Guide for Public Use Data Files

National Science Foundation's
Survey of State Government Research and Development

Fiscal Year 2025

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Table of Contents

1. ABOUT THE SURVEY OF STATE GOVERNMENT R&D 2

2. SURVEY POPULATION, INSTRUMENT, AND DATA AVAILABILITY 2

2.1 Target Population and Frame 2
2.2 Key Variables 3
2.3 Data Comparability Across Survey Cycles FYs 2006–2025 4
2.4 Changes to the Survey 5

2.4.1 Changes to the Survey for FY 2025 5
2.4.2 Historical Changes to the Survey 5

2.5 Excluded Data 7
2.6 Data Imputation 7

2.6.1 Data Imputation in Earlier Survey Cycles 9
2.6.2 Data Table Considerations Related to Imputation 9

2.7 Quality Assurance and Quality Control Procedures 9

2.8 Public Use Data Files 11

2.8.1 File Types FY 2025 11

2.8.1.1 Data File Format 11
2.8.1.2 Derived variables 14
2.8.1.3 State code labels FY 2025 15

3. ADDITIONAL RESOURCES 17

3.1 Survey Questionnaires 17
3.2 Publications 17
3.3 Electronic Access 17
3.4 Contact for More Information 17

This data users' guide provides a detailed description of the public use data files for the Fiscal Year (FY) 2025 National Center for Science and Engineering Statistics', within the U.S. National Science Foundation, Survey of State Government Research and Development. For most states, the fiscal year begins on 1 July and ends the following 30 June. For example, FY 2025 begins on 1 July 2024 and ends on 30 June 2025. There are, however, five exceptions to the 30 June fiscal year end: New York (ends 31 March); Texas (ends 31 August); and Alabama, Michigan, and the District of Columbia (all end 30 September). For comparability, all states, the District of Columbia, and Puerto Rico are surveyed at the same time even though their FYs may differ from one another. Data presented for this survey are for each of the respective fiscal year periods as defined by the states. Because public use data files are also available for FYs 2006-2007 and FYs 2009-2023, listings of variable names and labels for those earlier cycles are also provided. No survey was conducted for the FY 2008 period. For additional information about the survey population and procedures, refer to the FY 2025 Methodology Report and methodology reports from the previous collection cycles (available upon request from the National Center for Science and Engineering Statistics project manager listed in section 3.4). NCSES has reviewed this product for unauthorized disclosure of confidential information and approved its release (NCSES-DRN26-048T)

1. ABOUT THE SURVEY OF STATE GOVERNMENT RESEARCH AND DEVELOPMENT

The Survey of State Government Research and Development (SGRD) is the only source for comprehensive uniform statistics regarding the extent of research and development (R&D) activity performed and funded by departments and agencies in each of the nation's 50 state governments, the government of the District of Columbia, and the government of Puerto Rico. Survey data are reported by state government departments, agencies, commissions, public authorities, institutions, and other entities that operate separately or somewhat autonomously from the central state government—but where the state government maintains administrative or fiscal control over their activities—with the capacity to perform or fund R&D; units are collectively referred to as agencies. This survey is a census, thus there is no sampling.

The National Center for Science and Engineering Statistics (NCSES), within the U.S. National Science Foundation (NSF), had collected state government R&D data, by state fiscal year (FY) for 1964, FY 1965, FY 1967, FY 1968, FY 1972, FY 1973, and FY 1977 in collaboration with the U.S. Census Bureau's Census of Governments and related annual survey programs. The FY 1987, FY 1988, and FY 1995 data collections of state government R&D were conducted by nonfederal organizations that were supported by NSF grants. The current iteration of the SGRD began with the FY 2006 survey cycle. The Census Bureau has been serving as the data collection agent for NCSES. No survey was conducted for the FY 2008 period. As a result of differences in the survey populations, in definitions of covered R&D activities, and in collection methods over time, the results from the surveys conducted between FY 1964 and FY 1995 are not comparable with the statistics collected for FY 2006 and subsequent SGRD cycles. Microdata are only available for public use beginning with the FY 2006 data collection cycle.

2. SURVEY POPULATION, INSTRUMENT, AND DATA AVAILABILITY

2.1 Target Population and Frame

For the FY 2025 survey cycle, the target population included state government departments, agencies, commissions, public authorities, institutions, and other entities that operate separately or somewhat autonomously from the central state government but where the state government maintains administrative or fiscal control over their activities, as defined by the Census Bureau's Government Finance and Employment Classification Manual (see chapter 1), and that funded or performed R&D for the state government. Several industry-specific state commissions, which are generally chartered by state

legislatures but are administered independently, are considered state agencies and are included in the survey's population. State-run colleges and universities, which are canvassed as part of the NCSES Higher Education Research and Development (HERD) Survey, are excluded from the survey frame. State-run laboratories or experiment stations controlled by state universities are also excluded from the respondent universe, as are any entities determined to be nonprofit or private, as defined by the Census Bureau government classification criteria. However, because agricultural experiment stations in Connecticut are legally organized as a state government-dependent agency and because they are not affiliated with any university system, they are included in the survey's target population.

The frame includes all state government-dependent units, including those for the District of Columbia and Puerto Rico (which for statistical purposes are treated as state-equivalents and hereafter referred to as states) with the capacity to perform and fund R&D, identified with the aid of a state coordinator who is appointed by the governor of each state. For the FY 2025 survey, state coordinators were provided with a list of agencies that were previously identified from the FY 2024 survey cycle as having the potential to perform or fund R&D. In addition, these lists included agencies identified from a systematic review of state session laws and additional review by Census Bureau and NCSES staff of agencies reporting to the Census Bureau's Census of Governments program. State coordinators were asked to review this list and add agencies that they believed were involved with R&D and were not already identified. State coordinators also adjusted the agency universe to remove agencies that have never had any qualifying R&D to report to NCSES, to add any agencies that were missing or could have R&D to report, to address organizational changes within their respective states since the previous survey, and to provide updated agency contact information.

2.2 Survey Questions and Critical Items

The FY 2025 SGRD instrument consisted of the following 14 questions and one additional question used to provide comments regarding the agency's reported data. Financial data are collected in whole dollars. Critical items are the important variables that are necessary to provide totals for type of performance (i.e., intramural and extramural), type of R&D (i.e., basic research, applied Research, and experimental development), source of funds, R&D personnel, and R&D plant. In addition, those items are needed for the National Patterns of Research and Development Resources.

Question 1 requested agency respondent contact information, such as name, title, agency name, agency address, phone number, e-mail address and similar information for an alternative or secondary point-of-contact. Question 1 is for survey processing purposes and is not included in public data files.

Question 2 requested agency provides the month in which the fiscal year ended. While most state agencies had a fiscal year end of June 30, 2025, several states as well as public authorities, commissions, and other institutions may have different a fiscal year end period.

Question 3 is designed as a screening question to identify if the agency has reportable R&D and if so in which crosscuts, such as internal funding or external funding apply. Question 3 is for survey processing purposes and is not included in public data files.

Question 4 asked for expenditures for intramural performed R&D, by source of funds, these include state government funding, federal funding, other non-federal government funding, non-profit organization funding, business funding, and higher education institution funding. (critical item)

Question 5 asked the amount of intramurally performed R&D reported in Question 4 by type of R&D (i.e., basic research, applied research, and experimental development) by federal and non-federal funding sources. (critical item)

Question 6 asked for the number of employees involved in intramural research reported in Question 4 by the following categories: researchers, technicians, and support staff. (critical item)

Question 7 asked for the number of full-time-equivalent employees involved in intramural research reported in Question 4 by the following categories: researchers, technicians, and support staff. (critical item)

Question 8 asked for expenditures for extramurally funded R&D, by source of funds, these include state government funding, federal funding, and all other funding sources. (critical item)

Question 9 asked for expenditures for extramurally funded R&D reported in Question 8 by type of entity which includes higher education institutions, businesses and individuals, non-profit organizations, other governments, and all other performers. (critical item)

Question 10 is a summary of expenditure data for both intramural and extramural R&D by all sources of funds as reported in Questions 4 and 8.

Question 11 asked for the amount or R&D expenditures by governmental function based on the total expenditures reported in Question 10. These functional categories are agriculture, energy, environment and natural resources, health, transportation, and all other functions. (critical item)

Question 12 asked for the amount of federal funding received for both intramural and extramural R&D expenditures by federal agency.

Question 13 asked for the amount of expenditures for construction, land, and facilities used for R&D, also referred to as R&D plant, by both intramural and extramural R&D performance. (critical item)

Question 14 requested that institutions report the estimated completion time required to complete the survey. Question 14 is for survey processing purposes and is not included in public data files.

2.3 Data Comparability Across Survey Cycles FYs 2006–2025

The population of state agencies with the potential to fund R&D varies year-to-year because R&D is highly discretionary at the state level. In addition, state government R&D totals can display considerable volatility between survey cycles. For example, state agency expenditures are influenced by several national and state-specific factors, and large changes (either increases or decreases) are not unusual, especially for discretionary spending items, such as R&D. State governments will often create special funds to support specific research activities for a limited time. These funds may have a one-time appropriation from the legislature and expire within 2–5 fiscal years; state agencies obligate those funds for specific R&D projects, depending on availability and expiration of funding authority, as well as other program-specific and administrative considerations. Data reported are agency direct expenditures for R&D in a given fiscal year, not obligations. Direct expenditures, also referred to as outlays, are defined as the actual disbursement of cash, checks, and electronic transfers to execute previous obligations. Obligations are defined as the amount committed to R&D projects in that year, which could be spent over several subsequent years. As such, in the case of multiyear grants to extramural performers, an agency's expenditures for that fiscal year may be greater than its obligations because expenditures may include spending from the previous year's appropriations, depending on the specific budget authority granted by the legislature. It is likely that some portion of the reported changes reflect measurement and coverage errors.

A state's R&D priorities may be shaped by the state's unique legislative and budgeting processes. State budget practices vary considerably due to both political and historical reasons. Nineteen states enact

biennial budgets. Of these states, Montana, Nevada, North Dakota, and Texas have both biennial legislative sessions and biennial budgets. The remaining 15 states of Connecticut, Hawaii, Indiana, Kentucky, Maine, Minnesota, Nebraska, New Hampshire, North Carolina, Ohio, Oregon, Virginia, Washington, Wisconsin, and Wyoming hold annual legislative sessions but maintain biennial budgeting. Only North Dakota and Wyoming enact consolidated 2-year budgets; other biennial budget states enact two annual budgets at one time. As such, the nature of a state's budget priorities for R&D may be determined on a biennial basis in some states; in others, however, it may be determined on an annual basis. In states with biennial budgets, the legislatures will often make supplemental appropriations to the second-year budget, which may result in further changes to the initial funding priorities.

The data exclude R&D expenditures by state governments that did not flow through state agencies' budgets. The state totals do not include direct appropriations from state legislatures to colleges and universities. Higher education institutions' expenditures from state government appropriations are available from the NCSES HERD Survey. For FY 2025, state government agencies reported $1.3 billion in expenditures used to support R&D performance by academic institutions. A primary factor for the difference between totals reported in the HERD Survey and the Survey of State Government R&D is that direct appropriations to state-run universities are included in the former but not in the latter. Another likely factor is the exclusion of R&D at agricultural experiment stations from the state survey totals because they are generally associated with land-grant colleges and universities and are canvassed on the HERD Survey.

Direct comparison of state agency expenditures should also be viewed with caution because state governments may periodically reorganize departments and agencies such that some divisions and offices that were part of one agency may be moved to another agency. In other instances, entire departments may be reorganized into newly created departments. Although the FY 2025 Survey of State Government R&D encountered several instances of these organizational changes in several states, the survey itself is not designed to measure specific changes in state government organizational structure. To account for these and other changes in the data between FY 2024 and FY 2025, staff from the Census Bureau and NCSES conducted follow-up calls for some agencies with major data changes, depending on the type of agency and state, to ensure the accuracy of the survey data. Major data changes are those with substantial increases or decreases in either dollar amount or percent change from the prior year. No specific threshold is set to cut off when something is considered a major change, but they typically involve an increase or decrease of 20% or more or a dollar change of $1 million, depending on the amount reported.

Data specific to state government agencies were first released with the FY 2009 data set. Specific agency-level data for FY 2006 and FY 2007 are not available as data were collected in aggregate from state-coordinators for those two survey cycles. No survey was conducted for FY 2008.

2.4 Changes to the Survey

2.4.1 Changes to the Survey for FY 2025

No changes were made to the FY 2025 survey compared to the FY 2024 survey.

2.4.2 Historical Changes to the Survey

- FY 2009. The FY 2009 questionnaire was the first to collect state government R&D activities by governmental functions of agriculture, environment and natural resources, health, transportation, and other.

This was also the first year that the survey was administered directly to agencies rather than directed to the state coordinator to collect and compile the data as was done for FYs 2006 and 2007.

- FYs 2010 and 2011. The survey was reorganized as a biennial survey and collected two fiscal years of data on one questionnaire. In addition, the energy category was added to the list of specific government functions of R&D.

- FYs 2012 and 2013. A minor change to the instructions in the question for extramural performers was made from "R&D done for your department/agency" to "R&D funded by your department/agency" to ensure that all R&D-related projects that the agency funds regardless of the end result (i.e., grants) were properly included.

- FYs 2014 and 2015. The survey was revised to collect additional details about R&D funding and performance to better align with the Organisation for Economic Co-operation and Development (OECD) *2015 Frascati Manual*, the most recent edition available at survey launch. These changes include source of funds for extramural R&D supported by federal funds, state funds, or other funds. For all federal funds received for both intramural and extramural R&D, respondents were asked how much was received from specific federal agencies. For intramural R&D performance, respondents were asked how much was classified as basic research, applied research, or experimental development, by source of funds (viz., federal funds and state and all other funds).

  Puerto Rico stopped reporting after the FYs 2014 and 2015 survey and would not resume reporting until the FY 2022 survey cycle.

- FY 2016. Survey reporting period changed from a biennial to annual survey. Questions remained the same with some minor additions to examples and wording changes. A remarks box was added for respondents to provide comments.

- FY 2017. The "other" category for "internal sources of R&D" was split into multiple categories, namely, nonfederal government funds, nonprofit organizations, businesses, and higher education institutions.

- FY 2018. No changes were made.

- FY 2019. A question asking about the amount of time it takes to complete the survey was added for administrative purposes.

- FY 2020. Two new questions were added asking for the number of intramural R&D personnel and the number of full-time equivalent employees for researchers, technicians, and support staff.

- FY 2021. The survey was restructured to group related questions together. For example, questions on expenditures for R&D performed internally by type of R&D, internal R&D employees, and internal full-time equivalent R&D personnel were moved to follow the internal R&D expenditures question. Similarly, questions on expenditures for R&D

performed externally and expenditures for R&D performed externally by type of entity were moved to follow the internal R&D questions. All questions asking for crosscuts on the total R&D expenditures were moved to follow both internal and external R&D-related questions.

- FY 2022. The "other" category for external performance of R&D was split into multiple categories, namely, nonprofit organizations, other governments (i.e., federal, federally funded research and development centers, other state governments, and local governments), and other performers not elsewhere classified. Expenditures for the category of "construction and acquisition of land and facilities" was broken into two sub-categories, namely, internal and external. Neither one of these changes was published in the data tables until the FY 2023 survey results.

  Puerto Rico resumed reporting to the SGRD after ceasing responses after the FY 2015 survey cycle. Between FYs 2005 and 2016, the Puerto Rico Institute of Statistics (PRIS) conducted its own survey of R&D. Staff from the Census Bureau and NCSES worked with staff at PRIS to ensure questions relevant to the Survey of State Government R&D were consistent with those asked by the PRIS during their survey. PRIS would send agency responses to the Census Bureau for inclusion in the SGRD data set. Between FYs 2016 and 2022, PRIS suspended its own survey and Census Bureau staff provided a copy of the fillable PDF survey to the Puerto Rico Coordinator to send to agencies and provide responses back to the Census Bureau. However, agencies did not respond to requests from the coordinator in Puerto Rico during this time. Puerto Rico did not report data for FYs 2016 through 2021 but resumed reporting in FY 2022. For the FY 2022 survey, the coordinator in Puerto Rico recommended Census Bureau staff reach out to specific agencies identified by the coordinator for survey responses.

- FY 2023. No changes were made.

- FY 2024. No changes were made.

2.5 Excluded Data

Some data collected as part of the SGRD are not included in the public use data files. Information categorized as survey processing elements, such as respondent contact information and burden hours are excluded from publicly available data.

2.6 Data Imputation

All state and national totals are aggregates of reported agency data. Each state government's organizational structure, laws, and delegation of powers within its purview are unique. No universally applied methods of imputation can be used across all state government agencies and still account for these structural differences. This is consistent with basic statistical methods used by the Census Bureau's Census of Governments, Survey of State Government Finance.

Therefore, R&D expenditures may be underestimated in states where agencies failed to respond. When imputation methods are needed, they are handled on an individual agency and state-by-state basis. It is important to note that data corrections for previous reporting periods will be made if instructed by the respondents. As such data users should always use the most recent data files.

Imputation is performed only for cases that report $1 million or more historically. For nonresponse cases that have historically reported under $1 million, imputation is not performed (in these cases, for data user awareness and transparency, it should be noted that R&D totals in states with other nonresponding agencies may be understated). Three imputation methods are used. The preferential method is the use of annual report data (i.e., method 1). If this data are not available, a 3-year average (i.e., method 2) or state ratio (i.e., method 3) is used for imputation. Method 3 is used instead of method 2 when 3 years of historic data are not available or for those agencies whose historical data fluctuates vastly between years. Finally, when selecting between methods 2 and 3, the imputed value is determined using both methods; then, the imputation value that is more consistent with prior year data is selected. Outlined below are the 3 imputation methods, in order of preference:

- Method 1: Using data from the annual report, if available.
- Method 2: Using a 3-year average of the prior 3-year data. If this period contains an outlier (e.g., a value that is vastly different than the other values in 3 prior years), the outlier will be removed and substituted with a fourth year value. Then, the average of the three comparable values will be used.
    - Outlier is determined on a case-by-case basis, generally +/-20% depending on agency or state.
- Method 3: Using the ratio method of the state totals for R&D.
    - For each state, a state ratio is created (total of reported R&D for current year / total of reported R&D for prior year). This ratio is then multiplied by the prior year's value for the agency to impute a value for the current year. To use this method, the following conditions must be met.
        - The imputation determined under method 3 must be better aligned with the observed data.
            - The estimates derived via methods 2 and 3 are compared against each other by determining the percent difference between the method 2 estimate and the prior year value, and the method 3 estimate and the prior year value. If the percentage difference is smaller for the estimate determined via method 3, then this value is used. If not, then the estimate determined by method 2 is used.

- It is imperative that there are at least 5 agencies per reporting period with data. If not, then method 2 must be used instead of method 3.

Data were imputed for eight agencies for this cycle because they are known to have had reported $1 million or more in R&D in previous survey cycles, seven of the nonresponding agencies reported minor amounts of R&D in prior year and were left as a nonresponse due to their total accounting for 0.08% of the reported total for the FY 2023 Survey of State Government R&D, whereas the remaining nonresponding agencies have traditionally reported $0 R&D in previous survey cycles. Values for the California Food and Agriculture, District of Columbia Water and Sewer Authority, Kansas Soybean Commission, New Jersey State Parole Board, Rhode Island Department of Transportation, and Virginia Department of Wildlife Resources were imputed using the average of prior-year reporting patterns. Data for the Arkansas Soybean Promotion Board and Illinois Nutrient Research and Education Council were imputed using data from their annual report. Two of these nonresponding agencies were refusals due to staff shortages. One of the agencies with imputed data indicated that they performed or funded R&D, but they could not provide specific performance or funding data.

2.6.1 Data Imputation in Earlier Survey Cycles

Information on specific agency imputed data are available in the survey year Technical Notes and the Methodology Reports. Data users should direct their attention to the imputation section of each for more information about agency imputation for specific years.

2.6.2 Data Table Considerations Related to Imputation

The published totals in the data tables include imputed values. However, as there are few instances of imputation within each survey cycle, see the survey year Technical Notes for the specific information on individual agency imputations.

2.7 Quality Assurance and Quality Control Procedures

The SGRD data provided to NCSES by the Census Bureau goes through a series of reviews and quality assurance and quality control procedures.

The Census Bureau prepares and reviews changes to the SGRD table shell specifications annually, making any necessary adjustments to both the survey year and changes in format to address new data or new data presentation requirements. Table shells are reviewed by the NCSES Survey Manager and the NCSES Data Team to ensure necessary programming specifications are correct and actionable. Finally, the table shells are reviewed by the NCSES publications managers to ensure compliance with the NCSES standards guide. Once approved by the NCSES publication manager the revised table shells are returned to the Census Bureau to use as a template to populate with data upon completion of the data collection phase.

During data collection, respondent data submissions were received via fillable PDFs e-mailed to the Census Bureau. Basic logical edit checks, review of respondent comments, and comparisons

of data from previous surveys allowed Census Bureau and NCSES staff to detect data errors and work with respondents to correct them. Census Bureau and NCSES staff also conducted follow-up to agencies with major data changes in R&D between FY 2024 and FY 2025 to ensure the accuracy of the survey data. Major data changes are dependent on the state and type of agency. After all the agencies in a state submitted responses, a spreadsheet of aggregated agency data was sent to the survey's state coordinator, a state official appointed by the governor's office to review the state's results before final submission to the Census Bureau. State coordinators are asked to perform a final verification of aggregated agency data.

Upon the completion of data collection, Census Bureau staff perform a series of quality checks on the data in the Standard Economic Processing System (StEPS) database to ensure that totals equal across variables. StEPS is a SAS-based database used throughout the Census Bureau's Economic Directorate. Data is also reviewed in JMP to ensure that all crosscuts of the data sum correctly to totals and sub-totals. For example, Total R&D may be split across multiple functions; Census Bureau staff will also review the data to ensure the sum of the functional crosscuts sum to the reported total R&D. JMP is a statistical software program developed by the SAS institute. It functions as a graphical user interface to SAS. Census Bureau staff also run trend comparisons on each variable and flags substantial year-to-year changes for the NCSES survey manager to review. Additional follow-up with agencies may be warranted to resolve or explain any differences.

After the Census Bureau reviews the data, they populate the NCSES approved table shells with data from the StEPS database. The Census Bureau project manager reviews the tables, metadata, and computer programs used to populate the tables and ensure the variable names are consistent with the table specifications. A second person compares the populated detailed statistical tables (DSTs) by cross-checking the DSTs against the database to ensure the variables for each table match the Table Specs. Any estimates that do not match are flagged for review. The Census Bureau project manager reviews the tables notes, footnotes, and table titles to ensure the data are consistent with the Tables Shell requirements. DSTs are also reviewed to ensure that any data or naming conventions used across multiple tables are presented consistently. Any issues are flagged, reviewed, corrected, and re-run before final DST review. Before DSTs and data files are delivered to NCSES the Census Bureau branch chief reviews the data, and results are presented by the project manager and the branch chief to the Census Bureau's assistant division chief and division chief as part of a required internal review meeting. Upon the division chief's approval DSTs and data files are delivered to NCSES.

Upon receipt of the DSTs, the NCSES survey manager reviews the DSTs, examining trends and changes from the prior year data and identifying important changes. Upon approval of the DSTs by the NCSES Program Director, Census Bureau sends the Data Repository Files, the source data used to populate the DSTs. The Data Repository Files are used by the NCSES data team to re-create the DSTs as e-Tables, also referred to as data tables (DTs). The NCSES data team runs a comparison of any differences between the DSTs and the DTs. Any differences are sent to the Census Bureau to resolve and re-send updated DSTs and Data Repository Files. Upon completion of the DT validation the tables are sent to the NCSES publications manager for additional review and compliance with the NCSES publication standards.

2.8 Public Use Data Files

After completion of the data processing cycle, the collected data are stored in files for public use and archival purposes. These files include any corrections to prior-year data that were discovered in subsequent cycles. References to prior-year data should be restricted to those published in these files for two reasons: (1) when completing the current year's survey, survey respondents may revise their prior years' data and (2) NCSES reviews data for prior years for consistency with current-year responses and, if necessary, may revise these data in consultation with respondents.

For the 2025 data, there were 589 agencies in the survey universe, 554 responded to the survey. Of the 554 respondents, 371 reported having R&D activities in FY 2025. Thus, there are data for 371 agencies.

2.8.1 File Types FY 2025

Public Use data files are available in three formats, Excel, CSV, and SAS.

2.8.1.1 Data File Format

Data file variable names and labels for data collection cycle FY 2025 are provided below.

#	Variable	Label	Type	Notes
1	YEAROFDATA	State government fiscal year	Numeric	
2	STATECODE	State name identifier	Numeric	
3	Agency_ID	State government agency identifier	Numeric	
4	AGENCYNAME	State government agency name	Character	
5	INTSTATE	State government funds used for intramural R&D	Numeric	
6	INTFED	Federal government funds used for intramural R&D	Numeric	
7	INTOTHER	Other sources of funds used for intramural R&D	Numeric	Deleted after 2016
8	INTOTHGVT	Other non-federal government funds used for intramural R&D	Numeric	Added in 2017
9	INTNONPFT	Funding from nonprofit organizations for intramural R&D	Numeric	Added in 2017
10	INTBUS	Funding from businesses for intramural R&D	Numeric	Added in 2017
11	INTACA	Funding from higher education institutions for intramural R&D	Numeric	Added in 2017
12	EXTACA	Expenditures to higher education institutions for extramural performance of R&D	Numeric	
13	EXTCOMP	Expenditures to business or individuals for extramural performance of R&D	Numeric	

#	Variable	Label	Type	Notes
14	EXTOTH	Expenditures to all others for extramural performance of R&D	Numeric	Deleted after 2021
15	EXTNONPFT	Expenditures to non-profit organizations for extramural performance of R&D	Numeric	Added in 2022
16	EXTOTHGVT	Expenditures to other governments for extramural performance of R&D	Numeric	Added in 2022
17	EXTOTH2	Expenditures to other performers not elsewhere classified for extramural performance of R&D	Numeric	Added in 2022
18	TOTRD	Total R&D expenditures	Numeric	Deleted after 2013
19	TOTBASIC	Total expenditures for basic research	Numeric	Deleted after 2013
20	TOFEDAGN	Total funds received from federal agencies for R&D	Numeric	Added in 2009
21	FIELDAGR	Total R&D expenditures for agricultural function	Numeric	Added in 2009
22	FIELDENERGY	Total R&D expenditures for energy function	Numeric	Added in 2009
23	FIELDENV	Total R&D expenditures for environment and natural resources function	Numeric	Added in 2009
24	FIELDHEALTH	Total R&D expenditures for health function	Numeric	Added in 2009
25	FIELDTRANS	Total R&D expenditures for transportation function	Numeric	Added in 2009
26	FIELDOTHER	Total R&D expenditures for all other functions	Numeric	Added in 2009
27	TOTFIELD	Total R&D expenditures for all functions	Numeric	Added in 2009
28	TOTCONST	Total R&D expenditures for land and facilities	Numeric	
29	INTCONST	Expenditures for construction and acquisition of land and facilities for intramural R&D	Numeric	Added in 2022
30	EXTCONST	Expenditures for construction and acquisition of land and facilities for extramural R&D	Numeric	Added in 2022
31	TOTINTRD	Total expenditures for intramural R&D from all sources of funds	Numeric	Added in 2014
32	EXTSTATE	State government funds used for extramural R&D	Numeric	Added in 2014
33	EXTFED	Federal government funds used for extramural R&D	Numeric	Added in 2014
34	EXTOTHER	Other sources of funds used for extramural R&D	Numeric	Added in 2014
35	TOTEXTRD	Total R&D expenditures for extramural R&D from all sources of funds	Numeric	Added in 2014

#	Variable	Label	Type	Notes
36	FEDAGR	Funds received from the U.S. Department of Agriculture for R&D	Numeric	Added in 2014
37	FEDCOM	Funds received from the U.S. Department of Commerce for R&D	Numeric	Added in 2014
38	FEDDEF	Funds received from the U.S. Department of Defense for R&D	Numeric	Added in 2014
39	FEDEDU	Funds received from the U.S. Department of Education for R&D	Numeric	Added in 2014
40	FEDENRG	Funds received from the U.S. Department of Energy for R&D	Numeric	Added in 2014
41	FEDHLTH	Funds received from the U.S. Department of Health and Human Services for R&D	Numeric	Added in 2014
42	FEDHOM	Funds received from the U.S. Department of Homeland Security for R&D	Numeric	Added in 2014
43	FEDHOUS	Funds received from the U.S. Department of Housing and Urban Development for R&D	Numeric	Added in 2014
44	FEDINT	Funds received from the U.S. Department of the Interior for R&D	Numeric	Added in 2014
45	FEDJUST	Funds received from the U.S. Department of Justice for R&D	Numeric	Added in 2014
46	FEDLBR	Funds received from the U.S. Department of Labor for R&D	Numeric	Added in 2014
47	FEDST	Funds received from the U.S. Department of State for R&D	Numeric	Added in 2014 Deleted after 2020
48	FEDTRANS	Funds received from the U.S. Department of Transportation for R&D	Numeric	Added in 2014
49	FEDTREAS	Funds received from the U.S. Department of the Treasury for R&D	Numeric	Added in 2014
50	FEDVET	Funds received from the U.S. Department of Veterans Affairs for R&D	Numeric	Added in 2014
51	FEDEPA	Funds received from the Environmental Protection Agency for R&D	Numeric	Added in 2014
52	FEDNASA	Funds received from the National Aeronautics and Space Administration for R&D	Numeric	Added in 2014
53	FEDNSF	Funds received from the National Science Foundation for R&D	Numeric	Added in 2014
54	FEDOTHER	Funds received from other federal agencies for R&D	Numeric	Added in 2014
55	FEDOTHER2	Funds received from other federal agencies for R&D[1]	Numeric	Added in 2014
56	INTBASICFED	Expenditures for intramural basic research from federal funds	Numeric	Added in 2015

[1] Secondary funds if any, received from other federal agencies for R&D.

#	Variable	Label	Type	Notes
57	INTBASICNON	Expenditures for intramural basic research from non-federal funds	Numeric	Added in 2015
58	INTAPPFED	Expenditures for intramural applied research from federal funds	Numeric	Added in 2015
59	INTAPPNON	Expenditures for intramural applied research from non-federal funds	Numeric	Added in 2015
60	INTDEVFED	Expenditures for intramural experimental development from federal funds	Numeric	Added in 2015
61	INTDEVNON	Expenditures for intramural experimental development from non-federal funds	Numeric	Added in 2015
62	TOTINTCHARFED	Total expenditures for intramural R&D from federal sources	Numeric	Added in 2015
63	TOTINTCHARNON	Total expenditures for intramural R&D from non-federal sources	Numeric	Added in 2015
64	TOTPERFTRD	Total expenditures to all extramural performers of R&D	Numeric	Added in 2014
65	TOTEMP	Total R&D employees headcount	Numeric	Added in 2020
66	EMPRSCH	Number of researchers	Numeric	Added in 2020
67	EMPTECH	Number of R&D technicians and equivalent staff	Numeric	Added in 2020
68	EMPSUPP	Number of R&D support staff	Numeric	Added in 2020
69	TOTFTE	Total R&D full-time-equivalent	Numeric	Added in 2020
70	FTERSCH	Full-time-equivalent of researchers	Numeric	Added in 2020
71	FTETECH	Full-time-equivalent of R&D technicians and equivalent staff	Numeric	Added in 2020
72	FTESUPP	Full-time-equivalent of R&D support staff	Numeric	Added in 2020

2.8.1.2 Derived Variables

With regards to the survey Data Tables on the survey web page, there are several variables that are derived from items collected on the survey. Those derived variables do not appear in the public use file and are presented below to illustrate their composition. For the formula specifics please see the table provided in section 2.8.1.1.

Concept	Composition	Formula
Total external performers – other	The total expenditures to non-profit organizations other governments, and other performers not elsewhere	EXTOTHD = EXTNONPFT + EXTOTHGVT + EXTOTH2

	classified for extramural performance of R&D	
Total federal other agencies not tabulated separately	The total funds received from the U.S. Department of Homeland Security, Housing and Urban Development, Justice, Labor, Treasury, Veterans Affairs, Nation Aeronautics and Space Administration for R&D; funds from other federal agencies for R&D, and funds received from other federal agencies for R&D	FEDOTH = FEDHOM + FEDHOUS + FEDJUST + FEDLBR + FEDTREAS + FEDVET + FEDNASA + FEDOTHER + FEDOTHER2
Total internal	The total funding from higher education institutions, nonprofit organizations, and other non-federal government funds used for intramural R&D	INTOTH = INTACA + INTBUS + INTNONPFT + INTOTHGVT
Total R&D and total Construction cost	The total R&D expenditures for land and facilities and Total R&D expenditures for all functions	TOTCSTRD = TOTCONST + TOTFIELD
Total internal applied research	The total expenditures for intramural applied research from federal funds and non-federal funds	TOTINTAPP = INTAPPFED + INTAPPNON
Total internal basic research	The sum of expenditures for intramural basic research from federal funds and non-federal funds	TOTINTBAS = INTBASICFED + INTBASICNON
Total internal development	The total expenditures for intramural experimental development from federal funds and non-federal funds	TOTINTDEV = INTDEVFED + INTDEVNON
Total non-federal	The total state government funds used for intramural R&D, state government funds used for extramural R&D, the sum of internal items, and other sources of funds used for extramural R&D	TOTNONFED = INTSTATE + EXTSTATE + INTOTH + EXTOTHER

2.8.1.3 State code labels FY 2025

The following codes are provided for items indicated above for FY 2025.

Variable	Code	Label
STATECODE	1	Alabama
	2	Alaska
	3	Arizona
	4	Arkansas
	5	California
	6	Colorado
	7	Connecticut
	8	Delaware
	9	District of Columbia
	10	Florida
	11	Georgia
	12	Hawaii
	13	Idaho
	14	Illinois
	15	Indiana
	16	Iowa
	17	Kansas
	18	Kentucky
	19	Louisianna
	20	Maine
	21	Maryland
	22	Massachusetts
	23	Michigan
	24	Minnesota
	25	Mississippi
	26	Missouri
	27	Montana
	28	Nebraska
	29	Nevada
	30	New Hampshire
	31	New Jersey
	32	New Mexico
	33	New York
	34	North Carolina
	35	North Dakota
	36	Ohio
	37	Oklahoma
	38	Oregon
	39	Pennsylvania
	40	Rhode Osland
	41	South Carolina
	42	South Dakota
	43	Tennessee
	44	Texas
	45	Utah
	46	Vermont
	47	Virginia
	48	Washington
	49	West Virginia
	50	Wisconsin
	51	Wyoming
	55	Puerto Rico

3. ADDITIONAL RESOURCES

3.1 Survey Questionnaires

Copies of survey questionnaires for FYs 2009–2025 are available on the NSF website at https://ncses.nsf.gov/surveys/state-government-research-development/, within the Methodology section.

3.2 Publications

The data from this survey are published every year in Data Tables in the *Survey of State Government Research and Development* series. Several InfoBriefs, InfoCharts, and InfoBytes have also been published. Both the tables and InfoBriefs and other publications can be obtained at the NSF web page: https://ncses.nsf.gov/surveys/state-government-research-development/. Data tables are within the Data section while InfoBriefs, InfoCharts, and InfoBytes are available within the Analysis section. Information from this survey is also included in the NSF report, *Science and Engineering Indicators*.

3.3 Electronic Access

Microdata beginning with the FY 2006 survey are available in NCSES's interactive data tool located at https://ncsesdata.nsf.gov/home.

Public use files beginning with the FY 2025 survey are available at https://ncses.nsf.gov/explore-data/microdata/survey-of-state-government-research-and-development-public-use-files.
The data collected for the Survey of State Government Research and Development are subject to provisions of Title 13, United States Code, Section 9(b), which exempts data that are customarily provided in public records from rules of confidentiality, as such there are no restrictions on the microdata associated with this survey.

3.4 Contact for More Information

Additional information about this survey can be obtained by contacting:

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