



Making Connections Across The Federal Data Ecosystem

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NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS
NATIONAL SCIENCE FOUNDATION

Today's Discussion

- NCSES and our need for data to inform investment decisions
- The Search and Discovery Platform as an asset for
 - NCSES
 - The Federal Data Ecosystem
- Future considerations

National Center for Science and Engineering Statistics

Measuring America's progress in science, technology, and innovation



National Science Foundation's (NSF) Statistical Agency

Located within the Directorate for Social, Behavioral, and Economic Sciences (SBE)



One of 13 principal federal statistical agencies

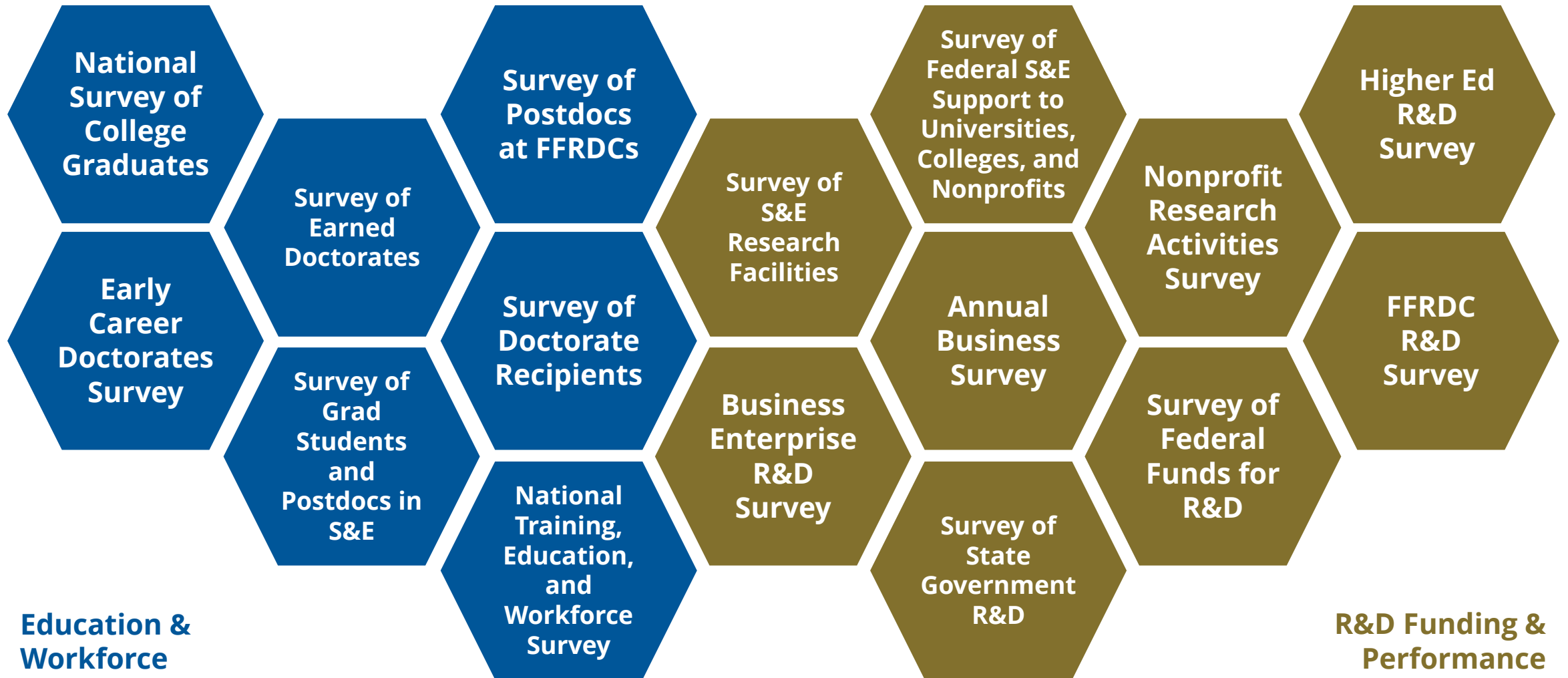
Overseen by the U.S. Chief Statistician within the White House Office of Management and Budget (OMB)

MISSION

Produce policy relevant, policy neutral **statistical information** on the **U.S. science and engineering enterprise:**

- Research and development
- Science and engineering workforce
- U.S. competitiveness in STEM
- STEM education in the United States

NCSES conducts more than a dozen surveys



NCSES's Search and Discovery Platform

The screenshot displays the NCSES Search and Discovery Platform interface. At the top, there are logos for NSF and NCSES, and navigation icons for Authors (9,573), Countries (88), and Institutions (2,702). The main content area is divided into several sections:

- Select a Dataset to Explore Usage:** A dropdown menu with a search icon.
- Publications by geography:** A world map showing publication density by country.
- Filter by Topic(s):** A section with a "Word Cloud" filter and a list of topics including "STEM workforce", "Research Personnel", "Teaching Research", and "Academic Medicine".
- 2,702 Institutions:** A table with columns for Institution Name, Publications, and Citations. The first row shows "University of Michigan" with 32 publications and 389 citations.

Name	Publications	Citations
Women, Minorities, and..	1,524	11,731
Science & Engineering In..	1,621	11,730
Survey of Doctorate Reci..	278	2,124
Survey of Earned Doctor..	154	1,125
Science and Engineering La..	109	747
Higher Education in S..	77	267
Academic Research and ..	33	255
Publications

Institution Name	Publications	Citations
University of Michigan	32	389

NCSES's Search and Discovery Platform

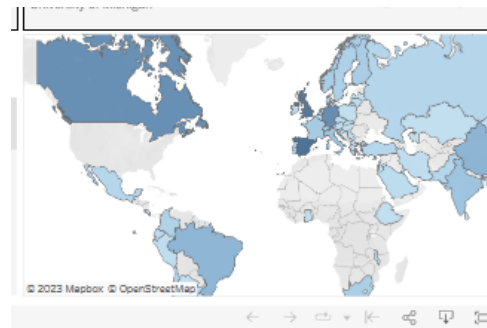
Democratizing Data - NCSES by Democratizing Data

NCSES
DATASETS 12
PUBLICATIONS 675
AUTHORS 1,767
COUNTRIES 70
CITATIONS 7,647
INSTITUTIONS 1,267

Select a Dataset to Explore Usage Datasets: All, Year: All CLEAR FILTERS

Select a Dataset to Explore Usage		
Name	Pub	C
Survey of Earned Doctorates	172	2,05
National Survey of College Graduates	162	1,9
Survey of Doctorate Recipients	90	1,6
Business R&D and Innovation Survey	80	9
Higher Education Research and Devel..	96	7
Survey of Industrial Research and Devel..	51	6

Filter by Year(s)



Filter by Topic(s)

Table

Word Cloud

Table

Bar Chart

Keyword

Female Scientist

Scientific Workforce	33	341	9
Entrepreneurial University	31	498	7
Doctoral Education	30	442	8
Entrepreneurial Intention	26	370	7

tableau

Key questions to inform NCSES investment decisions

- Who uses NCSES data, data tools and products?
- How are they linking NCSES data?
- What evidence are they building using NCSES data?
- What impact does NCSES data have?

Advancing our different objectives with a shared vision

- Pilot agencies have different priorities but a shared vision of utility of usage data
- Pilot agencies engaged in road shows to gather stakeholder input.
- [America's Data Hub project](#) to explore data usage platform as a federal data asset.



Why a Search and Discovery Platform is a federal data ecosystem asset

- The current legislative and policy landscape is in need for these data
 - OMB Policy Directives for transparency in official statistics
 - Evidence Act: Open Data, Data Access, and Standard Application Process
 - CHIPS and Science Act: National Secure Data Service
 - OMB Memo on open access for federally funded research
 - Trust Regulation (forthcoming)
- Potential shared service to serve the federal data ecosystem

As a shared service within the federal data ecosystem

- Enables a variety of data user communities to connect and partner on research, analysis, and application of the data
- Builds a data profile of the agency and system for decision-making
- Supports transparency objectives for improved data access and use
- Builds trust in official statistics through enhanced visibility of data application

Key questions that support a shared service model

- Who are the audiences that use federal data, how are they linking these data, and what evidence are they building?
- How can agencies apply usage data metrics to inform priorities, investments, and resource allocation?
- How do communities apply usage data to make informed decisions about research, partnerships, and planning?
- How can the usage data, their underlying assumptions, and their presentation be improved for greatest utility and maximum impact across a diverse audience?

Future considerations

- Generate topic-based analysis to inform future investments at the program and agency-level (i.e., not just look at survey usage)
- Build cross-disciplinary collaborations and facilitate routine engagement with research, program, and policy communities
- Create a cross-agency or system platform view to explore data sharing and linkage activities across the federal statistical system
- Use synergies within existing federal mandates to build upon and strengthen open access and transparency requirements

Key take away for the federal data ecosystem

DATA about your DATA can inform your agency priorities and meet broader system-wide goals and mandates



<https://democratizingdata.ai/tools/dashboards/>