

TABLE A-15. Standard errors for employed U.S. scientists and engineers, by level and field of highest degree and geographic division of employment: 2003

Level and field of highest degree	Employed scientists and engineers	Geographic division of employment								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
All degree levels and fields ^a	82,000	28,000	42,000	37,000	31,000	43,000	23,000	29,000	25,000	45,000
S&E fields	67,000	22,000	31,000	27,000	20,000	31,000	15,000	22,000	20,000	34,000
Sciences	64,000	20,000	28,000	24,000	19,000	29,000	14,000	18,000	19,000	31,000
Biological/agricultural/environmental life sciences	27,000	7,000	10,000	10,000	9,000	12,000	7,000	10,000	8,000	12,000
Agricultural sciences	12,000	3,000	5,000	5,000	4,000	4,000	3,000	6,000	4,000	5,000
Biological sciences	25,000	6,000	9,000	10,000	8,000	10,000	6,000	8,000	6,000	10,000
Environmental life sciences	9,000	2,000	3,000	3,000	3,000	5,000	2,000	2,000	3,000	4,000
Computer/mathematical sciences	24,000	8,000	9,000	9,000	8,000	11,000	5,000	8,000	6,000	11,000
Computer/information sciences	18,000	6,000	7,000	8,000	7,000	10,000	3,000	6,000	5,000	9,000
Mathematics/statistics	16,000	5,000	6,000	6,000	3,000	7,000	4,000	5,000	4,000	7,000
Physical/related sciences	16,000	5,000	8,000	5,000	3,000	6,000	3,000	6,000	5,000	7,000
Chemistry, except biochemistry	12,000	3,000	6,000	4,000	2,000	4,000	3,000	5,000	3,000	5,000
Earth/atmospheric/ocean sciences	9,000	3,000	4,000	3,000	2,000	3,000	1,000	3,000	4,000	4,000
Physics/astronomy	6,000	4,000	3,000	2,000	2,000	3,000	1,000	1,000	1,000	3,000
Other physical sciences	5,000	1,000	3,000	1,000	1,000	2,000	*	2,000	2,000	2,000
Social/related sciences	50,000	15,000	21,000	18,000	14,000	24,000	10,000	12,000	14,000	23,000
Economics	20,000	6,000	11,000	6,000	6,000	8,000	3,000	4,000	5,000	10,000
Political/related sciences	23,000	5,000	11,000	8,000	6,000	13,000	4,000	5,000	5,000	8,000
Psychology	28,000	9,000	12,000	13,000	7,000	14,000	7,000	8,000	8,000	13,000
Sociology/anthropology	20,000	6,000	9,000	8,000	5,000	12,000	3,000	5,000	8,000	10,000
Other social sciences	17,000	5,000	6,000	6,000	4,000	8,000	2,000	5,000	3,000	8,000
Engineering	28,000	8,000	11,000	13,000	7,000	13,000	7,000	10,000	8,000	12,000
Aerospace/aeronautical/astronautical engineering	7,000	1,000	3,000	1,000	1,000	3,000	1,000	2,000	1,000	4,000
Chemical engineering	7,000	2,000	3,000	3,000	1,000	3,000	2,000	3,000	1,000	3,000
Civil/architectural engineering	12,000	4,000	6,000	4,000	3,000	5,000	3,000	4,000	3,000	5,000
Electrical/computer engineering	13,000	3,000	5,000	6,000	4,000	6,000	3,000	5,000	4,000	8,000
Industrial engineering	9,000	2,000	3,000	3,000	1,000	5,000	3,000	2,000	1,000	3,000
Mechanical engineering	15,000	4,000	5,000	7,000	3,000	6,000	3,000	5,000	3,000	5,000
Other engineering	12,000	2,000	4,000	5,000	3,000	4,000	2,000	4,000	5,000	4,000
S&E-related fields	39,000	14,000	21,000	22,000	14,000	23,000	12,000	16,000	13,000	18,000
Health	31,000	12,000	19,000	18,000	14,000	21,000	11,000	13,000	10,000	16,000
Science/mathematics teacher education	15,000	5,000	7,000	6,000	4,000	7,000	3,000	6,000	4,000	5,000
Technology/technical fields	14,000	4,000	4,000	7,000	5,000	6,000	3,000	4,000	4,000	6,000
Other S&E-related fields	15,000	6,000	6,000	6,000	5,000	8,000	2,000	5,000	5,000	5,000
Non-S&E fields	45,000	14,000	23,000	19,000	14,000	22,000	11,000	16,000	13,000	20,000
Arts/humanities	16,000	6,000	6,000	6,000	3,000	6,000	2,000	5,000	4,000	8,000
Education, except science/mathematics teacher education	25,000	6,000	11,000	9,000	7,000	9,000	6,000	7,000	7,000	9,000

TABLE A-15. Standard errors for employed U.S. scientists and engineers, by level and field of highest degree and geographic division of employment: 2003

Level and field of highest degree	Employed scientists and engineers	Geographic division of employment								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Management/administration	28,000	8,000	11,000	12,000	8,000	13,000	6,000	10,000	8,000	12,000
Sales/marketing	10,000	3,000	4,000	4,000	4,000	3,000	S	4,000	2,000	4,000
Social services/related	13,000	3,000	6,000	5,000	3,000	6,000	3,000	3,000	3,000	5,000
Other non-S&E fields	23,000	7,000	10,000	9,000	6,000	10,000	5,000	6,000	5,000	11,000
Bachelor's degrees	69,000	24,000	32,000	33,000	25,000	33,000	18,000	24,000	22,000	37,000
S&E fields	60,000	19,000	28,000	25,000	19,000	27,000	14,000	19,000	19,000	30,000
Sciences	59,000	18,000	26,000	23,000	19,000	26,000	14,000	16,000	18,000	29,000
Biological/agricultural/environmental life sciences	26,000	6,000	9,000	10,000	9,000	11,000	7,000	10,000	7,000	11,000
Agricultural sciences	12,000	3,000	4,000	4,000	4,000	4,000	3,000	6,000	3,000	5,000
Biological sciences	24,000	5,000	8,000	10,000	8,000	10,000	6,000	7,000	6,000	9,000
Environmental life sciences	7,000	1,000	3,000	3,000	3,000	4,000	2,000	2,000	2,000	4,000
Computer/mathematical sciences	21,000	7,000	8,000	9,000	7,000	11,000	5,000	7,000	6,000	10,000
Computer/information sciences	16,000	5,000	6,000	7,000	6,000	9,000	3,000	5,000	4,000	8,000
Mathematics/statistics	15,000	5,000	6,000	6,000	3,000	6,000	4,000	5,000	4,000	6,000
Physical/related sciences	14,000	5,000	7,000	4,000	3,000	5,000	3,000	5,000	5,000	6,000
Chemistry, except biochemistry	11,000	3,000	5,000	3,000	2,000	4,000	3,000	5,000	3,000	5,000
Earth/atmospheric/ocean sciences	8,000	3,000	3,000	3,000	1,000	3,000	1,000	2,000	3,000	3,000
Physics/astronomy	6,000	3,000	2,000	1,000	1,000	2,000	1,000	1,000	1,000	3,000
Other physical sciences	5,000	1,000	3,000	1,000	S	2,000	S	1,000	2,000	2,000
Social/related sciences	45,000	13,000	19,000	17,000	13,000	22,000	10,000	11,000	14,000	21,000
Economics	19,000	5,000	11,000	6,000	6,000	8,000	3,000	4,000	5,000	9,000
Political/related sciences	21,000	5,000	10,000	7,000	6,000	12,000	4,000	5,000	4,000	8,000
Psychology	25,000	8,000	10,000	11,000	6,000	13,000	7,000	6,000	8,000	11,000
Sociology/anthropology	20,000	6,000	9,000	7,000	5,000	11,000	3,000	5,000	8,000	10,000
Other social sciences	16,000	5,000	6,000	6,000	4,000	7,000	2,000	4,000	3,000	8,000
Engineering	25,000	7,000	10,000	11,000	7,000	11,000	6,000	9,000	7,000	12,000
Aerospace/aeronautical/astronautical engineering	7,000	1,000	2,000	1,000	1,000	3,000	1,000	2,000	1,000	4,000
Chemical engineering	7,000	1,000	3,000	2,000	1,000	3,000	1,000	3,000	1,000	2,000
Civil/architectural engineering	11,000	4,000	5,000	3,000	3,000	5,000	3,000	3,000	2,000	4,000
Electrical/computer engineering	11,000	3,000	4,000	5,000	4,000	5,000	3,000	4,000	3,000	6,000
Industrial engineering	8,000	2,000	3,000	2,000	1,000	5,000	3,000	2,000	1,000	2,000
Mechanical engineering	13,000	4,000	5,000	7,000	3,000	6,000	3,000	5,000	3,000	4,000
Other engineering	10,000	2,000	4,000	5,000	3,000	3,000	1,000	3,000	4,000	4,000
S&E-related fields	36,000	12,000	17,000	18,000	12,000	18,000	9,000	13,000	11,000	15,000
Health	29,000	10,000	15,000	15,000	11,000	16,000	8,000	10,000	9,000	12,000
Science/mathematics teacher education	13,000	3,000	5,000	5,000	3,000	5,000	2,000	6,000	3,000	3,000
Technology/technical fields	13,000	3,000	4,000	6,000	4,000	6,000	3,000	4,000	4,000	5,000

TABLE A-15. Standard errors for employed U.S. scientists and engineers, by level and field of highest degree and geographic division of employment: 2003

Level and field of highest degree	Employed scientists and engineers	Geographic division of employment								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Other S&E-related fields	13,000	4,000	5,000	5,000	3,000	7,000	2,000	4,000	5,000	5,000
Non-S&E fields	29,000	8,000	10,000	13,000	8,000	13,000	5,000	10,000	8,000	13,000
Arts/humanities	15,000	5,000	6,000	5,000	3,000	6,000	2,000	3,000	3,000	7,000
Education, except science/mathematics teacher education	11,000	3,000	4,000	5,000	3,000	4,000	3,000	6,000	4,000	4,000
Management/administration	18,000	4,000	5,000	7,000	5,000	8,000	3,000	6,000	5,000	7,000
Sales/marketing	5,000	1,000	3,000	3,000	1,000	2,000	S	3,000	2,000	1,000
Social services/related	5,000	1,000	2,000	2,000	1,000	2,000	S	1,000	S	3,000
Other non-S&E fields	11,000	3,000	4,000	4,000	3,000	4,000	3,000	3,000	3,000	5,000
Master's degrees	47,000	14,000	22,000	17,000	15,000	24,000	11,000	15,000	13,000	21,000
S&E fields	28,000	8,000	12,000	10,000	6,000	13,000	5,000	9,000	7,000	13,000
Sciences	25,000	8,000	11,000	8,000	6,000	12,000	4,000	8,000	7,000	12,000
Biological/agricultural/environmental life sciences	9,000	2,000	4,000	3,000	2,000	3,000	2,000	3,000	4,000	4,000
Agricultural sciences	4,000	S	1,000	1,000	1,000	1,000	1,000	1,000	3,000	1,000
Biological sciences	7,000	2,000	4,000	2,000	2,000	3,000	1,000	3,000	1,000	4,000
Environmental life sciences	4,000	1,000	1,000	2,000	500	1,000	1,000	1,000	2,000	2,000
Computer/mathematical sciences	11,000	4,000	5,000	3,000	2,000	5,000	1,000	4,000	3,000	4,000
Computer/information sciences	10,000	4,000	4,000	3,000	2,000	5,000	1,000	3,000	2,000	4,000
Mathematics/statistics	5,000	2,000	3,000	2,000	1,000	2,000	1,000	1,000	1,000	2,000
Physical/related sciences	7,000	2,000	2,000	2,000	2,000	3,000	1,000	2,000	3,000	3,000
Chemistry, except biochemistry	4,000	1,000	2,000	1,000	1,000	2,000	500	1,000	1,000	2,000
Earth/atmospheric/ocean sciences	4,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	3,000	2,000
Physics/astronomy	3,000	1,000	1,000	1,000	1,000	1,000	S	1,000	1,000	2,000
Other physical sciences	1,000	S	S	S	S	500	S	S	S	S
Social/related sciences	19,000	6,000	8,000	7,000	4,000	10,000	4,000	6,000	4,000	9,000
Economics	6,000	3,000	3,000	2,000	1,000	3,000	1,000	1,000	1,000	2,000
Political/related sciences	8,000	3,000	3,000	3,000	1,000	5,000	1,000	2,000	1,000	2,000
Psychology	14,000	3,000	7,000	4,000	4,000	6,000	3,000	5,000	3,000	8,000
Sociology/anthropology	5,000	1,000	2,000	3,000	1,000	2,000	2,000	1,000	1,000	2,000
Other social sciences	6,000	2,000	2,000	2,000	1,000	4,000	1,000	3,000	1,000	2,000
Engineering	12,000	3,000	5,000	5,000	2,000	5,000	2,000	3,000	3,000	6,000
Aerospace/aeronautical/astronautical engineering	2,000	500	1,000	500	S	1,000	500	1,000	1,000	1,000
Chemical engineering	3,000	1,000	1,000	1,000	500	1,000	500	1,000	1,000	1,000
Civil/architectural engineering	5,000	1,000	2,000	2,000	1,000	2,000	1,000	1,000	2,000	1,000
Electrical/computer engineering	6,000	2,000	2,000	2,000	1,000	3,000	1,000	2,000	2,000	4,000
Industrial engineering	2,000	500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Mechanical engineering	5,000	1,000	2,000	2,000	1,000	2,000	1,000	1,000	1,000	3,000
Other engineering	5,000	1,000	2,000	2,000	1,000	2,000	1,000	1,000	2,000	2,000

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Level and field of highest degree	Employed scientists and engineers	Geographic division of employment								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
S&E-related fields	20,000	6,000	10,000	9,000	8,000	11,000	5,000	7,000	5,000	8,000
Health	16,000	4,000	9,000	8,000	7,000	9,000	4,000	6,000	5,000	7,000
Science/mathematics teacher education	8,000	4,000	4,000	4,000	3,000	4,000	1,000	2,000	3,000	3,000
Technology/technical fields	4,000	1,000	2,000	1,000	2,000	2,000	1,000	1,000	S	2,000
Other S&E-related fields	7,000	3,000	3,000	4,000	3,000	3,000	S	2,000	1,000	3,000
Non-S&E fields	34,000	10,000	16,000	13,000	11,000	16,000	8,000	11,000	9,000	15,000
Arts/humanities	9,000	2,000	4,000	2,000	1,000	3,000	1,000	4,000	2,000	4,000
Education, except science/mathematics teacher education	21,000	5,000	10,000	8,000	5,000	8,000	5,000	5,000	6,000	7,000
Management/administration	20,000	7,000	9,000	9,000	5,000	10,000	5,000	7,000	6,000	9,000
Sales/marketing	8,000	3,000	3,000	3,000	4,000	2,000	S	3,000	2,000	4,000
Social services/related	11,000	3,000	5,000	5,000	3,000	6,000	3,000	3,000	2,000	4,000
Other non-S&E fields	12,000	3,000	5,000	4,000	4,000	5,000	2,000	3,000	3,000	5,000
Doctorate degrees	11,000	3,000	5,000	4,000	2,000	5,000	2,000	4,000	2,000	6,000
S&E fields	5,000	2,000	3,000	2,000	1,000	3,000	1,000	2,000	1,000	3,000
Sciences	5,000	2,000	3,000	2,000	1,000	2,000	1,000	2,000	1,000	3,000
Biological/agricultural/environmental life sciences	3,000	1,000	1,000	1,000	1,000	2,000	1,000	1,000	1,000	1,000
Agricultural sciences	1,000	*	500	500	500	500	500	500	1,000	500
Biological sciences	3,000	1,000	1,000	1,000	1,000	2,000	1,000	1,000	500	1,000
Environmental life sciences	500	*	*	500	*	500	*	500	500	500
Computer/mathematical sciences	2,000	500	2,000	1,000	500	1,000	500	500	500	1,000
Computer/information sciences	1,000	500	500	500	500	500	*	500	500	1,000
Mathematics/statistics	2,000	500	2,000	500	500	500	500	500	500	500
Physical/related sciences	2,000	1,000	1,000	1,000	500	1,000	500	1,000	1,000	1,000
Chemistry, except biochemistry	2,000	500	1,000	1,000	500	1,000	500	500	500	1,000
Earth/atmospheric/ocean sciences	1,000	500	500	500	500	500	500	500	500	500
Physics/astronomy	1,000	1,000	1,000	1,000	500	1,000	500	500	500	1,000
Other physical sciences	1,000	*	*	S	S	1,000	*	*	*	1,000
Social/related sciences	2,000	1,000	1,000	1,000	1,000	1,000	500	1,000	1,000	1,000
Economics	1,000	500	500	500	500	500	500	500	500	500
Political/related sciences	1,000	500	1,000	500	500	500	500	500	500	500
Psychology	1,000	500	1,000	1,000	500	1,000	500	500	1,000	1,000
Sociology/anthropology	1,000	500	500	500	500	1,000	500	1,000	500	500
Other social sciences	1,000	500	1,000	1,000	500	500	*	500	500	500
Engineering	2,000	1,000	1,000	1,000	1,000	1,000	500	1,000	1,000	1,000
Aerospace/aeronautical/astronautical engineering	1,000	*	*	500	*	500	*	1,000	*	500
Chemical engineering	1,000	500	500	500	500	500	500	500	500	500
Civil/architectural engineering	1,000	500	500	500	*	500	*	500	500	500

TABLE A-15. Standard errors for employed U.S. scientists and engineers, by level and field of highest degree and geographic division of employment: 2003

Level and field of highest degree	Employed scientists and engineers	Geographic division of employment								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Electrical/computer engineering	1,000	500	500	500	500	1,000	500	500	500	1,000
Industrial engineering	500	S	*	500	*	500	S	500	*	500
Mechanical engineering	1,000	500	500	500	500	500	500	500	500	500
Other engineering	1,000	500	500	500	500	500	500	500	500	500
S&E-related fields	4,000	2,000	2,000	1,000	1,000	2,000	1,000	3,000	500	1,000
Health	3,000	500	2,000	1,000	500	1,000	1,000	500	500	1,000
Science/mathematics teacher education	2,000	S	S	S	500	2,000	S	S	S	500
Technology/technical fields	1,000	S	S	S	S	S	S	S	S	1,000
Other S&E-related fields	3,000	S	S	S	S	S	S	S	S	500
Non-S&E fields	8,000	2,000	3,000	3,000	1,000	3,000	2,000	2,000	2,000	5,000
Arts/humanities	2,000	500	1,000	1,000	500	1,000	S	500	S	1,000
Education, except science/mathematics teacher education	6,000	1,000	2,000	2,000	1,000	2,000	1,000	2,000	1,000	5,000
Management/administration	2,000	1,000	1,000	1,000	S	1,000	S	S	S	1,000
Sales/marketing	500	S	S	S	S	S	S	S	S	S
Social services/related	3,000	S	500	2,000	1,000	1,000	1,000	500	S	1,000
Other non-S&E fields	3,000	1,000	1,000	2,000	S	2,000	500	500	1,000	1,000

* = standard error is not calculated when estimate is less than 500; S = standard error is not calculated when estimate is suppressed for reliability or confidentiality.

S&E = science and engineering.

^a Total includes professional degrees not broken out separately.

NOTES: Scientists and engineers include any person who has ever received a bachelor's or higher degree in a science or engineering (S&E) or S&E-related field, plus any person holding a non-S&E bachelor's or higher degree who was employed in a S&E or S&E-related occupation in 2003. See <http://sestat.nsf.gov/docs/ed03maj.html> for a detailed description of the educational field classification. See <http://sestat.nsf.gov/docs/location.html> for details on states included in each division. Standard errors of less than 500 are rounded up to 500, and standard errors equal to or greater than 500 are rounded up to the nearest thousand.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Scientists and Engineers Statistical Data System (SESTAT): 2003.