

## Appendix table 4-38

## Federal obligations for research, by detailed S&amp;E field: FYs 1991–2011

(Millions of current dollars)

Field of science and engineering	1991	1996	2001	2006	2007	2008	2009	2010	Preliminary 2011	Average annual growth rate		
										1991–2011	2001–11	2006–11
										Current \$millions		
										Percent		
Total, all fields	23,968.4	28,259.8	44,713.7	53,535.7	54,093.6	53,893.7	63,694.3	63,728.0	58,166.7	4.5	2.7	1.7
Environmental sciences	2,149.8	3,019.7	3,251.7	3,430.6	3,170.5	2,984.6	3,751.1	3,338.9	3,124.7	1.9	-0.4	-1.9
Atmospheric sciences	802.7	1,085.7	1,113.6	1,166.9	964.6	884.5	1,018.1	953.8	NA	–	–	–
Geological sciences	728.7	784.3	673.8	653.9	638.0	517.5	754.0	530.4	NA	–	–	–
Oceanography	398.6	574.3	681.1	745.8	787.8	788.7	834.2	743.7	NA	–	–	–
Environmental sciences nec	219.8	575.4	783.3	864.0	780.1	793.9	1,144.8	1,111.0	NA	–	–	–
Life sciences	9,622.0	12,064.3	23,057.3	27,927.7	29,463.6	28,918.8	33,267.1	33,909.1	30,202.7	5.9	2.7	1.6
Biological and agricultural	5,597.9	6,629.9	14,116.4	15,485.6	16,326.3	16,321.4	19,460.8	19,162.1	NA	–	–	–
Agricultural	680.3	616.0	1,007.7	1,108.2	1,139.4	1,020.3	1,120.4	1,131.9	NA	–	–	–
Biological (excluding environmental)	4,457.8	5,309.9	12,380.0	13,690.8	14,429.7	14,443.1	17,376.8	17,213.9	NA	–	–	–
Environmental biology	459.7	704.0	728.8	686.6	757.2	858.0	963.7	816.4	NA	–	–	–
Medical sciences	3,460.3	4,973.4	6,585.2	10,592.2	10,790.7	10,387.3	11,392.7	11,677.0	NA	–	–	–
Clinical medical	na	na	na	na	na	na	na	na	na	–	–	–
Other medical	na	na	na	na	na	na	na	na	na	–	–	–
Life sciences nec	563.8	461.1	2,355.7	1,849.9	2,346.5	2,210.1	2,413.6	3,070.0	NA	–	–	–
Mathematics and computer sciences	903.7	1,571.6	2,610.6	2,814.9	2,945.7	3,047.3	3,611.8	3,411.8	3,275.5	6.7	2.3	3.1
Computer sciences	584.9	1,119.8	2,022.8	1,987.8	2,077.7	2,053.0	2,422.2	2,362.0	NA	–	–	–
Mathematics	227.6	254.5	396.4	669.2	708.6	782.9	927.9	835.5	NA	–	–	–
Mathematics and computer sciences nec	91.1	197.3	191.4	157.9	159.4	211.4	261.6	214.4	NA	–	–	–
Physical sciences	4,235.3	3,923.0	4,600.8	5,351.1	5,136.1	5,072.6	5,821.1	5,870.8	5,534.0	1.3	1.9	0.7
Astronomy	631.7	729.0	759.2	792.5	655.9	527.9	671.5	559.9	NA	–	–	–
Chemistry	828.4	881.1	1,024.9	1,126.4	1,149.9	1,148.4	1,274.0	1,310.6	NA	–	–	–
Physics	2,460.9	1,991.3	2,461.7	3,001.8	2,939.2	2,968.9	3,356.1	3,470.1	NA	–	–	–
Physical sciences nec	314.3	321.6	354.9	430.5	391.1	427.4	519.6	530.2	NA	–	–	–
Psychology	482.4	525.0	741.9	1,747.3	1,837.9	1,740.8	2,086.3	2,155.6	1,905.0	7.1	9.9	1.7
Biological aspects	140.2	62.8	13.6	3.0	3.8	21.8	2.1	13.6	NA	–	–	–
Social aspects	197.5	83.4	59.8	40.9	36.8	18.8	50.8	74.5	NA	–	–	–
Psychological sciences nec	144.8	378.8	668.5	1,703.4	1,797.3	1,700.3	2,033.4	2,067.4	NA	–	–	–
Social sciences	727.3	654.6	1,008.6	1,123.9	1,147.1	977.0	1,159.2	1,197.3	1,221.9	2.6	1.9	1.7
Anthropology	16.0	18.3	15.6	15.1	16.1	17.4	29.4	24.7	NA	–	–	–
Economics	187.4	194.2	234.1	202.6	250.0	212.3	232.6	274.0	NA	–	–	–
Political science	17.0	16.7	19.5	44.6	41.2	29.2	24.6	14.2	NA	–	–	–
Sociology	184.0	41.2	95.5	144.2	217.6	95.2	138.8	132.3	NA	–	–	–
Social sciences nec	322.9	384.2	644.0	717.4	622.2	622.9	733.8	752.0	NA	–	–	–
History	na	na	na	na	na	na	na	na	na	–	–	–
Linguistics	na	na	na	na	na	na	na	na	na	–	–	–
Other social sciences	na	na	na	na	na	na	na	na	na	–	–	–
Other sciences nec	903.4	820.7	1,245.8	2,461.3	1,403.1	2,177.1	3,712.7	2,763.2	2,763.5	5.7	8.3	2.3
Engineering	4,944.5	5,680.9	8,197.0	8,678.7	8,989.7	8,975.5	10,285.0	11,081.2	10,139.4	3.7	2.1	3.2

Appendix table 4-38

**Federal obligations for research, by detailed S&E field: FYs 1991–2011**

(Millions of current dollars)

Field of science and engineering	1991	1996	2001	2006	2007	2008	2009	2010	Preliminary 2011	Average annual growth rate			
										1991–2011	2001–11	2006–11	
Aeronautical	1,016.2	1,249.4	2,430.1	1,229.2	929.2	810.3	907.8	830.1	NA	–	–	–	
Astronautical	653.1	526.6	752.7	476.3	341.0	288.1	370.2	389.9	NA	–	–	–	
Chemical	304.3	215.1	199.0	294.6	353.8	345.6	447.1	509.7	NA	–	–	–	
Civil	305.0	300.2	288.4	352.7	461.5	488.0	678.9	699.8	NA	–	–	–	
Electrical	729.9	669.7	889.7	1,035.5	1,027.5	1,046.5	1,254.0	1,360.9	NA	–	–	–	
Mechanical	335.5	294.0	319.2	298.2	337.2	292.4	314.3	363.6	NA	–	–	–	
Metallurgy and materials	710.7	989.0	1,080.8	1,250.0	1,479.8	1,623.9	1,721.6	1,758.8	NA	–	–	–	
Engineering nec	889.8	1,437.0	2,237.0	3,742.3	4,059.8	4,080.8	4,591.2	5,168.4	NA	–	–	–	
	2005 constant \$millions												
Total, all fields	32,030.4	33,876.5	49,103.6	51,775.3	50,811.2	49,475.5	57,641.9	57,144.9	51,149.1	2.4	0.4	-0.2	
Environmental sciences	2,872.9	3,619.9	3,570.9	3,317.8	2,978.1	2,739.9	3,394.7	2,994.0	2,747.7	-0.2	-2.6	-3.7	
Atmospheric sciences	1,072.7	1,301.5	1,222.9	1,128.5	906.0	812.0	921.4	855.3	NA	–	–	–	
Geological sciences	973.9	940.1	739.9	632.4	599.3	475.1	682.4	475.6	NA	–	–	–	
Oceanography	532.6	688.4	748.0	721.3	740.0	724.0	754.9	666.9	NA	–	–	–	
Environmental sciences nec	293.7	689.8	860.1	835.6	732.8	728.8	1,036.0	996.2	NA	–	–	–	
Life sciences	12,858.5	14,462.2	25,321.0	27,009.4	27,675.7	26,548.1	30,106.0	30,406.3	26,558.8	3.7	0.5	-0.3	
Biological and agricultural	7,480.8	7,947.6	15,502.4	14,976.4	15,335.6	14,983.4	17,611.6	17,182.7	NA	–	–	–	
Agricultural	909.2	738.4	1,106.6	1,071.7	1,070.3	936.6	1,013.9	1,015.0	NA	–	–	–	
Biological (excluding environmental)	5,957.2	6,365.3	13,595.4	13,240.7	13,554.1	13,259.1	15,725.6	15,435.7	NA	–	–	–	
Environmental biology	614.4	843.9	800.4	664.0	711.3	787.7	872.1	732.1	NA	–	–	–	
Medical sciences	4,624.2	5,961.8	7,231.7	10,243.9	10,136.0	9,535.8	NA	10,470.8	NA	–	–	–	
Clinical medical	na	na	na	na	na	na	na	na	NA	–	–	–	
Other medical	na	na	na	na	na	na	na	na	NA	–	–	–	
Life sciences nec	753.5	552.7	2,586.9	1,789.1	2,204.1	2,028.9	2,184.3	2,752.9	NA	–	–	–	
Mathematics and computer sciences	1,207.7	1,883.9	2,866.9	2,722.4	2,766.9	2,797.5	3,268.6	3,059.4	2,880.3	4.4	0.0	1.1	
Computer sciences	781.7	1,342.4	2,221.4	1,922.5	1,951.6	1,884.7	2,192.0	2,118.0	NA	–	–	–	
Mathematics	304.2	305.0	435.3	647.2	665.6	718.7	839.7	749.2	NA	–	–	–	
Mathematics and computer sciences nec	121.8	236.5	210.2	152.7	149.7	194.1	236.7	192.3	NA	–	–	–	
Physical sciences	5,659.9	4,702.7	5,052.5	5,175.1	4,824.4	4,656.7	5,268.0	5,264.3	4,866.3	-0.8	-0.4	-1.2	
Astronomy	844.1	873.8	833.7	766.4	616.1	484.6	607.7	502.1	NA	–	–	–	
Chemistry	1,107.1	1,056.2	1,125.5	1,089.3	1,080.1	1,054.2	1,152.9	1,175.2	NA	–	–	–	
Physics	3,288.7	2,387.1	2,703.4	2,903.1	2,760.9	2,725.5	3,037.2	3,111.6	NA	–	–	–	
Physical sciences nec	420.1	385.5	389.8	416.3	367.4	392.3	470.2	475.4	NA	–	–	–	
Psychology	644.7	629.4	814.8	1,689.9	1,726.3	1,598.1	1,888.1	1,932.9	1,675.2	4.9	7.5	-0.2	
Biological aspects	187.3	75.3	15.0	2.9	3.6	20.0	1.9	12.2	NA	–	–	–	
Social aspects	263.9	100.0	65.7	39.6	34.5	17.2	46.0	66.8	NA	–	–	–	
Psychological sciences nec	193.4	454.1	734.1	1,647.4	1,688.2	1,560.9	1,840.2	1,853.8	NA	–	–	–	
Social sciences	971.9	784.7	1,107.7	1,087.0	1,077.5	896.9	1,049.0	1,073.6	1,074.5	0.5	-0.3	-0.2	
Anthropology	21.4	22.0	17.1	14.6	15.1	16.0	26.6	22.1	NA	–	–	–	
Economics	250.5	232.8	257.0	195.9	234.9	194.9	210.5	245.7	NA	–	–	–	

## Appendix table 4-38

**Federal obligations for research, by detailed S&E field: FYs 1991–2011**

(Millions of current dollars)

Field of science and engineering	1991	1996	2001	2006	2007	2008	2009	2010	Preliminary 2011	Average annual growth rate		
										1991–2011	2001–11	2006–11
Political science	22.7	20.0	21.4	43.1	38.7	26.8	22.3	12.7	NA	–	–	–
Sociology	245.9	49.4	104.8	139.4	204.4	87.4	125.6	118.6	NA	–	–	–
Social sciences nec	431.5	460.5	707.2	693.8	584.4	571.8	664.1	674.3	NA	–	–	–
History	na	na	na	na	na	na	na	na	NA	–	–	–
Linguistics	na	na	na	na	na	na	na	na	NA	–	–	–
Other social sciences	na	na	na	na	na	na	na	na	NA	–	–	–
Other sciences nec	1,207.3	983.8	1,368.1	2,380.4	1,318.0	1,998.6	3,359.9	2,477.8	2,430.1	3.6	5.9	0.4
Engineering	6,607.6	6,810.0	9,001.8	8,393.4	8,444.2	8,239.7	9,307.7	9,936.5	8,916.1	1.5	-0.1	1.2
Aeronautical	1,358.1	1,497.7	2,668.6	1,188.8	872.8	743.9	821.5	744.4	NA	–	–	–
Astronautical	872.8	631.2	826.6	460.7	320.3	264.5	335.0	349.6	NA	–	–	–
Chemical	406.7	257.9	218.6	284.9	332.3	317.2	404.6	457.0	NA	–	–	–
Civil	407.6	359.8	316.7	341.1	433.5	448.0	614.4	627.5	NA	–	–	–
Electrical	975.4	802.8	977.1	1,001.4	965.1	960.7	1,134.8	1,220.3	NA	–	–	–
Mechanical	448.4	352.5	350.6	288.4	316.7	268.4	284.4	326.0	NA	–	–	–
Metallurgy and materials	949.7	1,185.5	1,186.9	1,208.9	1,390.0	1,490.8	1,558.0	1,577.1	NA	–	–	–
Engineering nec	1,189.1	1,722.6	2,456.6	3,619.3	3,813.5	3,746.2	4,154.9	4,634.5	NA	–	–	–

na = not applicable; data collected for this table were not recorded at that level in that particular fiscal year, or agency or subagency did not exist as such or in that organization in that year; NA = not available, data collected for this table were not recorded at that level in that particular fiscal year; nec = not elsewhere classified.

NOTES: Detail may not add to total due to rounding. Between FY 2006 and FY 2007, the National Aeronautics and Space Administration's (NASA's) R&D obligations decreased for two reasons: (1) In FY 2007, NASA excluded projects that were operational in nature that were not excluded in FY 2006, which accounts for \$850 million of the decrease, and (2) there was an overall decrease in obligations between FY 2006 and FY 2007, which accounts for the remainder of the decrease. In FY 2010, NASA resumed reporting obligations for the International Space Station as an R&D plant.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development (FYs 2010–12).

*Science and Engineering Indicators 2014*