*A Great Plains Network*

*Research Report*

# NSF and NIH Award Trends for the Great Plains: 2002 to 2005


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# NSF and NIH Award Trends: 2002 to 2005

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## 1 Summary

Population data from the 2000 Census, graduate student enrollment data for 2004, and National Science Foundation (NSF) and National Institutes of Health (NIH) award data for 2005 were obtained and analyzed for each state, the District of Columbia, and Puerto Rico. In general, states with GPN members received fewer competitive award dollars on both a *per capita* and per graduate student basis than the US, as a whole, for 2005. The award data for 2005 was compared to similar data gathered for 2002. NIH and NSF showed total award dollar increases from 2002 to 2005, with a greater increase for NIH. The top 26 "best performers" in 2002 (most award dollars received) accounted for about 90% of the increase in funding in 2005. Between 2002 and 2005, states with GPN members increased dollars awarded from NIH but decreased dollars awarded from NSF. The NIH data suggest that, although states with GPN members have improved in terms of total competitive dollars from 2002 to 2005, many have fallen further behind in relation to the US, as a whole. Enrollment of graduate students in science emerged as the best single predictor for dollars awarded and number of awards for both NSF and NIH.

## 2 Introduction

In 2003, Dennis Brewer, Associate Vice Provost for Research, University of Arkansas, prepared an analysis of funding in the GPN region and the US as a whole [1]. That analysis compared competitive award dollars from NIH and NSF to direct congressional funding. When adjusted for population (i.e., on a *per capita* basis), states in the GPN region were ahead on congressional funding dollars by about $17 million and behind on competitive award dollars by about $700 million. (The data from the 2003 article are presented in Appendix IV.)

*This report updates the earlier report.* The data in this report differs from that of the earlier report in the following ways:

- NIH and NSF *award data is updated to 2005* to include both amount of funding and number of awards;
- The sample includes data for the *50 states, District of Columbia* and *Puerto Rico*;
- In addition to population data for each area, the *number of graduate students enrolled in science* and *graduate students enrolled in engineering* for each state is included;
- Adjustments to the 2005 data are done on both a *per capita* and a per graduate student basis; and
- Data on direct congressional funding is not included for 2005.

The complete data set is available in the appendices.

## 3 Findings

Initially, I looked at the 2005 award data from NIH and NSF and compared it to the 2002 award data. I then compared how states with GPN members performed to the national average. Finally, I looked at three variables to determine the best predictor of funding.

## 3.1 Funding Comparison: 2002 and 2005 Data

I added the 2002 NSF and NIH award data for Puerto Rico and the District of Columbia to Brewer's data. I then compared overall NSF and NIH budgets for 2002 and 2005. The NSF budget increased 14% or $.65 billion while the NIH budget increased 22% or nearly $4.2 billion from 2002 to 2005. All but 10 states showed increases in NSF competitive funding while all but 4 states showed increases in NIH competitive funding (Appendix V).

### 3.1.1 Comparison of Top and Bottom Performers

To create some performance benchmarks, I split the 52 states (including DC and Puerto Rico) into the top 26 and bottom 26 performers based on 2002 funding for each agency (Table 1) and then looked at how they performed in 2005. The top 26 NSF performers in 2002 reflected an aggregate increase of 15% in 2005 (about $.6 billion) over their total award dollars for 2002. The bottom 26 NSF performers in 2002 reflected an increase of 12% ($.06 billion). *The top 26 NSF performers in 2002 accounted for 91% of the NSF funding increase from 2002 to 2005.*

The top 26 NIH performers in 2002 showed an aggregate funding increase of 22% ($3.8 billion) while the bottom 26 showed an increase of roughly 24% ($.4 billion) over 2002. *The top 26 2002 NIH performers accounted for 89% of the NIH funding increase from 2002 to 2005.*

**Table 1. Comparison of NSF and NIH Top 26 Performers versus Bottom 26 for 2002 vs. 2005**

| | 2002 Funding (K) | 2005 Funding (K) | $ Change (K) | % Change |
|---|---|---|---|---|
| **National Science Foundation** | $4,535,655 | $5,188,020 | $652,365 | 14% |
| Top 26 (FY2002) | $3,986,447 | $4,574,062 | $587,615 | 15% |
| Bottom 26 (FY2002) | $549,208 | $613,958 | $64,750 | 12% |
| **National Institutes of Health** | $18,952,636 | $23,114,841 | $4,162,206 | 22% |
| Top 26 (FY2002) | $17,371,014 | $21,161,065 | $3,790,051 | 22% |
| Bottom 26 (FY2002) | $1,581,622 | $1,953,777 | $372,155 | 24% |

### 3.1.2 Changes in Funding from 2002 to 2005

Table 2 presents a portion of the funding data for states with GPN membership and other states in close proximity. The formula for change in funding (columns 4 & 7) is

$$\textbf{Change} = \frac{\textbf{2005 dollars - 2002 dollars}}{\textbf{2002 dollars}}$$

For states with GPN membership, *three showed a relative decrease in funding from NSF* (Missouri, North Dakota and South Dakota) while only *one* (Kansas) *showed a relative decrease from NIH*.

The US, as a whole, reflected a 14% increase in NSF competitive funding, and the bottom 26 performers in 2002 had a "gain" of 12%. States with GPN membership

actually had *an aggregate "loss" of competitive funding of 2.2% or $3.6 million in NSF funds*.

States with GPN membership had *an aggregate "gain" of 10.8% or about $83 million in NIH competitive funding* from 2002 to 2005. Missouri is responsible for more than one-third of the gain. Nonetheless, the GPN gain of 10.8% is less than half of the aggregate "gain" of 24% for the bottom 26 NIH performers of 2002.

**Table 2. Changes in NSF and NIH Funding between FY2002 and FY2005 for Selected States (Losses in Red)**

| State | NSF | | | NIH | | |
|---|---|---|---|---|---|---|
| | $K (FY02) | $K (FY05) | Change in $K | $K (FY02) | $K (FY05) | Change in $K |
| **GPN States** | **$163,710** | **$160,079** | **($3,631)** | **$766,851** | **$849,787** | **$82,936** |
| **US Total** | **$4,535,655** | **$5,188,020** | **$652,365** | **$18,952,636** | **$23,114,841** | **$4,162,206** |
| Arkansas | $8,720 | $9,374 | $654 | $52,940 | $62,288 | $9,348 |
| Colorado | $220,083 | $228,455 | $8,372 | $296,518 | $346,726 | $50,208 |
| Illinois | $208,561 | $223,091 | $14,530 | $571,117 | $733,892 | $162,775 |
| Iowa | $33,366 | $41,093 | $7,727 | $181,620 | $193,025 | $11,405 |
| Kansas | $26,020 | $36,021 | $10,001 | $77,259 | $76,753 | ($506) |
| Kentucky | $31,957 | $22,861 | ($9,096) | $111,491 | $164,895 | $53,404 |
| Louisiana | $31,420 | $36,576 | $5,156 | $117,481 | $185,017 | $67,536 |
| Minnesota | $56,639 | $65,758 | $9,119 | $372,358 | $441,847 | $69,489 |
| Mississippi | $18,415 | $19,933 | $1,518 | $34,810 | $36,647 | $1,837 |
| Missouri | $63,566 | $50,792 | ($12,774) | $481,994 | $511,713 | $29,719 |
| Montana | $24,386 | $27,751 | $3,365 | $25,623 | $43,236 | $17,613 |
| Nebraska | $19,444 | $20,415 | $971 | $61,633 | $75,906 | $14,273 |
| North Dakota | $10,873 | $10,226 | ($647) | $13,603 | $20,740 | $7,137 |
| Oklahoma | $23,827 | $25,427 | $1,600 | $66,270 | $82,820 | $16,550 |
| South Dakota | $11,260 | $7,824 | ($3,436) | $13,152 | $19,568 | $6,416 |
| Tennessee | $46,353 | $46,564 | $211 | $337,535 | $434,581 | $97,046 |
| Texas | $160,357 | $153,786 | ($6,571) | $1,027,704 | $1,149,983 | $122,279 |
| Wisconsin | $98,480 | $152,125 | $53,645 | $338,611 | $387,749 | $49,138 |
| Wyoming | $10,004 | $10,308 | $304 | $7,318 | $6,294 | ($1,024) |

## 3.2 GPN vs. US: Funding, Graduate Students, Population Data

Table 3 summarizes demographic, funding and award data for the US sample and the GPN region. The population data is from the 2000 US Census [4] and graduate enrollment data is from the National Science Foundation for the year 2004 [3].

**Table 3. Summary Statistics for US versus States with GPN Member Universities**

| | All States [1] | GPN [2] | GPN as Percent |
|---|---|---|---|
| Population | 285,230,516 | 17,515,990 | 6.1% |
| Graduate Students in Science | 352,548 | 19,067 | 5.4% |
| Graduate Students in Engineering | 123,701 | 6,284 | 5.1% |
| NSF Funding (FY2002) *($K)* | $4,535,655 | $163,710 | 3.6% |
| NSF Funding (FY2005) *($K)* | $5,188,020 | $160,079 | 3.1% |
| NSF Grants Awarded (2005) | 20,346 | 804 | 4.0% |
| NIH Funding (FY2002) *($K)* | $18,952,636 | $766,851 | 2.0% |
| NIH Funding (FY2005) *($K)* | $23,114,841 | $849,787 | 3.7% |
| NIH Grants Awarded (2005) | 53,769 | 2,049 | 3.8% |

[1] 50 states plus District of Columbia and Puerto Rico
[2] Arkansas, Kansas, Missouri, Nebraska, Oklahoma, North Dakota, South Dakota

While the GPN region accounts for 6.1% of the entire population, 5.4% of all US graduate students in science and 5.1% of engineering graduate students were enrolled in universities in GPN states.

As a percent of the US total, the GPN region accounts for a somewhat smaller percentage of dollars awarded and number of awards for both NSF and NIH than might be predicted by any of the demographic measures.

### 3.2.1 GPN vs. US: *Per Capita* Funding

Brewer presented *per capita* Federal spending for each state as "a measure of the return that our citizens receive on their investment in the federal research enterprise" [1]. This is also a way to adjust total award dollars to a number that takes into account population differences among states and, hopefully, makes comparisons among states more meaningful.

Updated 2002 data (to include the District of Columbia and Puerto Rico) and 2005 data are presented in Table 4 for NSF and NIH (complete data in Appendices).

**Table 4. NSF and NIH Funding on a *Per Capita* Basis for 2002 and 2005**

| State | NSF | | | | NIH | | | |
|---|---|---|---|---|---|---|---|---|
| | **$ *Per Capita* 2002*** | **Rank** | **$ *Per Capita* 2005** | **Rank** | **$ *Per Capita* 2002*** | **Rank** | **$ *Per Capita* 2005** | **Rank** |
| **GPN** | **$9.35** | **NA** | **$9.14** | **NA** | **$43.78** | **NA** | **$48.51** | **NA** |
| **US** | **$15.90** | **NA** | **$18.19** | **NA** | **$66.45** | **NA** | **$81.04** | **NA** |
| Arkansas | $3.26 | 52 | $3.51 | 51 | $19.80 | 42 | $23.30 | 46 |
| Kansas | $9.68 | 38 | $13.40 | 30 | $28.74 | 33 | $28.55 | 41 |
| Missouri | $11.36 | 34 | $9.08 | 38 | $86.14 | 11 | $91.46 | 12 |
| Nebraska | $11.36 | 33 | $11.93 | 36 | $36.02 | 31 | $44.36 | 32 |
| North Dakota | $16.93 | 19 | $15.92 | 26 | $21.18 | 41 | $32.30 | 39 |
| Oklahoma | $6.91 | 48 | $7.37 | 47 | $19.21 | 43 | $24.00 | 44 |
| South Dakota | $14.92 | 23 | $10.37 | 37 | $17.42 | 45 | $25.92 | 42 |

*Updated to include Puerto Rico and District of Columbia

For NSF, all states with GPN members are below the national *per capita* average for both 2002 and 2005. Three states (Missouri, North Dakota and South Dakota) declined in *per capita* funding from NSF and also rank lower in 2005 than in 2002. Since US total funding from NSF increased, but funding for research in the states with GPN members decreased, on a *per capita* basis, GPN states went from *59% of the US* per capita *average in 2002 to 50% in 2005*.

Although the total funding from NIH increased for 2005 over 2002, funding for states with GPN members nonetheless dropped from *66% to 60%, on a per capita basis*. North Dakota and South Dakota improved their *per capita* rankings from 2002 to 2005 while the remaining states ranked lower in 2005. As might be expected from the decrease in NIH funding for the state, Kansas dropped 8 places in the NIH per capita rankings.

### 3.2.2 GPN vs. US: Per Graduate Funding

Another way to adjust total award data is in terms of numbers of graduates students in relevant disciplines. Award data adjusted for number of graduate students in science (GSS) and graduate students in engineering (GSE) are presented in the Appendix and summarized in Table 5 for states with GPN members.

**Table 5. NSF and NIH Funding on a Per Graduate Student Basis for 2005**

| State | Graduate Students in Science | | | | Graduate Students in Engineering | | | |
|---|---|---|---|---|---|---|---|---|
| | NSF | Rank | NIH | Rank | NSF | Rank | NIH | Rank |
| **GPN** | **$8,396** | **NA** | **$44,568** | **NA** | **$25,474** | **NA** | **$135,230** | **NA** |
| **US** | **$14,716** | **NA** | **$65,565** | **NA** | **$41,940** | **NA** | **$186,861** | **NA** |
| Arkansas | $5,059 | 51 | $33,615 | 37 | $17,327 | 48 | $115,135 | 30 |
| Kansas | $7,899 | 44 | $16,832 | 47 | $24,257 | 41 | $51,685 | 48 |
| Missouri | $9,332 | 38 | $94,013 | 8 | $28,745 | 34 | $289,594 | 12 |
| Nebraska | $8,432 | 40 | $31,353 | 39 | $51,684 | 19 | $192,168 | 19 |
| North Dakota | $9,460 | 37 | $19,186 | 46 | $24,348 | 40 | $49,381 | 49 |
| Oklahoma | $8,367 | 41 | $27,252 | 42 | $18,793 | 47 | $61,212 | 44 |
| South Dakota | $11,678 | 31 | $29,206 | 40 | $24,223 | 42 | $60,582 | 45 |

States with GPN members are below the national average for per graduate student in science and per graduate student in engineering funding, with the exception of Missouri and NIH. The 2005 *per graduate student in science* funding for the GPN region stood at *61%* of the US average *from NSF* and *68%* of the US average *from NIH*. *Per graduate student in engineering* funding for the GPN region was *61%* of the US average *from NSF* and *72% of the US average for NIH*.

### 3.3 Predicting Awards and Funding Amounts

I examined both population and graduate student census as possible predictors of funding. Graduate student in science (GSS) enrollment and graduate student in engineering (GSE) enrollment for GPN states as a percent of total US enrollment are slightly lower than might be anticipated based on population. Both GSS and GSE are highly and significantly correlated with population (Table 6, comparisons 1 & 2). GSS enrollment and GSE enrollment are also highly and significantly correlated (Table 6, comparison 3).

Population, GSS and GSE significantly predicted number of awards and total funding for both NSF and NIH. The correlations between GSS and award data and GSE and award data are consistently higher than those between population and award data. An analysis of the correlation coefficients indicated that, *in all but one case*, the *GSS data* was a *significantly better predictor of number of awards* and *total dollars awarded* for both the NSF and NIH data *than either population or GSE*. The correlation between GSS and NSF Funding in Dollars (Table 6, comparison 7) was slightly greater than that between GSE and NSF Funding in Dollars (Table 6, comparison 10), but not significantly greater.

Conventional wisdom has it that graduate student funding is less expensive in less populous states because of a lower cost of living. I looked to find evidence of this in a correlation between average award size and either population or one of the enrollment factors. Neither population nor either graduate student variable appears to be a good predictor of average award amount. Perhaps average award amount is

less sensitive to cost of living than another variable such as maximum or minimum award amount for each state.

**Table 6. Correlations Among Selected Pairs of Variables for 2005 Award Data**

| Comparisons | *r* | *p* |
|---|---|---|
| 1. Population and number of Graduate Students in Science (GSS) | 0.946 | < .001 |
| 2. Population and number of Graduate Students in Engineering (GSE) | 0.963 | < .001 |
| 3. GSS and GSE | 0.943 | < .001 |
| ***National Science Foundation*** | | |
| 4. Population and NSF Funding $ | 0.804 | < .001 |
| 5. Population and Number of NSF Awards | 0.891 | < .001 |
| 6. Population and NSF Average Award Amount | -0.013 | NS |
| 7. GSS and NSF Funding $ | 0.889 | < .001 |
| 8. GSS and Number of NSF Awards | 0.962 | < .001 |
| 9. GSS and NSF Average Award Amount | 0.031 | NS |
| 10. GSE and NSF Funding $ | 0.860 | < .001 |
| 11. GSE and Number of NSF Awards | 0.922 | < .001 |
| 12. GSE and NSF Average Award Amount | 0.013 | NS |
| ***National Institutes of Health*** | | |
| 13. Population and NIH Funding $ | 0.795 | < .001 |
| 14. Population and Number of NIH Awards | 0.835 | < .001 |
| 15. Population and NIH Average Award Amount | 0.167 | NS |
| 16. GSS and NIH Funding $ | 0.888 | < .001 |
| 17. GSS and Number of NIH Awards | 0.923 | < .001 |
| 18. GSS and NIH Average Award Amount | -0.140 | NS |
| 19. GSE and NIH Funding $ | 0.832 | < .001 |
| 20. GSE and Number of NIH Awards | 0.870 | < .001 |
| 21. GSE and NIH Average Award Amount | -0.184 | NS |

## 4 Conclusion

NSF and NIH each awarded more dollars in 2005 than in 2002. When broken down by top 26 and bottom 26 performers for 2002, the top NSF performers did slightly better in 2005 (15% increase) than did the bottom performers (12% increase) For NIH the bottom NIH performers did slightly better in 2005 (24% increase) than the top performers (22% increase). Nonetheless, the top 26 performers received the lion's share (90%) of the total dollars awarded from each agency.

States with GPN members did not fare as well. In 2005 these states showed an aggregate decrease of roughly 2.2% from NSF and an aggregate increase of 10.8% from NIH over competitive dollars awarded in 2002. In both cases, dollars awarded to the GPN region lagged behind dollars awarded to even the 2002 bottom half performers.

When demographic data (population, graduate enrollment) are used to roughly equate states on dollars awarded, states with GPN members still fall well behind the US average, with the exception of Missouri and 2005 NIH award dollars.

In terms of predictors of funding, graduate student in science (GSS) enrollment emerged as a consistently better predictor of total funding and number of awards than population or graduate student in engineering (GSE) enrollment.

As Dennis Brewer concluded in his earlier analysis, "Just raising our funding to the national average would bring over $100M per year in new NSF funding into the Great Plains. Like our pioneer forebears, we are blessed with possibilities." That is still the case for 2005.

## 5 References

[1] Brewer, Dennis. GPN Regional Funding Analysis, *GPN Digest*, Volume 4, Number 2, October, 2003: http://www.greatplains.net/research/digests/10-22-03.htm.

[2] National Science Foundation, Division of Science Resources Statistics, *Graduate Students and Postdoctorates in Science and Engineering: Fall 2004*, NSF 06-325, Project Officer, Julia D. Oliver (Arlington, VA 2006).

[3] National Center for Educational Statistics, http://nces.ed.gov

[4] US Bureau of Census, http://www.census.gov

[5] National Science Foundation, http://dellweb.bfa.nsf.gov/

[6] National Institutes of Health Award Statistics, http://grants2.nih.gov/grants/award/trends/states05.htm

[7] http://chronicle.com/prm/weekly/v50/i05/05a01801.htm

# 6 Appendices

## Appendix I
## US Population and Graduate Students in Science and Engineering by State

| State (includes DC & Puerto Rico) | Population (2000) [1] | Rank | Graduate Students in Science (2004) [2] | Rank | Graduate Students in Engineering (2004) [2] | Rank |
|---|---|---|---|---|---|---|
| **GPN** | **17,515,990** | **NA** | **19,067** | **NA** | **6,284** | **NA** |
| **US Total** | **285,230,516** | **NA** | **352,548** | **NA** | **123,701** | **NA** |
| Alabama | 4,447,100 | 23 | 4,109 | 27 | 1,983 | 19 |
| Alaska | 626,932 | 49 | 659 | 50 | 155 | 49 |
| Arizona | 5,130,632 | 20 | 4,834 | 24 | 2,125 | 18 |
| Arkansas | 2,673,400 | 34 | 1,853 | 38 | 541 | 37 |
| California | 33,871,648 | 1 | 47,253 | 1 | 16,849 | 1 |
| Colorado | 4,301,261 | 24 | 6,988 | 15 | 2,917 | 13 |
| Connecticut | 3,405,565 | 30 | 5,840 | 20 | 1,250 | 30 |
| Delaware | 783,600 | 46 | 1,224 | 45 | 466 | 40 |
| District of Columbia | 572,059 | 51 | 6,830 | 16 | 1,698 | 22 |
| Florida | 15,982,378 | 4 | 13,362 | 7 | 5,770 | 7 |
| Georgia | 8,186,453 | 10 | 6,787 | 17 | 3,815 | 10 |
| Hawaii | 1,211,537 | 43 | 1,680 | 39 | 207 | 47 |
| Idaho | 1,293,953 | 40 | 1,397 | 43 | 544 | 36 |
| Illinois | 12,419,293 | 5 | 18,193 | 4 | 4,918 | 9 |
| Indiana | 6,080,485 | 14 | 6,598 | 18 | 2,575 | 16 |
| Iowa | 2,926,324 | 31 | 3,885 | 28 | 1,310 | 29 |
| Kansas | 2,688,418 | 33 | 4,560 | 26 | 1,485 | 26 |
| Kentucky | 4,041,769 | 25 | 3,507 | 29 | 963 | 33 |
| Louisiana | 4,468,976 | 22 | 4,995 | 22 | 1,678 | 24 |
| Maine | 1,274,923 | 41 | 553 | 51 | 127 | 50 |
| Maryland | 5,296,486 | 19 | 8,466 | 12 | 2,583 | 15 |
| Massachusetts | 6,349,097 | 13 | 16,347 | 5 | 6,084 | 4 |
| Michigan | 9,938,444 | 8 | 9,973 | 9 | 5,953 | 5 |
| Minnesota | 4,919,479 | 21 | 7,234 | 14 | 1,685 | 23 |
| Mississippi | 2,844,658 | 32 | 2,472 | 35 | 514 | 38 |
| Missouri | 5,595,211 | 17 | 5,443 | 21 | 1,767 | 21 |
| Montana | 902,195 | 45 | 1,261 | 44 | 195 | 48 |
| Nebraska | 1,711,263 | 39 | 2,421 | 36 | 395 | 42 |
| Nevada | 1,998,257 | 36 | 1,464 | 42 | 479 | 39 |
| New Hampshire | 1,235,786 | 42 | 1,116 | 46 | 318 | 45 |
| New Jersey | 8,414,350 | 9 | 8,368 | 13 | 3,758 | 11 |
| New Mexico | 1,819,046 | 37 | 2,746 | 34 | 1,065 | 32 |
| New York | 18,976,457 | 3 | 34,589 | 2 | 7,036 | 3 |
| North Carolina | 8,049,313 | 11 | 9,245 | 10 | 2,618 | 14 |
| North Dakota | 642,200 | 48 | 1,081 | 47 | 420 | 41 |
| Ohio | 11,353,140 | 7 | 12,528 | 8 | 5,909 | 6 |
| Oklahoma | 3,450,654 | 28 | 3,039 | 31 | 1,353 | 28 |
| Oregon | 3,421,399 | 29 | 3,151 | 30 | 937 | 34 |
| Pennsylvania | 12,281,054 | 6 | 15,997 | 6 | 5,055 | 8 |
| Puerto Rico | 3,808,610 | 27 | 3,021 | 32 | 356 | 43 |
| Rhode Island | 1,048,319 | 44 | 1,679 | 40 | 272 | 46 |
| South Carolina | 4,012,012 | 26 | 2,162 | 37 | 1,247 | 31 |
| South Dakota | 754,844 | 47 | 670 | 49 | 323 | 44 |
| Tennessee | 5,689,283 | 16 | 4,607 | 25 | 1,819 | 20 |
| Texas | 20,851,820 | 2 | 22,376 | 3 | 10,261 | 2 |
| Utah | 2,233,169 | 35 | 2,983 | 33 | 1,455 | 27 |
| Vermont | 608,827 | 50 | 519 | 52 | 96 | 52 |
| Virginia | 7,078,515 | 12 | 8,828 | 11 | 3,720 | 12 |
| Washington | 5,894,121 | 15 | 4,979 | 23 | 1,503 | 25 |
| West Virginia | 1,808,344 | 38 | 1,497 | 41 | 793 | 35 |
| Wisconsin | 5,363,675 | 18 | 6,441 | 19 | 2,241 | 17 |
| Wyoming | 493,782 | 52 | 738 | 48 | 115 | 51 |

[1] Source, US Bureau of Census, http://www.census.gov
[2] Source, National Science Foundation, http://www.nsf.gov/statistics/nsf06325/

## Appendix II
## FY2005 NSF Funding by State

| State (includes DC & Puerto Rico) | NSF Funding 2005 ($K) [1] | Rank | Number of Awards | Rank | Average Award | Rank |
|---|---|---|---|---|---|---|
| **GPN** | **$160,079** | **NA** | **804** | | **$199,103** | **NA** |
| **US Total** | **$5,188,020** | **NA** | **20,346** | | **$254,990** | **NA** |
| Alabama | $31,596 | 35 | 146 | 34 | $216,411 | 28 |
| Alaska | $31,852 | 34 | 102 | 39 | $312,275 | 7 |
| Arizona | $138,721 | 12 | 492 | 16 | $281,953 | 10 |
| Arkansas | $9,374 | 50 | 65 | 44 | $144,215 | 52 |
| California | $797,694 | 1 | 2,765 | 1 | $288,497 | 9 |
| Colorado | $228,455 | 5 | 517 | 14 | $441,886 | 4 |
| Connecticut | $45,415 | 26 | 267 | 24 | $170,094 | 49 |
| Delaware | $19,342 | 43 | 104 | 38 | $185,981 | 41 |
| District of Columbia | $188,097 | 8 | 352 | 20 | $534,366 | 3 |
| Florida | $134,849 | 13 | 568 | 10 | $237,410 | 17 |
| Georgia | $100,123 | 18 | 446 | 18 | $224,491 | 24 |
| Hawaii | $32,418 | 33 | 148 | 33 | $219,041 | 26 |
| Idaho | $11,156 | 46 | 49 | 47 | $227,673 | 22 |
| Illinois | $223,091 | 6 | 914 | 5 | $244,082 | 14 |
| Indiana | $97,274 | 19 | 469 | 17 | $207,407 | 30 |
| Iowa | $41,093 | 27 | 240 | 25 | $171,221 | 48 |
| Kansas | $36,021 | 31 | 159 | 32 | $226,547 | 23 |
| Kentucky | $22,861 | 40 | 121 | 37 | $188,934 | 38 |
| Louisiana | $36,576 | 30 | 200 | 29 | $182,880 | 42 |
| Maine | $17,684 | 45 | 91 | 41 | $194,330 | 37 |
| Maryland | $124,627 | 14 | 578 | 9 | $215,618 | 29 |
| Massachusetts | $358,209 | 4 | 1,393 | 3 | $257,149 | 12 |
| Michigan | $162,488 | 9 | 708 | 7 | $229,503 | 20 |
| Minnesota | $65,758 | 21 | 319 | 21 | $206,138 | 32 |
| Mississippi | $19,933 | 42 | 60 | 45 | $332,217 | 6 |
| Missouri | $50,792 | 24 | 282 | 23 | $180,113 | 45 |
| Montana | $27,751 | 37 | 102 | 39 | $272,069 | 11 |
| Nebraska | $20,415 | 41 | 91 | 41 | $224,341 | 25 |
| Nevada | $18,130 | 44 | 78 | 43 | $232,436 | 18 |
| New Hampshire | $25,472 | 38 | 141 | 35 | $180,652 | 44 |
| New Jersey | $106,029 | 17 | 545 | 11 | $194,549 | 36 |
| New Mexico | $40,441 | 28 | 160 | 31 | $252,756 | 13 |
| New York | $373,498 | 3 | 1,632 | 2 | $228,859 | 21 |
| North Carolina | $123,046 | 15 | 613 | 8 | $200,728 | 34 |
| North Dakota | $10,226 | 49 | 42 | 49 | $243,476 | 15 |
| Ohio | $86,393 | 20 | 524 | 13 | $164,872 | 50 |
| Oklahoma | $25,427 | 39 | 123 | 36 | $206,724 | 31 |
| Oregon | $58,218 | 22 | 312 | 22 | $186,596 | 39 |
| Pennsylvania | $214,195 | 7 | 1,072 | 4 | $199,809 | 35 |
| Puerto Rico | $31,279 | 36 | 41 | 51 | $762,902 | 1 |
| Rhode Island | $32,942 | 32 | 205 | 28 | $160,693 | 51 |
| South Carolina | $52,471 | 23 | 179 | 30 | $293,134 | 8 |
| South Dakota | $7,824 | 51 | 42 | 49 | $186,286 | 40 |
| Tennessee | $46,564 | 25 | 215 | 26 | $216,577 | 27 |
| Texas | $153,786 | 10 | 885 | 6 | $173,769 | 47 |
| Utah | $37,425 | 29 | 209 | 27 | $179,067 | 46 |
| Vermont | $10,406 | 47 | 43 | 48 | $242,000 | 16 |
| Virginia | $378,404 | 2 | 544 | 12 | $695,596 | 2 |
| Washington | $113,740 | 16 | 495 | 15 | $229,778 | 19 |
| West Virginia | $6,006 | 52 | 33 | 52 | $182,000 | 43 |
| Wisconsin | $152,125 | 11 | 414 | 19 | $367,452 | 5 |
| Wyoming | $10,308 | 48 | 51 | 46 | $202,118 | 33 |

[1] Source, National Science Foundation, http://dellweb.bfa.nsf.gov/

## Appendix III
## FY2005 NIH Funding by State

| State (includes DC & Puerto Rico) | NIH Funding (2005)[1] | Rank | Award Number | Rank | Average Award | Rank |
|---|---|---|---|---|---|---|
| **GPN** | $849,787,481 | **NA** | 2,049 | | $414,733 | **NA** |
| **US Total** | $23,114,840,621 | **NA** | 53,769 | | $429,892 | **NA** |
| Alabama | $297,183,360 | 21 | 625 | 23 | $475,493 | 14 |
| Alaska | $15,446,156 | 50 | 18 | 51 | $858,120 | 1 |
| Arizona | $175,880,998 | 28 | 485 | 27 | $362,641 | 45 |
| Arkansas | $62,288,198 | 42 | 161 | 39 | $386,883 | 33 |
| California | $3,301,232,109 | 1 | 7,460 | 1 | $442,524 | 17 |
| Colorado | $346,726,075 | 20 | 986 | 19 | $351,649 | 49 |
| Connecticut | $458,535,852 | 13 | 1,217 | 12 | $376,776 | 37 |
| Delaware | $26,546,178 | 45 | 64 | 45 | $414,784 | 25 |
| District of Columbia | $233,968,619 | 24 | 540 | 25 | $433,275 | 21 |
| Florida | $372,405,996 | 19 | 1,042 | 15 | $357,395 | 47 |
| Georgia | $375,326,716 | 18 | 1,007 | 17 | $372,718 | 39 |
| Hawaii | $84,501,498 | 35 | 103 | 41 | $820,403 | 3 |
| Idaho | $11,539,956 | 51 | 24 | 50 | $480,832 | 11 |
| Illinois | $733,891,956 | 9 | 1,972 | 8 | $372,156 | 40 |
| Indiana | $218,946,042 | 25 | 622 | 24 | $352,003 | 48 |
| Iowa | $193,024,956 | 26 | 516 | 26 | $374,079 | 38 |
| Kansas | $76,752,535 | 37 | 209 | 36 | $367,237 | 42 |
| Kentucky | $164,894,937 | 29 | 435 | 29 | $379,069 | 36 |
| Louisiana | $185,016,753 | 27 | 387 | 31 | $478,079 | 12 |
| Maine | $66,669,082 | 40 | 136 | 40 | $490,214 | 8 |
| Maryland | $1,764,278,447 | 4 | 2,593 | 6 | $680,400 | 5 |
| Massachusetts | $2,272,775,609 | 2 | 5,193 | 2 | $437,661 | 19 |
| Michigan | $564,329,435 | 11 | 1,543 | 11 | $365,735 | 43 |
| Minnesota | $441,846,503 | 15 | 1,030 | 16 | $428,977 | 22 |
| Mississippi | $36,646,522 | 44 | 77 | 43 | $475,929 | 13 |
| Missouri | $511,712,948 | 12 | 1,201 | 13 | $426,072 | 23 |
| Montana | $43,236,231 | 43 | 93 | 42 | $464,906 | 15 |
| Nebraska | $75,906,282 | 38 | 216 | 35 | $351,418 | 50 |
| Nevada | $22,981,338 | 46 | 52 | 47 | $441,949 | 18 |
| New Hampshire | $97,934,857 | 34 | 242 | 33 | $404,689 | 30 |
| New Jersey | $293,474,934 | 22 | 690 | 22 | $425,326 | 24 |
| New Mexico | $114,944,144 | 33 | 221 | 34 | $520,109 | 6 |
| New York | $2,020,859,690 | 3 | 4,896 | 3 | $412,757 | 26 |
| North Carolina | $1,078,384,691 | 7 | 2,209 | 7 | $488,178 | 9 |
| North Dakota | $20,739,876 | 47 | 43 | 48 | $482,323 | 10 |
| Ohio | $716,967,092 | 10 | 1,844 | 9 | $388,811 | 32 |
| Oklahoma | $82,819,568 | 36 | 191 | 37 | $433,610 | 20 |
| Oregon | $275,962,818 | 23 | 757 | 21 | $364,548 | 44 |
| Pennsylvania | $1,452,228,510 | 5 | 3,585 | 4 | $405,085 | 29 |
| Puerto Rico | $64,360,468 | 41 | 76 | 44 | $846,848 | 2 |
| Rhode Island | $132,013,130 | 31 | 445 | 28 | $296,659 | 52 |
| South Carolina | $127,866,220 | 32 | 364 | 32 | $351,281 | 51 |
| South Dakota | $19,568,074 | 49 | 28 | 49 | $698,860 | 4 |
| Tennessee | $434,580,817 | 16 | 1,059 | 14 | $410,369 | 27 |
| Texas | $1,149,983,026 | 6 | 2,830 | 5 | $406,354 | 28 |
| Utah | $151,570,586 | 30 | 422 | 30 | $359,172 | 46 |
| Vermont | $67,002,764 | 39 | 175 | 38 | $382,873 | 35 |
| Virginia | $451,991,318 | 14 | 981 | 20 | $460,745 | 16 |
| Washington | $812,696,664 | 8 | 1,633 | 10 | $497,671 | 7 |
| West Virginia | $20,356,732 | 48 | 53 | 46 | $384,089 | 34 |
| Wisconsin | $387,749,026 | 17 | 995 | 18 | $389,698 | 31 |
| Wyoming | $6,294,329 | 52 | 17 | 52 | $370,255 | 41 |

[1] Source, National Institutes of Health, http://grants2.nih.gov/grants/award/trends/states05.htm

## Appendix IV
## Total & *Per Capita* Federal Spending by State for 2002-2003 [1]

| State | Population 2000 Census | Pork x$M (2003)1 | NSF x$K (FY02)2 | NIH x$K (FY02)3 | Pork/person $ | Pork/person rank | NSF/person $ | NSF/person rank | NIH/person $ | NIH/person rank |
|---|---|---|---|---|---|---|---|---|---|---|
| GPN States | 17,515,990 | $133.80 | $163,710 | $766,851 | $7.64 | N/A | $9.35 | N/A | $43.78 | N/A |
| All States | 280,849,847 | $1,862.00 | $4,362,628 | $18,626,562 | $6.63 | N/A | $15.53 | N/A | $66.32 | N/A |
| Alabama | 4,447,100 | $87.60 | $25,960 | $261,822 | $19.70 | 9 | $5.84 | 49 | $58.87 | 20 |
| Alaska | 626,932 | $16.10 | $27,753 | $9,742 | $25.68 | 8 | $44.27 | 3 | $15.54 | 45 |
| Arizona | 5,130,632 | $13.30 | $134,025 | $135,829 | $2.59 | 46 | $26.12 | 6 | $26.47 | 36 |
| Arkansas | 2,673,400 | $13.00 | $8,720 | $52,940 | $4.86 | 31 | $3.26 | 50 | $19.80 | 41 |
| California | 33,871,648 | $95.40 | $687,791 | $2,904,068 | $2.82 | 45 | $20.31 | 10 | $85.74 | 11 |
| Colorado | 4,301,261 | $11.00 | $220,083 | $296,518 | $2.56 | 47 | $51.17 | 1 | $68.94 | 13 |
| Connecticut | 3,405,565 | $6.80 | $38,560 | $391,221 | $2.00 | 49 | $11.32 | 34 | $114.88 | 3 |
| Delaware | 783,600 | $6.20 | $14,108 | $25,061 | $7.91 | 21 | $18.00 | 14 | $31.98 | 31 |
| Florida | 15,982,378 | $130.60 | $121,477 | $290,567 | $8.17 | 20 | $7.60 | 43 | $18.18 | 43 |
| Georgia | 8,186,453 | $33.60 | $91,165 | $310,609 | $4.10 | 37 | $11.14 | 35 | $37.94 | 28 |
| Hawaii | 1,211,537 | $39.40 | $28,022 | $53,189 | $32.52 | 6 | $23.13 | 9 | $43.90 | 27 |
| Idaho | 1,293,953 | $18.30 | $9,051 | $11,798 | $14.14 | 11 | $6.99 | 46 | $9.12 | 49 |
| Illinois | 12,419,293 | $57.70 | $208,561 | $571,117 | $4.65 | 35 | $16.79 | 19 | $45.99 | 26 |
| Indiana | 6,080,485 | $22.40 | $77,772 | $171,525 | $3.68 | 39 | $12.79 | 28 | $28.21 | 34 |
| Iowa | 2,926,324 | $36.10 | $33,366 | $181,620 | $12.34 | 15 | $11.40 | 31 | $62.06 | 18 |
| Kansas | 2,688,418 | $13.50 | $26,020 | $77,259 | $5.02 | 28 | $9.68 | 37 | $28.74 | 32 |
| Kentucky | 4,041,769 | $31.50 | $31,957 | $111,491 | $7.79 | 22 | $7.91 | 41 | $27.58 | 35 |
| Louisiana | 4,468,976 | $45.80 | $31,420 | $117,481 | $10.25 | 16 | $7.03 | 45 | $26.29 | 37 |
| Maine | 1,274,923 | $16.50 | $21,869 | $67,913 | $12.94 | 14 | $17.15 | 17 | $53.27 | 21 |
| Maryland | 5,296,486 | $25.10 | $131,755 | $1,106,532 | $4.74 | 34 | $24.88 | 7 | $208.92 | 2 |
| Massachusetts | 6,349,097 | $35.40 | $315,658 | $1,874,137 | $5.58 | 26 | $49.72 | 2 | $295.18 | 1 |
| Michigan | 9,938,444 | $36.10 | $129,483 | $486,365 | $3.63 | 40 | $13.03 | 27 | $48.94 | 24 |
| Minnesota | 4,919,479 | $9.50 | $56,639 | $372,358 | $1.93 | 50 | $11.51 | 30 | $75.69 | 12 |
| Mississippi | 2,844,658 | $87.90 | $18,415 | $34,810 | $30.90 | 7 | $6.47 | 48 | $12.24 | 47 |
| Missouri | 5,595,211 | $32.50 | $63,566 | $481,994 | $5.81 | 24 | $11.36 | 33 | $86.14 | 10 |
| Montana | 902,195 | $32.80 | $24,386 | $25,623 | $36.36 | 5 | $27.03 | 5 | $28.40 | 33 |
| Nebraska | 1,711,263 | $16.30 | $19,444 | $61,633 | $9.53 | 17 | $11.36 | 32 | $36.02 | 30 |
| Nevada | 1,998,257 | $34.50 | $16,643 | $18,567 | $17.27 | 10 | $8.33 | 38 | $9.29 | 48 |
| New Hampshire | 1,235,786 | $62.30 | $20,374 | $80,468 | $50.41 | 1 | $16.49 | 20 | $65.12 | 16 |
| New Jersey | 8,414,350 | $26.20 | $84,526 | $218,026 | $3.11 | 43 | $10.05 | 36 | $25.91 | 38 |
| New Mexico | 1,819,046 | $82.90 | $34,881 | $87,479 | $45.57 | 3 | $19.18 | 12 | $48.09 | 25 |
| New York | 18,976,457 | $85.70 | $335,712 | $1,714,512 | $4.52 | 36 | $17.69 | 15 | $90.35 | 9 |
| North Carolina | 8,049,313 | $25.20 | $95,193 | $780,680 | $3.13 | 42 | $11.83 | 29 | $96.99 | 8 |
| North Dakota | 642,200 | $31.80 | $10,873 | $13,603 | $49.52 | 2 | $16.93 | 18 | $21.18 | 40 |
| Ohio | 11,353,140 | $56.00 | $94,211 | $583,603 | $4.93 | 29 | $8.30 | 39 | $51.40 | 22 |
| Oklahoma | 3,450,654 | $16.80 | $23,827 | $66,270 | $4.87 | 30 | $6.91 | 47 | $19.20 | 42 |
| Oregon | 3,421,399 | $11.10 | $48,942 | $233,541 | $3.24 | 41 | $14.30 | 24 | $68.26 | 14 |
| Pennsylvania | 12,281,054 | $93.30 | $176,191 | $1,240,647 | $7.60 | 23 | $14.35 | 23 | $101.02 | 7 |
| Rhode Island | 1,048,319 | $14.10 | $25,536 | $115,154 | $13.45 | 12 | $24.36 | 8 | $109.85 | 5 |
| South Carolina | 4,012,012 | $36.90 | $55,660 | $103,810 | $9.20 | 18 | $13.87 | 25 | $25.87 | 39 |
| South Dakota | 754,844 | $9.90 | $11,260 | $13,152 | $13.12 | 13 | $14.92 | 22 | $17.42 | 44 |
| Tennessee | 5,689,283 | $13.20 | $46,353 | $337,535 | $2.32 | 48 | $8.15 | 40 | $59.33 | 19 |
| Texas | 20,851,820 | $118.80 | $160,357 | $1,027,704 | $5.70 | 25 | $7.69 | 42 | $49.29 | 23 |
| Utah | 2,233,169 | $20.20 | $30,605 | $146,037 | $9.05 | 19 | $13.70 | 26 | $65.39 | 15 |
| Vermont | 608,827 | $2.90 | $9,565 | $63,812 | $4.76 | 33 | $15.71 | 21 | $104.81 | 6 |
| Virginia | 7,078,515 | $35.80 | $261,960 | $261,950 | $5.06 | 27 | $37.01 | 4 | $37.01 | 29 |
| Washington | 5,894,121 | $28.20 | $101,695 | $673,614 | $4.78 | 32 | $17.25 | 16 | $114.29 | 4 |
| West Virginia | 1,808,344 | $67.30 | $12,754 | $15,246 | $37.22 | 4 | $7.05 | 44 | $8.43 | 50 |
| Wisconsin | 5,363,675 | $16.50 | $98,480 | $338,611 | $3.08 | 44 | $18.36 | 13 | $63.13 | 17 |
| Wyoming | 493,782 | $2.00 | $10,004 | $7,318 | $4.05 | 38 | $20.26 | 11 | $14.82 | 46 |

[1] http://chronicle.com/prm/weekly/v50/i05/05a01801.htm,
[2] http://dellweb.bfa.nsf.gov/AwdLst2/default.asp
[3] http://grants1.nih.gov/grants/award/trends/states02.htm

## Appendix V
## Changes in Funding between FY2002 and FY2005

| State (includes DC & Puerto Rico) | NSF | | | NIH | | |
|---|---|---|---|---|---|---|
| | $K (FY02)* | $K (FY05) | Change ($K) | $K (FY02)* | $K (FY05) | Change ($K) |
| **GPN States** | **$163,710** | **($160,079)** | **($3,631)** | **$766,851** | **$849,787** | **$82,936** |
| **US Total** | **$4,535,655** | **$5,188,020** | **$652,365** | **$18,952,636** | **$23,114,841** | **$4,162,206** |
| Alabama | $25,960 | $31,596 | $5,636 | $261,822 | $297,183 | $35,361 |
| Alaska | $27,753 | $31,852 | $4,099 | $9,742 | $15,446 | $5,704 |
| Arizona | $134,025 | $138,721 | $4,696 | $135,829 | $175,881 | $40,052 |
| Arkansas | $8,720 | $9,374 | $654 | $52,940 | $62,288 | $9,348 |
| California | $687,791 | $797,694 | $109,903 | $2,904,068 | $3,301,232 | $397,164 |
| Colorado | $220,083 | $228,455 | $8,372 | $296,518 | $346,726 | $50,208 |
| Connecticut | $38,560 | $45,415 | $6,855 | $391,221 | $458,536 | $67,315 |
| Delaware | $14,108 | $19,342 | $5,234 | $25,061 | $26,546 | $1,485 |
| District of Columbia | $150,632 | $188,097 | $37,465 | $65,937 | $233,969 | ($26,169) |
| Florida | $121,477 | $134,849 | $13,372 | $290,567 | $372,406 | $81,839 |
| Georgia | $91,165 | $100,123 | $8,958 | $310,609 | $375,327 | $64,718 |
| Hawaii | $28,022 | $32,418 | $4,396 | $53,189 | $84,501 | $31,312 |
| Idaho | $9,051 | $11,156 | $2,105 | $11,798 | $11,540 | ($258) |
| Illinois | $208,561 | $223,091 | $14,530 | $571,117 | $733,892 | $162,775 |
| Indiana | $77,772 | $97,274 | $19,502 | $171,525 | $218,946 | $47,421 |
| Iowa | $33,366 | $41,093 | $7,727 | $181,620 | $193,025 | $11,405 |
| Kansas | $26,020 | $36,021 | $10,001 | $77,259 | $76,753 | ($506) |
| Kentucky | $31,957 | $22,861 | ($9,096) | $111,491 | $164,895 | $53,404 |
| Louisiana | $31,420 | $36,576 | $5,156 | $117,481 | $185,017 | $67,536 |
| Maine | $21,869 | $17,684 | ($4,185) | $67,913 | $66,669 | ($1,244) |
| Maryland | $131,755 | $124,627 | ($7,128) | $1,106,532 | $1,764,278 | $657,746 |
| Massachusetts | $315,658 | $358,209 | $42,551 | $1,874,137 | $2,272,776 | $398,639 |
| Michigan | $129,483 | $162,488 | $33,005 | $486,365 | $564,329 | $77,964 |
| Minnesota | $56,639 | $65,758 | $9,119 | $372,358 | $441,847 | $69,489 |
| Mississippi | $18,415 | $19,933 | $1,518 | $34,810 | $36,647 | $1,837 |
| Missouri | $63,566 | $50,792 | ($12,774) | $481,994 | $511,713 | $29,719 |
| Montana | $24,386 | $27,751 | $3,365 | $25,623 | $43,236 | $17,613 |
| Nebraska | $19,444 | $20,415 | $971 | $61,633 | $75,906 | $14,273 |
| Nevada | $16,643 | $18,130 | $1,487 | $18,567 | $22,981 | $4,414 |
| New Hampshire | $20,374 | $25,472 | $5,098 | $80,468 | $97,935 | $17,467 |
| New Jersey | $84,526 | $106,029 | $21,503 | $218,026 | $293,475 | $75,449 |
| New Mexico | $34,881 | $40,441 | $5,560 | $87,479 | $114,944 | $27,465 |
| New York | $335,712 | $373,498 | $37,786 | $1,714,512 | $2,020,860 | $306,348 |
| North Carolina | $95,193 | $123,046 | $27,853 | $780,680 | $1,078,385 | $297,705 |
| North Dakota | $10,873 | $10,226 | ($647) | $13,603 | $20,740 | $7,137 |
| Ohio | $94,211 | $86,393 | ($7,818) | $583,603 | $716,967 | $133,364 |
| Oklahoma | $23,827 | $25,427 | $1,600 | $66,270 | $82,820 | $16,550 |
| Oregon | $48,942 | $58,218 | $9,276 | $233,541 | $275,963 | $42,422 |
| Pennsylvania | $176,191 | $214,195 | $38,004 | $1,240,647 | $1,452,229 | $211,582 |
| Puerto Rico | $22,395 | $31,279 | $8,884 | $65,937 | $64,360 | ($1,577) |
| Rhode Island | $25,536 | $32,942 | $7,406 | $115,154 | $132,013 | $16,859 |
| South Carolina | $55,660 | $52,471 | ($3,189) | $103,810 | $127,866 | $24,056 |
| South Dakota | $11,260 | $7,824 | ($3,436) | $13,152 | $19,568 | $6,416 |
| Tennessee | $46,353 | $46,564 | $211 | $337,535 | $434,581 | $97,046 |
| Texas | $160,357 | $153,786 | ($6,571) | $1,027,704 | $1,149,983 | $122,279 |
| Utah | $30,605 | $37,425 | $6,820 | $146,037 | $151,571 | $5,534 |
| Vermont | $9,565 | $10,406 | $841 | $63,812 | $67,003 | $3,191 |
| Virginia | $261,960 | $378,404 | $116,444 | $261,950 | $451,991 | $190,041 |
| Washington | $101,695 | $113,740 | $12,045 | $673,614 | $812,697 | $139,083 |
| West Virginia | $12,754 | $6,006 | ($6,748) | $15,246 | $20,357 | $5,111 |
| Wisconsin | $98,480 | $152,125 | $53,645 | $338,611 | $387,749 | $49,138 |
| Wyoming | $10,004 | $10,308 | $304 | $7,318 | $6,294 | ($1,024) |

*This data has been updated to include the District of Columbia & Puerto Rico.

## Appendix VI
## NSF Funding on a Per Graduate Student in Science, Engineering and *Per Capita* Basis

| State (includes DC & Puerto Rico) | $ Per Graduate Student (Science) 2005 | Rank | $ Per Graduate Student (Eng) 2005 | Rank | $ *Per Capita* 2005 | Rank | $ *Per Capita* 2002* | Rank |
|---|---|---|---|---|---|---|---|---|
| **GPN** | **$8,396** | **NA** | **$25,474** | **NA** | **$9.14** | **NA** | **$9.35** | **NA** |
| **US Total** | **$14,716** | **NA** | **$41,940** | **NA** | **$18.19** | **NA** | **$15.90** | **NA** |
| Alabama | $7,689 | 46 | $15,933 | 49 | $7.10 | 48 | $5.84 | 51 |
| Alaska | $48,334 | 1 | $205,497 | 1 | $50.81 | 5 | $44.27 | 4 |
| Arizona | $28,697 | 5 | $65,280 | 15 | $27.04 | 9 | $26.12 | 7 |
| Arkansas | $5,059 | 51 | $17,327 | 48 | $3.51 | 51 | $3.26 | 52 |
| California | $16,881 | 17 | $47,344 | 21 | $23.55 | 12 | $20.31 | 11 |
| Colorado | $32,692 | 3 | $78,318 | 12 | $53.11 | 4 | $51.17 | 2 |
| Connecticut | $7,777 | 45 | $36,332 | 32 | $13.34 | 32 | $11.32 | 35 |
| Delaware | $15,802 | 19 | $41,506 | 26 | $24.68 | 11 | $18.00 | 15 |
| District of Columbia | $27,540 | 6 | $110,776 | 6 | $328.81 | 1 | | 1 |
| Florida | $10,092 | 36 | $23,371 | 44 | $8.44 | 41 | $7.60 | 44 |
| Georgia | $14,752 | 20 | $26,245 | 37 | $12.23 | 35 | $11.14 | 36 |
| Hawaii | $19,296 | 15 | $156,609 | 2 | $26.76 | 10 | $23.13 | 10 |
| Idaho | $7,986 | 43 | $20,507 | 46 | $8.62 | 40 | $6.99 | 47 |
| Illinois | $12,262 | 30 | $45,362 | 23 | $17.96 | 19 | $16.79 | 20 |
| Indiana | $14,743 | 21 | $37,776 | 31 | $16.00 | 25 | $12.79 | 29 |
| Iowa | $10,577 | 33 | $31,369 | 33 | $14.04 | 28 | $11.40 | 32 |
| Kansas | $7,899 | 44 | $24,257 | 41 | $13.40 | 30 | $9.68 | 38 |
| Kentucky | $6,519 | 50 | $23,739 | 43 | $5.66 | 50 | $7.91 | 42 |
| Louisiana | $7,323 | 47 | $21,797 | 45 | $8.18 | 44 | $7.03 | 46 |
| Maine | $31,978 | 4 | $139,244 | 4 | $13.87 | 29 | $17.15 | 18 |
| Maryland | $14,721 | 23 | $48,249 | 20 | $23.53 | 13 | $24.88 | 8 |
| Massachusetts | $21,913 | 12 | $58,877 | 17 | $56.42 | 2 | $49.72 | 3 |
| Michigan | $16,293 | 18 | $27,295 | 36 | $16.35 | 24 | $13.03 | 28 |
| Minnesota | $9,090 | 39 | $39,026 | 27 | $13.37 | 31 | $11.51 | 31 |
| Mississippi | $8,064 | 42 | $38,780 | 28 | $7.01 | 49 | $6.47 | 49 |
| Missouri | $9,332 | 38 | $28,745 | 34 | $9.08 | 38 | $11.36 | 34 |
| Montana | $22,007 | 11 | $142,313 | 3 | $30.76 | 7 | $27.03 | 6 |
| Nebraska | $8,432 | 40 | $51,684 | 19 | $11.93 | 36 | $11.36 | 33 |
| Nevada | $12,384 | 29 | $37,850 | 30 | $9.07 | 39 | $8.33 | 39 |
| New Hampshire | $22,824 | 10 | $80,101 | 11 | $20.61 | 16 | $16.49 | 21 |
| New Jersey | $12,671 | 27 | $28,214 | 35 | $12.60 | 34 | $10.05 | 37 |
| New Mexico | $14,727 | 22 | $37,973 | 29 | $22.23 | 14 | $19.18 | 13 |
| New York | $10,798 | 32 | $53,084 | 18 | $19.68 | 17 | $17.69 | 16 |
| North Carolina | $13,309 | 26 | $47,000 | 22 | $15.29 | 27 | $11.83 | 30 |
| North Dakota | $9,460 | 37 | $24,348 | 40 | $15.92 | 26 | $16.93 | 19 |
| Ohio | $6,896 | 48 | $14,621 | 51 | $7.61 | 45 | $8.30 | 40 |
| Oklahoma | $8,367 | 41 | $18,793 | 47 | $7.37 | 47 | $6.91 | 48 |
| Oregon | $18,476 | 16 | $62,132 | 16 | $17.02 | 22 | $14.30 | 25 |
| Pennsylvania | $13,390 | 25 | $42,373 | 24 | $17.44 | 20 | $14.35 | 24 |
| Puerto Rico | $10,354 | 34 | $87,862 | 10 | $8.21 | 42 | $5.88 | 50 |
| Rhode Island | $19,620 | 14 | $121,110 | 5 | $31.42 | 6 | $24.36 | 9 |
| South Carolina | $24,270 | 7 | $42,078 | 25 | $13.08 | 33 | $13.87 | 26 |
| South Dakota | $11,678 | 31 | $24,223 | 42 | $10.37 | 37 | $14.92 | 23 |
| Tennessee | $10,107 | 35 | $25,599 | 39 | $8.18 | 43 | $8.15 | 41 |
| Texas | $6,873 | 49 | $14,987 | 50 | $7.38 | 46 | $7.69 | 43 |
| Utah | $12,546 | 28 | $25,722 | 38 | $16.76 | 23 | $13.70 | 27 |
| Vermont | $20,050 | 13 | $108,396 | 7 | $17.09 | 21 | $15.71 | 22 |
| Virginia | $42,864 | 2 | $101,722 | 8 | $53.46 | 3 | $37.01 | 5 |
| Washington | $22,844 | 9 | $75,675 | 13 | $19.30 | 18 | $17.25 | 17 |
| West Virginia | $4,012 | 52 | $7,574 | 52 | $3.32 | 52 | $7.05 | 45 |
| Wisconsin | $23,618 | 8 | $67,883 | 14 | $28.36 | 8 | $18.36 | 14 |
| Wyoming | $13,967 | 24 | $89,635 | 9 | $20.88 | 15 | $20.26 | 12 |

*This data has been updated to include the District of Columbia & Puerto Rico.

## Appendix VII
## NIH Funding on a Per Graduate Student in Science, Engineering and *Per Capita* Basis

| State (includes DC & Puerto Rico) | $ Per Graduate Student (Science) 2005 | Rank | $ Per Graduate Student (Eng) 2005 | Rank | $ *Per Capita* 2005 | Rank | $ *Per Capita* 2002* | Rank |
|---|---|---|---|---|---|---|---|---|
| **GPN** | **$44,568** | **NA** | **$135,230** | **NA** | **$48.51** | **NA** | **$43.78** | **NA** |
| **US Total** | **$65,565** | **NA** | **$186,861** | **NA** | **$81.04** | **NA** | **$66.45** | **NA** |
| Alabama | $72,325 | 14 | $149,866 | 23 | $66.83 | 21 | $58.87 | 21 |
| Alaska | $23,439 | 43 | $99,653 | 36 | $24.64 | 43 | $15.54 | 47 |
| Arizona | $36,384 | 33 | $82,768 | 40 | $34.28 | 37 | $26.47 | 37 |
| Arkansas | $33,615 | 37 | $115,135 | 30 | $23.30 | 46 | $19.80 | 42 |
| California | $69,863 | 15 | $195,930 | 18 | $97.46 | 11 | $85.74 | 12 |
| Colorado | $49,617 | 28 | $118,864 | 29 | $80.61 | 15 | $68.94 | 14 |
| Connecticut | $78,516 | 13 | $366,829 | 9 | 134.64 | 5 | $114.88 | 4 |
| Delaware | $21,688 | 44 | $56,966 | 46 | $33.88 | 38 | $31.98 | 32 |
| District of | $34,256 | 36 | $137,791 | 26 | 408.99 | 1 | $454.74 | 1 |
| Florida | $27,871 | 41 | $64,542 | 43 | $23.30 | 45 | $18.18 | 44 |
| Georgia | $55,301 | 22 | $98,382 | 37 | $45.85 | 31 | $37.94 | 29 |
| Hawaii | $50,299 | 26 | $408,220 | 7 | $69.75 | 19 | $43.90 | 28 |
| Idaho | $8,261 | 52 | $21,213 | 52 | $8.92 | 52 | $9.12 | 51 |
| Illinois | $40,339 | 31 | $149,226 | 24 | $59.09 | 26 | $45.99 | 27 |
| Indiana | $33,184 | 38 | $85,028 | 39 | $36.01 | 35 | $28.21 | 35 |
| Iowa | $49,685 | 27 | $147,347 | 25 | $65.96 | 22 | $62.06 | 19 |
| Kansas | $16,832 | 47 | $51,685 | 48 | $28.55 | 41 | $28.74 | 33 |
| Kentucky | $47,019 | 29 | $171,230 | 22 | $40.80 | 34 | $27.58 | 36 |
| Louisiana | $37,040 | 32 | $110,260 | 32 | $41.40 | 33 | $26.29 | 38 |
| Maine | $120,559 | 5 | $524,953 | 4 | $52.29 | 29 | $53.27 | 22 |
| Maryland | $208,396 | 1 | $683,035 | 2 | 333.10 | 3 | $208.92 | 3 |
| Massachusetts | $139,033 | 3 | $373,566 | 8 | 357.97 | 2 | $295.18 | 2 |
| Michigan | $56,586 | 21 | $94,797 | 38 | $56.78 | 27 | $48.94 | 25 |
| Minnesota | $61,079 | 16 | $262,223 | 15 | $89.82 | 13 | $75.69 | 13 |
| Mississippi | $14,825 | 49 | $71,297 | 42 | $12.88 | 48 | $12.24 | 49 |
| Missouri | $94,013 | 8 | $289,594 | 12 | $91.46 | 12 | $86.14 | 11 |
| Montana | $34,287 | 35 | $221,724 | 17 | $47.92 | 30 | $28.40 | 34 |
| Nebraska | $31,353 | 39 | $192,168 | 19 | $44.36 | 32 | $36.02 | 31 |
| Nevada | $15,698 | 48 | $47,978 | 50 | $11.50 | 50 | $9.29 | 50 |
| New Hampshire | $87,755 | 10 | $307,971 | 10 | $79.25 | 16 | $65.11 | 17 |
| New Jersey | $35,071 | 34 | $78,093 | 41 | $34.88 | 36 | $25.91 | 39 |
| New Mexico | $41,859 | 30 | $107,929 | 33 | $63.19 | 24 | $48.09 | 26 |
| New York | $58,425 | 19 | $287,217 | 14 | 106.49 | 10 | $90.35 | 10 |
| North Carolina | $116,645 | 6 | $411,912 | 6 | 133.97 | 6 | $96.99 | 9 |
| North Dakota | $19,186 | 46 | $49,381 | 49 | $32.30 | 39 | $21.18 | 41 |
| Ohio | $57,229 | 20 | $121,335 | 28 | $63.15 | 25 | $51.40 | 23 |
| Oklahoma | $27,252 | 42 | $61,212 | 44 | $24.00 | 44 | $19.21 | 43 |
| Oregon | $87,579 | 11 | $294,517 | 11 | $80.66 | 14 | $68.26 | 15 |
| Pennsylvania | $90,781 | 9 | $287,286 | 13 | 118.25 | 8 | $101.02 | 8 |
| Puerto Rico | $21,304 | 45 | $180,788 | 20 | $16.90 | 47 | $17.31 | 46 |
| Rhode Island | $78,626 | 12 | $485,342 | 5 | 125.93 | 7 | $109.85 | 6 |
| South Carolina | $59,143 | 18 | $102,539 | 35 | $31.87 | 40 | $25.87 | 40 |
| South Dakota | $29,206 | 40 | $60,582 | 45 | $25.92 | 42 | $17.42 | 45 |
| Tennessee | $94,331 | 7 | $238,912 | 16 | $76.39 | 17 | $59.33 | 20 |
| Texas | $51,394 | 23 | $112,073 | 31 | $55.15 | 28 | $49.29 | 24 |
| Utah | $50,811 | 25 | $104,172 | 34 | $67.87 | 20 | $65.39 | 16 |
| Vermont | $129,100 | 4 | $697,945 | 1 | 110.05 | 9 | $104.81 | 7 |
| Virginia | $51,200 | 24 | $121,503 | 27 | $63.85 | 23 | $37.01 | 30 |
| Washington | $163,225 | 2 | $540,716 | 3 | 137.88 | 4 | $114.29 | 5 |
| West Virginia | $13,598 | 50 | $25,671 | 51 | $11.26 | 51 | $8.43 | 52 |
| Wisconsin | $60,200 | 17 | $173,025 | 21 | $72.29 | 18 | $63.13 | 18 |
| Wyoming | $8,529 | 51 | $54,733 | 47 | $12.75 | 49 | $14.82 | 48 |

*This data has been updated to include the District of Columbia & Puerto Rico.