

FEDERAL S&E OBLIGATIONS TO THREE TYPES OF MINORITY-SERVING INSTITUTIONS DECLINE IN FY 2007

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Background

This analysis first addresses federal S&E support findings for all academic institutions, followed by an analysis of the major findings on minority-serving institutions. The National Science Foundation's (NSF's) latest statistics from the Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions show that federal agencies obligated \$28.5 billion (table 1) in current dollars to 1,216 academic institutions for science and engineering (S&E) activities in FY 2007. This amount represents a current-dollar decrease of 0.4% from the FY 2006 level,² or a 3.0% decrease in inflation-adjusted constant 2000 dollars. This decrease was the first in current dollars reported to this survey in 11 years. It follows a 0.9% current-dollar increase (a 2.3% decrease in inflation-adjusted dollars) in total federal academic S&E support between FY 2005 and FY 2006. (Unless otherwise stated, all obligation percentages listed below are in current dollars.)

Federal academic S&E obligations include six categories, of which research and development (R&D) annually accounts for the majority (table 1). In FY 2007, R&D accounted for \$25.3 billion (89%) of the \$28.5 billion of total academic S&E support.

The six funding categories of federal S&E support are defined as follows:

- *Research and Development* includes all direct, indirect, incidental, or related costs resulting from

or necessary to performing R&D by private individuals and organizations under grant, contract, or cooperative agreement.

- *R&D plant* includes all projects whose principal purpose is to provide support for construction, acquisition, renovation, modification, repair, or rental of facilities, land, works, or fixed equipment for use in scientific or engineering R&D.
- *Facilities and equipment for S&E instruction* include all programs whose principal purpose is to provide support for construction, acquisition, renovation, modification, repair, or rental of facilities, land, works, or equipment for use in instruction in S&E.
- *Fellowships, traineeships, and training grants* include all fellowship, traineeship, and training grant programs that are directed primarily toward the development and maintenance of the scientific workforce.
- *General support for S&E* are funds used for scientific projects and support for activities within a specified discipline; explicit purpose is not specified.
- *Other S&E activities* include all academic S&E obligations that cannot be assigned elsewhere and activities in support of technical conferences, teacher institutes, and programs aimed at increasing precollege and undergraduate students' scientific knowledge.



TABLE 1. Federal academic S&E obligations, by activity and agency: FY 2007

(Thousands of dollars)

Activity	All federal obligations	DOD	DOE	HHS	NASA	NSF	USDA	Other agencies ^a
All universities and colleges	28,519,932	3,157,565	814,271	17,527,222	552,963	4,209,787	1,252,672	1,005,452
Research and development	25,335,978	2,982,579	812,131	16,259,892	552,963	3,286,003	732,196	710,214
R&D plant	279,065	30	2,140	23,920	0	200,925	0	52,050
Facilities and equipment for S&E instruction	13,262	9,616	0	0	0	0	1,458	2,188
Fellowships, traineeships, and training grants	1,101,018	3,132	0	811,651	0	130,992	42,420	112,823
General support for science and engineering	221,735	887	0	165,988	0	22,957	0	31,903
Other S&E activities	1,568,874	161,321	0	265,771	0	568,910	476,598	96,274
All HBCUs	406,116	40,608	10,747	150,656	2,975	67,325	113,634	20,171
Research and development	237,524	39,698	10,747	112,542	2,975	15,656	51,776	4,130
R&D plant	3,238	0	0	0	0	1,676	0	1,562
Facilities and equipment for S&E instruction	28	0	0	0	0	0	28	0
Fellowships, traineeships, and training grants	22,251	0	0	10,877	0	620	6,008	4,746
General support for science and engineering	27,299	5	0	26,574	0	720	0	0
Other S&E activities	115,776	905	0	663	0	48,653	55,822	9,733
All HHEs	593,733	106,653	13,944	342,626	7,792	76,842	29,683	16,193
Research and development	467,042	103,532	13,444	277,793	7,792	45,053	12,254	7,174
R&D plant	7,220	0	500	0	0	4,403	0	2,317
Facilities and equipment for S&E instruction	175	75	0	0	0	0	100	0
Fellowships, traineeships, and training grants	29,908	0	0	18,946	0	1,824	5,711	3,427
General support for science and engineering	45,742	0	0	44,846	0	363	0	533
Other S&E activities	43,646	3,046	0	1,041	0	25,199	11,618	2,742
All tribal colleges and universities	24,959	2,302	0	4,528	0	10,493	7,285	351
Research and development	8,275	2,302	0	4,254	0	400	1,319	0
R&D plant	0	0	0	0	0	0	0	0
Facilities and equipment for S&E instruction	0	0	0	0	0	0	0	0
Fellowships, traineeships, and training grants	3,491	0	0	224	0	0	2,916	351
General support for science and engineering	80	0	0	0	0	80	0	0
Other S&E activities	13,113	0	0	50	0	10,013	3,050	0

DOD = Department of Defense; DOE = Department of Energy; HBCUs = historically black colleges and universities; HHE = high-Hispanic enrollment; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture.

^a Includes data for the following agencies: the Departments of Commerce, Education, Homeland Security, Housing and Urban Development, Interior, Labor, and Transportation; the Agency for International Development; the Environmental Protection Agency; the Appalachian Regional Commission; the Nuclear Regulatory Commission; the Office of Justice Programs (part of Department of Justice); and the Social Security Administration.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions: FY 2007.

All academic institutions combined received 61% of total federal FY 2007 academic S&E obligations from the Department of Health and Human Services (HHS) (table 1), primarily from the National Institutes of Health. NSF (15%), the Department of Defense (DOD) (11%), the Department of Agriculture (USDA) (4%), and the Department of Energy (DOE) (3%) provided most of the remaining academic S&E total.

Federal S&E Support to Minority-Serving Academic Institutions

The remainder of this InfoBrief presents data on federal S&E support to minority-serving institutions: historically black colleges and universities (HBCUs), high-Hispanic-enrollment (HHE) institutions, and tribal colleges and universities.

HBCUs

Seventy-eight of the 102 HBCUs³ received a combined \$406 million in FY 2007 federal academic S&E obligations, an 8.6% decrease over FY 2006 levels (table 2). This decrease was the second consecutive annual current-dollar decrease in HBCU funding levels resulting in an FY 2007 total that is less than the annual funding in any year since FY 2001. HHS contributed over one-third of all federal academic S&E obligations to HBCUs with USDA funding over one-fourth of the total (table 1). Overall, 58% of federal S&E obligations to HBCUs supported R&D. Twenty-nine percent of the federal total supported “other S&E activities” at HBCUs, compared with a 6% share that this category accounted for at all institutions nationwide (table 1). The great majority of HBCU support from DOD, DOE,

TABLE 2. Federal obligations for science and engineering to historically black colleges and universities, ranked by total amount received in FY 2007: FY 2000–07

(Dollars in thousands)

Institution	2000	2001	2002	2003	2004	2005	2006	2007
All HBCUs	333,019	404,252	438,301	454,605	472,034	479,205	444,193	406,116
Howard U.	27,847	35,596	43,556	33,805	39,629	32,200	34,406	32,481
Meharry Medical C.	12,547	20,550	26,678	27,318	26,967	30,701	27,387	25,378
Southern U. and A&M C. all campuses	10,118	12,415	8,887	11,216	8,645	11,588	9,390	23,428
Morehouse School of Medicine	20,803	31,468	36,768	34,887	30,110	28,724	29,884	23,288
Jackson State U.	10,323	14,662	17,957	18,107	19,026	22,140	20,437	22,559
Tuskegee U.	16,576	18,561	26,142	36,066	22,834	20,502	18,344	20,191
NC Agricultural and Technical State U.	15,852	23,016	18,470	19,644	23,281	21,363	17,751	19,798
FL A&M U.	20,583	24,615	25,228	28,012	29,546	23,229	18,062	15,756
AL A&M U.	13,073	9,638	10,971	10,888	14,716	11,712	16,812	13,344
TN State U.	13,487	15,654	19,196	17,279	16,481	16,865	13,894	12,678
Prairie View A&M U.	11,737	12,998	12,540	13,444	12,266	10,068	10,661	10,406
VA State U.	4,938	5,715	5,616	5,437	7,038	8,260	6,776	8,600
Lincoln U. (Jefferson City, MO)	5,701	5,070	5,892	6,213	6,156	9,384	8,422	8,340
Xavier U. LA	5,552	12,204	13,548	12,052	17,734	9,985	6,891	8,244
SC State U.	5,718	5,879	9,208	7,027	6,612	8,456	8,689	7,922
Dillard U.	20	20	70	0	512	2,020	1,951	7,879
KY State U.	5,724	8,126	6,438	7,349	7,217	7,375	7,618	7,863
DE State U.	3,279	4,044	4,131	7,597	5,111	5,906	7,780	7,804
Alcorn State U.	8,876	7,880	8,071	8,495	8,600	7,269	10,122	7,498
Hampton U.	13,794	18,160	18,430	22,387	42,310	44,072	23,205	7,140
All other HBCUs	106,471	117,981	120,504	127,382	127,243	147,386	145,711	115,519

HBCUs = historically black colleges and universities.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions: FY 2007.

HHS, and NASA (at proportions ranging from three-fourths to the entire amount) in FY 2007 was for R&D programs. Nearly three-fourths of all HBCU support from NSF and nearly one-half from USDA were for other S&E activities. Those two agencies reported 90% of all funds for HBCUs' other S&E activities.

The leading 20 HBCUs ranked by federal academic S&E support accounted for 72% of the academic S&E total for HBCUs in FY 2007 (table 2). Howard University continued (as it has in many years) as the leading HBCU recipient of federal S&E obligations, receiving \$32 million in FY 2007, of which \$22 million was for R&D. About two-thirds of the Howard University S&E total was from HHS.

HHE Institutions

In FY 2007, 96 HHE⁴ institutions (out of 257 schools designated as HHEs nationwide) received \$594 million in federal academic S&E support, a 1.6% current-dollar decrease over the total received by HHE institutions in FY 2006. Of all the HHEs in FY 2007, nearly four-fifths of total S&E obligations were for R&D programs. Nearly three-fifths of all federal academic S&E support to these institutions was from HHS (table 1).

Eighty-one percent of HHS support and 97% of DOD support to HHEs was for R&D projects. DOD provided for 18% of all federal S&E obligations to HHEs compared with DOD's much smaller 11% share of the total provided to all universities and colleges. In general, federal academic S&E support to HHEs more closely mirrors national academic S&E totals (as compared to HBCUs and tribal universities and colleges) in terms of agency and category predominance (HHS and R&D, respectively).

In FY 2007, the University of New Mexico (all campuses)⁵ was the leading HHE recipient of federal academic S&E obligations, as it was in FY 2006 (table 3). Almost three-fifths of its \$119 million academic S&E total was from HHS and over \$9 of each \$10 was R&D related. The leading 20 high-Hispanic-enrollment institutions accounted for 91% of the academic S&E total in FY 2007 for all such institutions.

Tribal Colleges and Universities

There were 29 tribal colleges and universities⁶ (from a total of 32) that received federal academic S&E obliga-

tions in FY 2007 (table 4). Federal S&E funding levels for tribal colleges and universities has been erratic. In FY 2007, total funds decreased by 13.2% to \$25.0 million, following a 20.4% decrease between FY 2005 and FY 2006. Between FY 2004 and FY 2005 S&E

TABLE 3. Federal obligations for science and engineering to high-Hispanic-enrollment institutions, ranked by total amount received in FY 2007: FY 2006–07

(Dollars in thousands)

Institution	2006	2007
All HHEs	603,308	593,733
U. NM all campuses ^a	108,714	119,144
U. TX Health Science Ctr. San Antonio	89,493	107,783
NM State U. all campuses	107,771	67,967
U. PR Medical Sciences Campus	32,758	34,054
FL International U.	33,303	28,960
CA State U. Long Beach	na	27,240
U. PR Mayaguez Campus	22,309	21,837
Charles R. Drew U. of Medicine and Science	na	21,679
U. TX El Paso	21,587	20,280
CUNY The City C.	12,218	19,925
U. TX San Antonio	25,177	17,693
CA State U. Los Angeles	15,256	11,548
U. PR Rio Piedras Campus	23,353	10,698
Universidad Central del Caribe	6,896	6,133
U. TX Brownsville	4,898	5,190
CA State U. Fresno	1,983	4,980
CA State U. Fullerton	5,395	4,857
CA State U. Northridge	6,020	4,490
TX A&M U. Kingsville	3,684	4,342
CA State Polytechnic U. Pomona	5,132	3,578
All other HHEs	77,361	51,355

na = not applicable; not considered an HHE institution in 2006.

HHE = high-Hispanic enrollment.

^a University of New Mexico's Gallup campus is not an HHE institution; data for the Gallup campus are therefore excluded from the total.

NOTES: This list of HHE institutions are those whose full-time equivalent enrollment of undergraduate students is at least 25% Hispanic, according to fall 2006 enrollment data self-reported by institutions in the Integrated Postsecondary Education Data System survey conducted by the National Center for Education Statistics. The exact number and identification of HHE institutions can vary from year to year. CA State U. Long Beach and Charles R. Drew U. of Medicine and Science, for example, were not considered HHEs in FY 2006.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions: FY 2007.

obligations to tribal colleges and universities had risen by 50.7%. In FY 2007, R&D programs comprised 33% of the total federal S&E support to tribal colleges and universities, compared with the 89% share for all universities (table 1). More than one-half of all tribal college and university funding was for other S&E activities. Most funds for other S&E activities were from NSF; nearly all of NSF's support for tribal colleges and universities was for other S&E activities. NSF and

USDA, combined, funded 71% of the academic S&E total to tribal colleges and universities (table 1).

There is considerable variability in annual institutional rankings among the tribal colleges and universities: four of the top 10 in FY 2007 were among the top 10 in FY 2006. However, Salish Kootenai College (located in Pablo, Montana) received the most federal S&E obligations in both FY 2006 and FY 2007. Other S&E

TABLE 4. Federal obligations for science and engineering to tribal colleges and universities, ranked by total amount received in FY 2007: FY 2000–07

(Dollars in thousands)

Institution	2000	2001	2002	2003	2004	2005	2006	2007
All tribal colleges and universities	16,759	30,389	28,325	36,034	23,969	36,125	28,744	24,959
Salish Kootenai C.	2,854	4,260	4,453	1,479	1,872	4,471	4,610	5,083
Little Big Horn C.	75	452	316	2,245	265	650	229	1,394
Turtle Mountain Community C.	1,001	3,790	3,677	2,145	1,414	1,668	943	1,248
Oglala Lakota C.	2,036	2,603	3,009	6,492	3,648	2,286	3,620	1,224
Dine C.	928	1,743	1,214	1,572	339	831	1,087	1,202
Stone Child C.	402	429	735	1,238	461	795	964	1,174
Chief Dull Knife C.	754	555	696	1,418	1,270	1,281	331	1,126
Cankdeska Cikana Community C.	764	167	326	1,162	367	433	402	1,040
Leech Lake Tribal C.	76	128	165	359	95	767	123	1,003
United Tribes Technical C.	175	1,375	409	1,442	2,025	5,134	1,573	846
Haskell Indian Nations U.	114	1,370	515	835	1,473	345	482	841
Northwest Indian C.	788	1,187	720	876	1,782	2,367	446	814
Lac Courte Oreilles Ojibwa Community C.	659	497	478	290	196	714	450	791
C. of Menominee Nation	123	347	335	1,596	196	773	1,472	759
Southwestern Indian Polytechnic Institute	91	1,346	1,064	1,203	2,540	644	366	748
Sitting Bull C.	78	824	330	938	1,298	656	1,278	731
Blackfeet Community C.	194	607	1,898	921	117	1,849	1,306	711
Ft. Berthold Community C.	289	356	324	1,132	526	935	2,313	541
Sisseton Wahpeton Community C.	992	614	641	1,151	1,183	977	2,186	516
Little Priest Tribal C.	67	71	210	167	254	187	339	492
Ft. Belknap C.	2,074	358	1,295	1,436	470	2,204	814	473
Ft. Peck Community C.	233	1,535	2,696	2,359	828	1,340	1,466	458
NE Indian Community C.	71	303	79	89	468	190	253	336
Institute of American Indian Arts	194	181	263	174	187	2,327	208	335
Sinte Gleska U.	374	494	1,099	649	192	883	837	333
Bay Mills Community C.	119	162	191	543	178	360	274	332
Ilisagvik C.	1,000	1,624	799	1,727	0	492	0	179
Fond du Lac Tribal and Community C.	234	3,011	388	396	325	516	228	144
White Earth Tribal and Community C.	0	0	0	0	0	50	144	85

NOTES: The list of tribal colleges and universities is from the *White House Initiative on Tribal Colleges and Universities* (see <http://www.ed.gov/about/inits/list/whc/edlite-tclist.html>). Tribal colleges and universities are designated in section 2 of the Tribally Controlled College or University Assistance Act of 1978.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions: FY 2007.

activities comprised almost three-fifths of the S&E total to Salish Kootenai College. More than three-fifths of the S&E support to Salish Kootenai College was from NSF.

Data Notes

The data on federal S&E obligations to academic institutions presented in this InfoBrief were obtained from 19 agencies that participated in the FY 2007 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions. The survey collects federal S&E support data by funding agency, institution, type of activity, type of institution, and geographic location. NASA's reported R&D obligations to academic institutions decreased substantially between FY 2006 (\$975,305,000) and FY 2007 (\$552,963,000) for two reasons: (1) NASA explained that in FY 2007 the agency excluded projects that were operational in nature and that were not excluded in FY 2006; and (2) there was an overall decrease in obligations between FY 2006 and FY 2007.

The full set of detailed statistical tables on the FY 2007 Survey of Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions is available online at <http://www.nsf.gov/statistics/fed-support/>. For more information, contact the author.

Notes

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2. The FY 2007 government-wide decline largely stems from reporting changes by NASA. See Data Notes.
3. The Higher Education Act of 1965, as amended, defines an HBCU as "...any historically black college or university that was established prior to 1964, whose

principal mission was, and is, the education of black Americans, and that is accredited by a nationally recognized accrediting agency or association determined by the Secretary (of Education) to be a reliable authority as to the quality of training offered or is, according to such an agency or association, making reasonable progress toward accreditation."

4. Institutions are identified as having *high-Hispanic enrollment* for this report based on fall 2006 enrollment. They are institutions whose full-time-equivalent (FTE) fall enrollment of undergraduate students is at least 25% Hispanic in a given year. The fall enrollment data are self-reported by the institutions to the Integrated Postsecondary Education Data System (IPEDS) survey conducted by the National Center for Education Statistics (NCES). The exact number and identification of HHE institutions can vary from year to year.

An HHE institution is not necessarily a Hispanic-serving institution (HSI). HSIs are eligible institutions that have recently received grants from the Department of Education's HSI program, authorized by Title V of the Higher Education Act of 1965, as amended. In 2006, eligibility for the HSI program was defined as nonprofit institutions with at least 25% Hispanic FTE undergraduate enrollment, and at least 50% of the Hispanic enrollment had to be low income. The Third Higher Education extension Act of 2006 removed the low-income criterion for defining eligibility for the HSI program.

5. University of New Mexico's Gallup campus is not a high-Hispanic-enrollment institution; data from the Gallup campus are therefore excluded from the total.
6. The list of tribal colleges and universities is from the *White House Initiative on Tribal Colleges and Universities* (see <http://www.ed.gov/about/inits/list/whetc/edlite-index.html>). Tribal colleges and universities are designated in section 2 of the Tribally Controlled College or University Assistance Act of 1978.

NSF 09-319

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