

INFOBRIEF

Science Resources Statistics

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FEDERAL EMPLOYMENT OF SCIENTISTS AND ENGINEERS REMAINED STEADY FROM 2003 TO 2005

by Steven Proudfoot¹

U.S. federal government data show little change in the number of scientists and engineers the government employed from 2003 to 2005—a net increase of 1.5%, or 3,127 individuals.² Only the Department of

State showed a double-digit percentage increase in its employment of scientists and engineers. Nine agencies showed decreases in the numbers of scientists and engineers employed during that time (table 1).

TABLE 1. Federal scientists and engineers, by agency: 2003–05

Agency	2003	2004	2005	% change 2003–05
All agencies	206,620	209,994	209,747	1.5
Department of Agriculture	19,975	20,550	20,407	2.2
Department of Commerce	11,179	11,203	11,293	1.0
Department of Defense	92,201	93,972	93,892	1.8
Department of the Air Force	16,672	17,192	17,632	5.8
Department of the Army	31,310	31,764	31,689	1.2
Department of the Navy	37,385	37,842	37,312	-0.2
Other defense agencies	6,834	7,174	7,259	6.2
Department of Energy	4,629	4,545	4,454	-3.8
Department of Health and Human Services	11,811	11,723	11,541	-2.3
Department of Housing and Urban Development	324	307	313	-3.4
Department of the Interior	14,993	15,085	14,933	-0.4
Department of Justice	2,583	2,653	2,663	3.1
Department of Labor	2,445	2,388	2,386	-2.4
Department of State	1,507	1,751	1,814	20.4
Department of Transportation	6,175	6,051	6,011	-2.7
Department of the Treasury	885	934	938	6.0
Department of Veterans Affairs	7,399	7,695	7,961	7.6
Environmental Protection Agency	9,838	9,748	9,761	-0.8
General Services Administration	825	831	841	1.9
National Aeronautics and Space Administration	11,029	11,349	11,133	0.9
National Science Foundation	496	507	510	2.8
Nuclear Regulatory Commission	1,420	1,483	1,534	8.0
U.S. International Development Cooperation Agency	191	185	181	-5.2
All other agencies	6,715	7,034	7,181	6.9

SOURCE: National Science Foundation tabulations from data provided by the Office of Personnel Management and the Defense Manpower Data Center.



Information and data from the Division of Science Resources Statistics are available on the web at <http://www.nsf.gov/statistics/>. To request a printed copy of this report go to <http://www.nsf.gov/publications/orderpub.jsp> or call (703) 292-PUBS (7827). For NSF's Telephonic Device for the Deaf, dial toll-free (800) 281-8749 or (703) 292-5090.

Overall, the number of scientists increased 2.5% and the number of engineers 0.1%. Within the major science occupational groups, physical scientists' numbers were the only ones to show a decrease (-2.0%). For engineers, civil and industrial engineers decreased 4.4% and 4.8%, respectively (table 2).

Federal Scientists and Engineers by Demographic

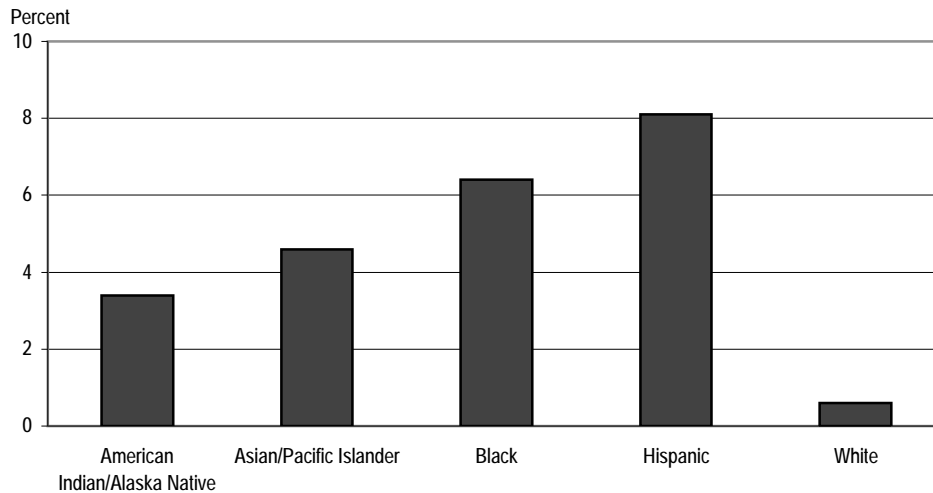
- *Race/Ethnicity.* Employment in federal science and engineering (S&E) jobs grew among all race/ethnicity categories, with Hispanics (8.1%) and blacks (6.4%) showing the largest percentage increases (figure 1).

TABLE 2. Federal scientists and engineers by major occupational group: 2003–05

Major occupational group	2003	2004	2005	% change 2003–05
All agencies	206,620	209,994	209,747	1.5
All scientists	120,357	122,857	123,411	2.5
Computer and mathematical scientists	40,054	41,403	41,922	4.7
Life scientists	34,559	35,317	35,351	2.3
Physical scientists	24,355	24,187	23,876	-2.0
Social scientists	21,389	21,950	22,262	4.1
All engineers	86,263	87,137	86,336	0.1
Aerospace engineers	8,236	8,427	8,292	0.7
Chemical engineers	1,084	1,103	1,090	0.6
Civil engineers	10,720	10,523	10,247	-4.4
Electrical, electronics, and computer engineers	27,070	27,385	27,060	0.0
Industrial engineers	1,705	1,648	1,624	-4.8
Mechanical engineers	9,645	9,838	9,701	0.6
Other engineers	27,803	28,213	28,322	1.9

SOURCE: National Science Foundation tabulations from data provided by the Office of Personnel Management and the Defense Manpower Data Center.

FIGURE 1. Percentage change in number of scientists and engineers employed by federal agencies, by race/ethnicity: 2003–05



SOURCE: National Science Foundation tabulations from data provided by the Office of Personnel Management and the Defense Manpower Data Center.

- *Sex.* The number of women in both federal science and federal engineering jobs increased about 6% from 2003 to 2005, with federal employment of male scientists and engineers remaining relatively stable (table 3).
- *Age.* The aging of the federal S&E workforce continued, with increases in all age groups 45 years and older and decreases among 35–44-year-olds. Workers age 45 and older constituted 57.8% of all federal scientists and engineers in 2005, up from 55.4% in 2003 (table 4).

TABLE 3. Federal scientists and engineers by sex: 2003–05

Sex	2003	2004	2005	% change 2003–05
All occupations	206,620	209,994	209,747	1.5
Female	49,410	51,381	52,230	5.7
Male	157,199	158,604	157,513	0.2
All scientists	120,357	122,857	123,411	2.5
Female	38,552	40,032	40,716	5.6
Male	81,797	82,818	82,693	1.1
All engineers	86,263	87,137	86,336	0.1
Female	10,858	11,349	11,514	6.0
Male	75,402	75,786	74,820	-0.8

NOTE: Those not reporting sex are included in total but not shown separately.

SOURCE: National Science Foundation tabulations from data provided by the Office of Personnel Management and the Defense Manpower Data Center.

TABLE 4. Federal scientists and engineers by age: 2003–05

Age	2003	2004	2005	% change 2003–05
All federal scientists and engineers	206,620	209,994	209,747	1.5
Under 35 years	29,924	31,591	31,504	5.3
35–39 years	24,829	23,207	21,629	-12.9
40–44 years	37,435	37,130	35,428	-5.4
45–49 years	36,058	37,442	38,687	7.3
50–54 years	34,520	34,978	35,554	3.0
55–59 years	26,273	27,163	27,884	6.1
60–64 years	12,165	12,767	13,183	8.4
65 years and over	5,416	5,716	5,878	8.5

SOURCE: National Science Foundation tabulations from data provided by the Office of Personnel Management and the Defense Manpower Data Center.

- *Location.* The West South Central geographic division showed the largest percentage growth in federal S&E employment, with an increase of 4.2%. All the other areas remained relatively stable in numbers of federal scientists and engineers employed during the period (table 5).

Data Sources and Limitations

Data for Department of Defense (DOD) agencies are from the Defense Manpower Data Center (DMDC), available at <http://www.dmdc.osd.mil/>. Data for federal agencies that are not part of the DOD are from the Central Personnel Data File (CPDF) of the Office of Personnel Management (OPM). In prior years, data for all agencies included in this report were obtained from a single source, the CPDF. Because data were obtained from two sources for this report (the DMDC and the CPDF), data may not be strictly comparable to that published in previous *Federal Scientists and Engineers* reports.

For further information on data quality, survey methodology, and error analyses on the data provided to the National Science Foundation by OPM, refer to FedScope at <http://www.fedscope.opm.gov/datadefn/acpdf.asp>. OPM federal civilian workforce statistics are available at http://www.opm.gov/Statistics_Information_Instructions/.

The full set of detailed tables related to this InfoBrief is available in the report *Federal Scientists and Engineers: 2003–05* at <http://www.nsf.gov/statistics/nsf09302/>. For more information on the data in this InfoBrief, please contact the author.

Notes

1. Steven Proudfoot, Human Resources Statistics Program, Division of Science Resources Statistics, National Science Foundation, 4201 Wilson Boulevard, Suite 965, Arlington VA 22230 (sproudfo@nsf.gov; 703-292-4434).

2. This report presents data on scientists and engineers employed by the U.S. government during the years 2003 through 2005. This population consists of individuals in selected white-collar civilian occupational

groups who hold at least a bachelor's degree and whom the agencies had indicated were hired into science and engineering occupations.

TABLE 5. Federal scientists and engineers by geographic division: 2003-05

Geographic division	2003	2004	2005	% change 2003-05
United States	206,620	209,994	209,747	1.5
New England	7,225	7,258	7,178	-0.7
Middle Atlantic	13,746	13,900	13,945	1.4
East North Central	15,225	15,392	15,279	0.4
West North Central	8,169	8,230	8,202	0.4
South Atlantic	84,925	86,435	86,591	2.0
East South Central	11,205	11,489	11,331	1.1
West South Central	14,116	14,523	14,712	4.2
Mountain	18,207	18,546	18,590	2.1
Pacific	30,831	31,213	30,816	0.0

NOTES: Individuals in U.S. territories or with location unknown are included in total but not shown separately. Geographic divisions are defined as follows. *New England*: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; *Middle Atlantic*: New Jersey, New York, Pennsylvania; *East North Central*: Illinois, Indiana, Michigan, Ohio, Wisconsin; *West North Central*: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; *South Atlantic*: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; *East South Central*: Alabama, Kentucky, Mississippi, Tennessee; *West South Central*: Arkansas, Louisiana, Oklahoma, Texas; *Mountain*: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming; *Pacific*: Alaska, California, Hawaii, Oregon, Washington.

SOURCE: National Science Foundation tabulations from data provided by the Office of Personnel Management and the Defense Manpower Data Center.

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