DOI) | 15 | 16 | 9 | -4 |
| Other natural resources (306) | 1,020 | 997 | 937 | - |
| National Oceanic and Atmospheric Administration (DOC) | 646 | 617 | 578 | - |
| Oceanic and atmospheric research | 338 | 322 | 324 | |
| Climate research | 177 | 170 | 181 | |
| All other research | 161 | 152 | 143 | - |
| National ocean service | 101 | 95 | 81 | -1 |
| National marine fisheries service | 63 | 73 | 52 | -2 |
| National environmental satellite, data, and information service | 31 | 31 | 29 | - |
| National weather service | 22 | 23 | 35 | 4 |
| All other NOAA | 90 | 73 | 58 | -2 |
| U.S. Geological Survey | 374 | 380 | 359 | -! |
| Geologic and mineral resource surveys and mapping | 210 | 212 | 194 | - |
| Water resources investigations | 126 | 126 | 115 | -{ |
| National mapping, geography, and survey | 36 | 40 | 46 | 1! |
| Enterprise information | 1 | 1 | 4 | 180 |

DOC = Department of Commerce; DOD = Department of Defense; DOI = Department of the Interitor; NOAA = National Oceanic and Atmospheric Administration; USDA = U.S. Department of Agriculture.

^a Includes Bureau of Land Management, Office of Surface Mining and Reclamation, and Minerals Management Service.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

| (Millions of dollars) | |
|-----------------------|------|
| | |

| | 2005 | 2006 | 2007 | 2006–0 |
|---|--------|-------------|----------|-----------|
| Funding category and agency | actual | preliminary | proposed | (% change |
| Total | 2,168 | 2,136 | 2,004 | -6. |
| Pollution control and abatement (304) | | | | |
| Environmental Protection Agency | 641 | 600 | 557 | -7 |
| Science and technology | 599 | 568 | 528 | -7 |
| Superfund | 39 | 30 | 28 | -8 |
| Leaking underground storage tanks | 1 | 1 | 1 | C |
| Oil spill response research | 1 | 1 | 1 | C |
| Other accounts | 2 | 0 | 0 | I |
| Conservation and land management (302) | 337 | 339 | 327 | -3 |
| Forest Service (USDA) | 298 | 301 | 290 | -3 |
| Department of the Interior ^a | 39 | 38 | 37 | -2 |
| Recreational resources (303) | 190 | 198 | 187 | -5 |
| U.S. Geological Survey (DOI) | 172 | 179 | 173 | -3 |
| National Park Service (DOI) | 18 | 19 | 14 | -26 |
| Water resources (301) | 36 | 53 | 20 | -62 |
| Army Corps of Engineers (DOD) | 21 | 37 | 11 | -70 |
| Bureau of Reclamation (DOI) | 15 | 16 | 9 | -43 |
| Other natural resources (306) | 964 | 946 | 913 | -3 |
| National Oceanic and Atmospheric Administration (DOC) | 590 | 566 | 554 | -2 |
| Oceanic and atmospheric research | 338 | 322 | 324 | (|
| Climate research | 177 | 170 | 181 | ť |
| All other research | 161 | 152 | 143 | -6 |
| National ocean service | 101 | 95 | 81 | -15 |
| National marine fisheries service | 63 | 73 | 52 | -28 |
| National environmental satellite, data, and information service | 31 | 31 | 29 | -5 |
| National weather service | 22 | 23 | 35 | 48 |
| All other NOAA | 34 | 22 | 34 | 52 |
| U.S. Geological Survey | 374 | 380 | 359 | -5 |
| Geologic and mineral resource surveys and mapping | 210 | 212 | 194 | -8 |
| Water resources investigations | 126 | 126 | 115 | -8 |
| National mapping, geography, and survey | 36 | 40 | 46 | 15 |
| Enterprise information | 1 | 1 | 4 | 180 |

DOC = Department of Commerce; DOD = Department of Defense; DOI = Department of the Interitor; NOAA = National Oceanic and Atmospheric Administration; USDA = U.S. Department of Agriculture.

^a Includes Bureau of Land Management, Office of Surface Mining and Reclamation, and Minerals Management Service.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

TABLE 32. Federal research and development and R&D plant budget authority for space research and technology (252): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006–07 |
|--|--------|-------------|----------|------------|
| Agency | actual | preliminary | proposed | (% change) |
| Total | 9,656 | 10,411 | 11,478 | 10.2 |
| National Aeronautics and Space Administration (NASA) | | | | |
| Constellation systems | 412 | 1,723 | 3,047 | 76.8 |
| Earth-sun system | 2,304 | 2,162 | 2,209 | 2.2 |
| Education programs | 179 | 162 | 153 | -5.6 |
| Exploration systems | 899 | 693 | 646 | -6.7 |
| Human systems | 888 | 624 | 275 | -56.0 |
| Innovative partnerships | 199 | 215 | 198 | -7.9 |
| Shared capabilities | 0 | 0 | 32 | na |
| Space station | 1,591 | 1,753 | 1,811 | 3.3 |
| Solar system exploration | 1,709 | 1,571 | 1,598 | 1.7 |
| Universe | 1,475 | 1,508 | 1,509 | 0.1 |

na = not applicable.

NOTES: Includes funds for research and research program management but excludes fixed capital equipment costs. Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: NASA submissions to Office of Management and Budget per MAX Schedule C, NASA budget justification documents, and supplemental data obtained from NASA budget and NASA budget office.

| | 2005 | 2006 | 2007 | 2006-07 |
|--|--------|-------------|----------|------------|
| Agency | actual | preliminary | proposed | (% change) |
| Total | 7,300 | 8,256 | 9,268 | 12.3 |
| National Aeronautics and Space Administration (NASA) | | | | |
| Constellation systems | 0 | 1,723 | 3,047 | 76.8 |
| Earth-sun system | 2,289 | 2,147 | 2,179 | 1.5 |
| Education programs | 179 | 162 | 153 | -5.6 |
| Exploration systems | 899 | 557 | 374 | -32.9 |
| Human systems | 577 | 400 | 195 | -51.2 |
| Innovative partnerships | 199 | 215 | 198 | -7.9 |
| Shared capabilities | 0 | 0 | 32 | na |
| Space station | 0 | 0 | 0 | na |
| Solar system exploration | 1,682 | 1,544 | 1,581 | 2.4 |
| Universe | 1,475 | 1,508 | 1,509 | 0.1 |

TABLE 33. Federal research and development budget authority for space research and technology (252): FY 2005–07 (Millions of dollars)

na = not applicable.

NOTES: Includes funds for research and research program management but excludes fixed capital equipment costs. Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: NASA submissions to Office of Management and Budget per MAX Schedule C, NASA budget justification documents, and supplemental data obtained from NASA budget and NASA budget office.

TABLE 34. Federal research and development and R&D plant budget authority for transportation (400): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006-07 |
|---|--------|-------------|----------|------------|
| Funding category and agency | actual | preliminary | proposed | (% change) |
| Total | 1,866 | 1,741 | 1,507 | -13.5 |
| Air transportation (402) | 1,403 | 1,194 | 960 | -19.6 |
| National Aeronautics and Space Administration, aeronautics ^a | 962 | 884 | 724 | -18. |
| Federal Aviation Administration (DOT) | 263 | 310 | 235 | -24.1 |
| Transportation Security Administration (DHS) | 178 | 0 | 0 | na |
| Ground transportation (401) (DOT) | 410 | 499 | 507 | 1.4 |
| Federal Highway Administration | 304 | 380 | 397 | 4.0 |
| National Highway Traffic Safety Administration | 61 | 58 | 51 | -12.0 |
| Federal Railroad Administration | 32 | 48 | 38 | -20. |
| Federal Motor Carrier Safety Administration | 8 | 9 | 12 | 43.2 |
| Federal Transit Administration | 4 | 6 | 8 | 45.9 |
| Water transportation (403) | 19 | 19 | 15 | -21.1 |
| U.S. Coast Guard (DHS) | 19 | 19 | 15 | -21.1 |
| Other transportation (407) ^b (DOT) | 34 | 29 | 26 | -12.3 |

na = not applicable.

DHS = Department of Homeland Security.

DOT = Department of Transportation.

^a Includes funds for research and research program management.

^b Includes Office of the Secretary, Pipeline and Hazardous Materials Safety Administration, and the Research and Innovative Technology Administration.

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

TABLE 35. Federal research and development budget authority for transportation (400): FY 2005–07 (Millions of dollars)

| | 2005 | 2006 | 2007 | 2006-07 |
|---|--------|-------------|----------|-----------|
| Funding category and agency | actual | preliminary | proposed | (% change |
| Total | 1,847 | 1,723 | 1,488 | -13.7 |
| Air transportation (402) | 1,386 | 1,177 | 942 | -19.9 |
| National Aeronautics and Space Administration, aeronautics ^a | 962 | 884 | 724 | -18.1 |
| Federal Aviation Administration (DOT) | 246 | 293 | 218 | -25.5 |
| Transportation Security Administration (DHS) | 178 | 0 | 0 | na |
| Ground transportation (401) (DOT) | 408 | 498 | 505 | 1.3 |
| Federal Highway Administration | 304 | 380 | 397 | 4.6 |
| National Highway Traffic Safety Administration | 61 | 58 | 51 | -12.0 |
| Federal Railroad Administration | 31 | 47 | 36 | -22.3 |
| Federal Motor Carrier Safety Administration | 8 | 9 | 12 | 43.2 |
| Federal Transit Administration | 4 | 6 | 8 | 45.9 |
| Water transportation (403) | 19 | 19 | 15 | -21.1 |
| U.S. Coast Guard (DHS) | 19 | 19 | 15 | -21.1 |
| Other transportation (407) ^b (DOT) | 34 | 29 | 26 | -12.3 |

na = not applicable.

DOT = Department of Transportation.

DHS = Department of Homeland Security.

^aIncludes funds for research and research program management. ^bIncludes Office of the Secretary, Pipeline and Hazardous Materials Safety

NOTES: Detail may not add to total because of rounding. Percent change derived from unrounded data.

SOURCES: Agencies' submissions to Office of Management and Budget per MAX Schedule C and supplemental data obtained from agencies' budget offices.

TABLE 36. Federal research and development budget authority for veterans benefits and services (700): FY 2005–07 (Millions of dollars)

| 2005 | 2006 | 2007 | 2006–07 |
|--------|---------------|-------------------------|------------------------------------|
| actual | preliminary | proposed | (% change) |
| 742 | 765 | 765 | 0.0 |
| | | | |
| 742 | 765 | 765 | 0.0 |
| | actual 742 | actualpreliminary742765 | actualpreliminaryproposed742765765 |

NOTE: Includes administration and operating expenses related to Department of Veterans Affairs research.

SOURCE: Department of Veterans Affairs submission to Office of Management and Budget per MAX Schedule C.

TABLE 37. Federal research and development obligations, budget authority, and budget authority for basic research, by budget function: FY 1955–2007 (Millions of dollars)

| · · · | _ | | | | | | | | Budget fu | unction | | | | | | | | |
|---|--|--|--|---|---|--|---|--|--|--|--|--|--|--|--|--|--|--|
| Federal R&D obligations and authority | All functions | Administration of justice | Agriculture | Commerce and housing credit | Community and regional development | Education, training, employment, and social services | Energy | General government | General science and basic research | Health | Income security | International affairs | National defense | Natural resources and environment | Space research and technology | Transportation | Veterans benefits and services | Other ^a |
| All R&D obligations 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 | 2,533 2,988 3,932 4,570 6,694 7,522 9,059 10,290 12,495 14,225 | NA NA NA NA NA NA NA | NA NA NA NA 125 136 146 165 | NA NA NA NA NA NA NA | NA NA NA NA NA NA NA NA | NA NA NA NA NA NA NA NA | NA NA NA NA 373 448 515 571 | NA NA NA NA NA NA NA | NA NA NA NA 137 187 246 277 | 67 83 140 177 233 305 405 551 626 728 | NA NA NA NA NA NA NA | NA NA NA NA NA NA NA | 2,151 2,535 3,327 3,801 5,556 6,107 7,005 7,238 7,764 7,829 | NA NA NA NA 73 108 120 134 | NA NA NA NA 777 1,413 2,812 4,241 | NA NA NA NA 55 101 142 122 | NA NA NA NA NA NA NA | 315 370 465 592 904 1,140 108 107 125 160 |
| 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 | 14,614 15,320 16,529 15,921 15,641 15,339 15,543 16,496 16,800 17,410 19,039 20,780 | NA NA 5 9 10 23 33 35 44 35 | 195 201 218 217 221 238 259 294 308 313 342 383 | NA 43 48 54 79 90 50 50 51 65 69 | NA NA 37 44 32 47 65 66 78 82 93 109 | NA NA 154 166 169 164 215 235 290 236 239 255 | 585 575 600 657 597 574 556 574 630 759 1,363 1,649 | NA NA 3 5 6 7 8 7 9 12 12 | 304 377 409 437 433 452 513 625 658 749 813 858 | 792 900 915 1,021 1,088 1,084 1,288 1,547 1,585 2,069 2,170 2,351 | NA NA 48 50 78 136 145 106 106 71 72 48 | NA NA 18 17 26 32 32 29 28 24 24 29 42 | 7,342 7,536 8,566 8,356 7,981 8,110 8,902 9,002 9,002 9,016 9,679 10,430 | 159 189 320 331 323 340 416 479 554 516 624 683 | 4,887 4,976 4,778 4,304 3,799 3,606 3,048 2,932 2,824 2,702 2,764 3,130 | 147 251 380 304 404 535 728 558 572 693 635 631 | NA 41 45 50 59 63 69 74 85 95 98 | 203 315 na na na na na na na na na |
| 1977 All R&D authority 1978 1979 1980 1981 1982 1983 1984 1985 1986 1985 1986 1987 1988 1989 | 23,450 25,976 28,208 29,739 33,735 36,115 38,768 44,214 49,887 53,249 57,069 59,106 62,115 63,781 | 30 44 47 45 34 31 37 24 47 41 49 51 45 44 | 457 501 552 585 659 693 745 762 836 815 822 882 907 950 | 71 77 93 101 106 104 107 110 114 111 110 122 128 140 | 101 92 127 119 104 63 44 46 50 88 99 108 74 67 | 230 345 354 468 298 228 189 200 220 248 267 285 347 374 | 2,562 3,134 3,461 3,603 3,501 2,578 2,581 2,389 2,286 2,053 2,126 2,419 2,726 | 13 20 23 22 20 10 6 8 17 14 17 17 15 17 | 974 1,050 1,119 1,233 1,340 1,359 1,502 1,676 1,862 1,873 2,042 2,160 2,373 2,410 | 2,629 2,968 3,401 3,694 3,871 3,869 4,298 4,779 5,418 5,565 6,556 7,076 7,773 8,308 | 55 67 47 43 32 26 21 14 25 23 27 33 | 66 57 117 125 160 165 177 192 210 211 223 224 279 375 | 11,864 12,899 13,791 14,946 18,413 22,070 24,936 29,287 33,698 36,926 39,152 40,099 40,642 39,925 | 753 904 1,010 999 1,061 965 952 963 1,059 1,062 1,133 1,160 1,255 1,386 | 2,832 2,939 3,136 2,738 3,111 2,584 2,134 2,300 2,725 2,894 3,398 3,683 4,555 5,765 | 708 768 798 887 869 791 876 1,040 1,030 917 908 896 1,064 1,045 | 107 111 123 126 143 139 157 218 193 183 215 195 212 216 | na na na na na na na na na na na na na |
| 1991 1992 | 65,898 68,398 | 51 51 | 1,052 1,155 | 178 192 | 88 127 | 433 365 | 2,953 3,099 | 4 | 2,635 2,659 | 9,226 10,055 | 30 37 | 378 371 | 39,328 40,083 | 1,582 1,688 | 6,511 6,744 | 1,231 1,523 | 219 245 | na na |

TABLE 37. Federal research and development obligations, budget authority, and budget authority for basic research, by budget function: FY 1955–2007 (Millions of dollars)

| | | | | | | | | | Budget f | unction | | | | | | | | |
|---|---|---|--|--|--|--|--|---|---|--|--|--|--|---|--|--|--|--|
| Federal R&D obligations and authority | All functions | Administration of justice | Agriculture | Commerce and housing credit | Community and regional development | Education, training, employment, and social services | Energy | General government | General science and basic research | Health | Income security | International affairs | National defense | Natural resources and environment | Space research and technology | Transportation | Veterans benefits and services | Other ^a |
| 1993 1994 1995 1996 1997 | 69,884 68,331 68,791 69,049 71,653 | 49 46 59 56 59 | 1,152 1,193 1,194 1,176 1,203 | 220 380 525 432 409 | 57 68 70 50 48 | 348 373 369 331 373 | 2,677 2,873 2,844 2,521 2,372 | * 0 1 2 2 | 2,691 2,712 2,794 2,846 2,944 | 10,280 10,993 11,407 11,867 12,670 | 36 45 43 16 9 | 382 254 287 252 190 | 41,249 37,764 37,204 37,801 39,591 | 1,802 2,062 1,988 1,802 1,886 | 6,988 7,414 7,916 7,844 7,844 | 1,703 1,888 1,833 1,795 1,785 | 250 265 257 259 267 | na na na na na |
| 1998 1999 2000 2001 2002 2003 2004 2005 2006 preliminary 2007 proposed | 73,569 77,637 78,664 86,756 97,624 112,544 121,867 126,601 130,827 132,578 | 72 88 73 88 91 299 684 758 994 895 | 1,249 1,288 1,426 1,657 1,606 1,708 1,750 1,820 1,866 1,610 | 398 432 406 429 467 463 454 423 386 395 | 42 59 46 54 50 48 47 45 55 68 | 444 403 418 411 411 430 459 470 479 478 | 948 1,131 996 1,314 1,327 1,403 1,343 1,296 1,370 1,346 | 2 3 6 3 0 0 0 0 0 0 0 | 4,360 4,690 4,977 5,468 5,753 6,129 6,466 6,570 6,672 7,294 | 13,576 15,553 17,869 20,758 23,560 26,517 28,251 28,824 28,959 28,902 | 18 38 25 30 37 38 47 35 27 27 | 163 190 200 252 279 269 264 255 255 255 | 39,823 41,306 42,580 45,713 53,016 63,048 69,593 74,047 76,884 77,781 | 1,855 1,842 1,999 2,096 2,160 2,151 2,168 2,168 2,168 2,136 2,004 | 8,198 8,245 5,363 6,126 6,270 7,355 7,612 7,300 8,256 9,268 | 1,833 1,725 1,636 1,640 1,838 1,869 1,863 1,847 1,723 1,488 | 587 644 645 719 756 817 866 742 765 765 | na na na na na na na na na na |
| Authority for basic research 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 | 3,665 4,108 4,716 5,107 5,305 6,247 7,072 7,810 8,193 9,021 | 10 10 9 5 4 4 5 4 5 8 | 197 222 246 281 295 326 353 406 390 397 | 9 10 15 17 17 19 20 23 26 26 | 8 8 5 7 6 5 6 4 | 57 59 61 66 78 70 77 86 83 78 | 157 172 200 220 260 320 365 428 456 511 | 0 * 3 3 3 4 5 4 | 962 1,026 1,152 1,256 1,296 1,439 1,606 1,779 1,795 1,942 | 1,246 1,579 1,761 1,953 2,475 2,813 3,243 3,324 3,324 3,851 | 2 1 3 0 0 0 0 0 0 0 | * 0 12 10 10 3 4 5 3 | 320 365 552 610 696 788 845 856 960 900 | 207 131 136 131 139 156 192 206 204 206 | 412 440 482 445 434 501 646 498 737 843 | 70 75 79 89 102 117 125 255 184 231 | 9 10 14 15 13 14 15 15 15 15 | na na na na na na na na na |
| 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 | 9,553 10,648 11,288 12,405 12,973 13,440 13,552 13,772 14,442 14,961 | 8 7 9 6 5 5 5 9 12 13 | 428 433 456 486 528 553 567 565 547 548 | 28 29 31 39 35 34 38 35 37 34 | 7 3 10 11 10 9 3 0 0 | 83 92 106 115 118 121 145 153 140 142 | 571 703 761 878 921 917 921 930 1,182 1,288 | 5 3 0 0 0 0 0 0 0 0 | 2,061 2,265 2,306 2,526 2,532 2,553 2,542 2,622 2,622 2,662 2,753 | 4,087 4,413 4,661 5,021 5,506 5,700 5,889 6,068 6,395 6,852 | 0 0 0 0 0 0 0 0 0 0 0 | 3 3 4 6 8 6 0 2 2 | 905 965 964 1,188 1,147 1,323 1,174 1,181 1,165 1,090 | 210 331 336 389 383 376 224 187 147 153 | 944 1,099 1,389 1,479 1,588 1,796 1,614 1,685 1,653 | 197 287 242 246 266 238 220 389 456 420 | 17 16 16 16 16 16 16 13 14 | na na na na na na na na |
| 1998 1999 2000 | 15,523 17,433 19,470 | 16 18 20 | 571 602 651 | 35 41 39 | 0 0 0 | 133 99 107 | 34 36 36 | 0 0 0 | 4,121 4,464 4,722 | 7,356 8,634 10,099 | 0 0 0 | 1 0 42 | 1,067 1,110 1,184 | 145 142 146 | 1,610 1,667 1,616 | 411 358 542 | 23 263 266 | na na na |

TABLE 37. Federal research and development obligations, budget authority, and budget authority for basic research, by budget function: FY 1955–2007 (Millions of dollars)

| | _ | | | | | | | | Budget fi | unction | | | | | | | | |
|------------------|------------------|---------------------------|-------------|-----------------------------|------------------------------------|---|--------|--------------------|------------------------------------|---------|-----------------|-----------------------|------------------|-----------------------------------|-------------------------------|----------------|--------------------------------|--------------------|
| 5 | All functions | Administration of justice | Agriculture | Commerce and housing credit | Community and regional development | Education, training, employment, and social services | Energy | General government | General science and basic research | Health | Income security | International affairs | National defense | Natural resources and environment | Space research and technology | Transportation | Veterans benefits and services | Other ^a |
| 2001 | 21,376 | 27 | 749 | 50 | 0 | 112 | 40 | 0 | 5,187 | 11,642 | 0 | 50 | 1,303 | 215 | 1,695 | 17 | 289 | na |
| 2002 | 23,848 | 30 | 762 | 56 | 0 | 115 | 45 | 0 | 5,561 | 12,957 | 0 | 53 | 1,404 | 471 | 1,912 | 17 | 465 | na |
| 2003 | 25,323 | 42 | 824 | 53 | 1 | 125 | 40 | 0 | 5,907 | 14,162 | 0 | 18 | 1,409 | 185 | 2,206 | 23 | 327 | na |
| 2004 | 26,529 | 58 | 780 | 46 | 0 | 125 | 32 | 0 | 6,198 | 14,850 | 0 | 18 | 1,380 | 201 | 2,473 | 20 | 347 | na |
| 2005 | 27,678 | 42 | 789 | 53 | 0 | 130 | 31 | 0 | 6,238 | 15,826 | 0 | 18 | 1,508 | 195 | 2,486 | 65 | 297 | na |
| 2006 preliminary | 27,834 | 75 | 797 | 56 | 0 | 143 | 12 | 0 | 6,353 | 15,995 | 0 | 18 | 1,502 | 194 | 2,318 | 65 | 306 | na |
| 2007 proposed | 28,188 | 41 | 740 | 87 | 0 | 148 | 8 | 0 | 6,916 | 16,026 | 0 | 18 | 1,452 | 164 | 2,214 | 68 | 306 | na |

* = less than \$500,000.

na = not applicable.

NA = not available; data were not collected for all budget functions in all years.

^aIncludes amounts for all functions for which data were not explicitly collected.

NOTES: Detail may not add to total because of rounding. In FY 2004 the Department of Homeland Security changed its R&D portfolio to reclassify funding in general science and basic research and in agriculture as administration of justice. In FY 2000 the National Aeronautics and Space Administration transferred funding for the space station program from R&D to R&D plant, this change reflected in the budget authority for space research and technology. In FY 2000 the National Institutes of Health in the Department of Health and Human Services classified all of its previous development activities as basic research, which resulted in an increase in health basic research. In FY 1998 many Department of Energy programs were reclassified from energy to general science and basic research, and the Department of Veterans Affairs began reporting medical care support funds as part of its total research budgetary resources, this change reflected in budget authority for veteran benefits and services.

SOURCES: 1955–94 data are from agencies' submissions to Office of Management and Budget, Circular No. A-11, Exhibit 44A, "Research and Development Activities," and supplemental data obtained from agencies' budget offices. 1995–2007 data are from agencies' submissions to Office of Management and Budget per MAX Schedule C, budget justification documents, and supplemental data obtained from agencies' budget offices.

| TABLE 38. Federa | I research and develor | ment for national | defense and civilia | an functions: FY 1955–2007 |
|------------------|------------------------|-------------------|---------------------|----------------------------|
| | | | | |

| Fiscal year | Total | National defense | Civilian functions | Total | National defense | Civilian function |
|-----------------|--------|---------------------|--------------------|-------|------------------|-------------------|
| | | current \$ millions | | | % distribution | |
| R&D obligations | | | | | | |
| 1955 | 2,533 | 2,151 | 382 | 100.0 | 84.9 | 15.1 |
| 1956 | 2,988 | 2,535 | 453 | 100.0 | 84.8 | 15.2 |
| 1957 | 3,932 | 3,327 | 605 | 100.0 | 84.6 | 15.4 |
| 1958 | 4,570 | 3,801 | 769 | 100.0 | 83.2 | 16.8 |
| 1959 | 6,694 | 5,556 | 1,138 | 100.0 | 83.0 | 17.0 |
| 1960 | 7,552 | 6,107 | 1,445 | 100.0 | 80.9 | 19.1 |
| 1961 | 9,059 | 7,005 | 2,054 | 100.0 | 77.3 | 22.7 |
| 1962 | 10,290 | 7,238 | 3,052 | 100.0 | 70.3 | 29.7 |
| 1963 | 12,495 | 7,764 | 4,731 | 100.0 | 62.1 | 37.9 |
| 1964 | 14,225 | 7,829 | 6,396 | 100.0 | 55.0 | 45.0 |
| 1965 | 14,614 | 7,342 | 7,272 | 100.0 | 50.2 | 49.8 |
| 1966 | 15,320 | 7,536 | 7,784 | 100.0 | 49.2 | 50.8 |
| 1967 | 16,529 | 8,566 | 7,963 | 100.0 | 51.8 | 48.2 |
| 1968 | 15,921 | 8,275 | 7,646 | 100.0 | 52.0 | 48.0 |
| 1969 | 15,641 | 8,356 | 7,285 | 100.0 | 53.4 | 46.6 |
| 1970 | 15,339 | 7,981 | 7,358 | 100.0 | 52.0 | 48.0 |
| 1971 | 15,543 | 8,110 | 7,433 | 100.0 | 52.2 | 47.8 |
| 1972 | 16,496 | 8,902 | 7,594 | 100.0 | 54.0 | 46.0 |
| 1973 | 16,800 | 9,002 | 7,798 | 100.0 | 53.6 | 46.4 |
| 1974 | 17,410 | 9,016 | 8,394 | 100.0 | 51.8 | 48.2 |
| 1975 | 19,039 | 9,679 | 9,360 | 100.0 | 50.8 | 49.2 |
| 1976 | 20,780 | 10,430 | 10,350 | 100.0 | 50.2 | 49.8 |
| 1977 | 23,450 | 11,864 | 11,586 | 100.0 | 50.6 | 49.4 |
| R&D authority | | | | | | |
| 1978 | 25,976 | 12,899 | 13,077 | 100.0 | 49.7 | 50.3 |
| 1979 | 28,208 | 13,791 | 14,417 | 100.0 | 48.9 | 51.1 |
| 1980 | 29,739 | 14,946 | 14,793 | 100.0 | 50.3 | 49.7 |
| 1981 | 33,735 | 18,413 | 15,322 | 100.0 | 54.6 | 45.4 |
| 1982 | 36,115 | 22,070 | 14,045 | 100.0 | 61.1 | 38.9 |
| 1983 | 38,768 | 24,936 | 13,832 | 100.0 | 64.3 | 35.7 |
| 1984 | 44,214 | 29,287 | 14,927 | 100.0 | 66.2 | 33.8 |
| 1985 | 49,887 | 33,698 | 16,189 | 100.0 | 67.5 | 32.5 |
| 1986 | 53,249 | 36,926 | 16,323 | 100.0 | 69.3 | 30.7 |
| 1987 | 57,069 | 39,152 | 17,917 | 100.0 | 68.6 | 31.4 |
| 1988 | 59,106 | 40,099 | 19,007 | 100.0 | 67.8 | 32.2 |
| 1989 | 62,115 | 40,642 | 21,473 | 100.0 | 65.5 | 34.5 |
| 1990 | 63,781 | 39,925 | 23,856 | 100.0 | 62.6 | 37.4 |
| 1991 | 65,898 | 39,328 | 26,570 | 100.0 | 59.7 | 40.3 |
| 1992 | 68,398 | 40,083 | 28,315 | 100.0 | 58.6 | 41.4 |
| 1993 | 69,884 | 41,249 | 28,635 | 100.0 | 59.0 | 41.0 |
| 1994 | 68,331 | 37,764 | 30,566 | 100.0 | 55.3 | 44.7 |
| 1995 | 68,791 | 37,204 | 31,587 | 100.0 | 54.1 | 45.9 |
| 1996 | 69,049 | 37,801 | 31,248 | 100.0 | 54.7 | 45.3 |
| 1997 | 71,653 | 39,591 | 32,062 | 100.0 | 55.3 | 44.7 |
| 1998 | 73,569 | 39,823 | 33,746 | 100.0 | 54.1 | 45.9 |
| 1999 | 77,637 | 41,306 | 36,332 | 100.0 | 53.2 | 46.8 |
| 2000 | 78,664 | 42,580 | 36,084 | 100.0 | 54.1 | 45.9 |
| 2001 | 86,756 | 45,713 | 41,043 | 100.0 | 52.7 | 47.3 |
| 2002 | 97,624 | 53,016 | 44,608 | 100.0 | 54.3 | 45.7 |

| Fiscal year | Total | National defense | Civilian functions | Total | National defense | Civilian functions |
|------------------|---------|---------------------|--------------------|-------|------------------|--------------------|
| | | current \$ millions | | | % distribution | |
| 2003 | 112,544 | 63,048 | 49,495 | 100.0 | 56.0 | 44.0 |
| 2004 | 121,867 | 69,593 | 52,274 | 100.0 | 57.1 | 42.9 |
| 2005 | 126,601 | 74,047 | 52,554 | 100.0 | 58.5 | 41.5 |
| 2006 preliminary | 130,827 | 76,884 | 53,943 | 100.0 | 58.8 | 41.2 |
| 2007 proposed | 132,578 | 77,781 | 54,797 | 100.0 | 58.7 | 41.3 |

NOTES: National defense function includes Department of Defense military activities, Department of Energy atomic energy defense program, and defense-related R&D of Department of Homeland Security. Civilian functions include all other federally funded R&D activities.

SOURCES: Agencies' submissions to Office of Management and Budget, MAX Schedule C; budget justification documents; and supplemental data obtained from agencies' budget offices.

Appendix A. Agency and Budget Function Crosswalk

| | | | | | | | Budg | jet func | tion | | | | | | |
|---|---------------------------------|-------------------|-----------------------------------|--|---|--------------|--|--------------|-----------------------|-----------------------------|------------------------|---|-------------------------------------|----------------------|--------------------------------------|
| | Administration of justice (750) | Agriculture (350) | Commerce and housing credit (370) | Community and regional development (450) | Education, training, employment, and social services (500) | Energy (270) | General science and basic research (251) | Health (556) | Income security (600) | International affairs (150) | National defense (050) | Natural resources and environment (300) | Space research and technology (252) | Transportation (400) | Veterans benefits and services (700) |
| Agency | Ac | Ą | ŭ | ŭ | al | Er | Ğ | Η | ľ | | Ň | Ň | Sp | Tr | ž |
| Agency for International Development | | | | | | | | | | • | | - | | | |
| Army Corps of Engineers (Civil) | | _ | | | | | | | | | | • | | | |
| Department of Agriculture | | • | - | | | | | | | | | • | | | <u> </u> |
| Department of Commerce | | | • | | | | | | | | | • | | | |
| Department of Defense (Military) | | | | | | | | | | | • | | | | |
| Department of Education | | | | | • | _ | | | | | | | | | |
| Department of Energy | | | | | | • | • | | | | • | | | | <u> </u> |
| Department of Health and Human Services | | | | | • | | | • | | | | | | | <u> </u> |
| Department of Homeland Security | • | | | | | | | | | | • | | | • | <u> </u> |
| Department of Housing and Urban Development | | | | ٠ | | | | | | | | | | | <u> </u> |
| Department of Justice | • | | | | | | | | | | | | | | |
| Department of Labor | | | | | • | | | • | | | | • | | | <u> </u> |
| Department of the Interior | | | | | | | | | | | | • | | | <u> </u> |
| Department of Transportation | | | | | | | | | | | | | | • | |
| Department of Veterans Affairs | | | | | | | | | | | | | | | • |
| Environmental Protection Agency | | | | | | | | | | | | • | | • | |
| National Aeronautics and Space Administration | | | | | | | • | | | | | | • | • | |
| National Science Foundation | | | | | | | • | | | | | | | | |
| Nuclear Regulatory Commission | | | | | | • | | | | | | | | | |
| Smithsonian Institution | | | | | • | | | | | | | | | | |
| Social Security Administration | | | | | | • | | | • | | | | | | |
| Tennessee Valley Authority | | | | | | • | | | | | | | | | L |

• = R&D function funded by specified agency.

SOURCES: Agencies' submission to Office of Management and Budget, Circular No. A-11, Max Schedule C, "Research and Development Activities"; budget justification documents; and supplemental data from agencies' budget offices.

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