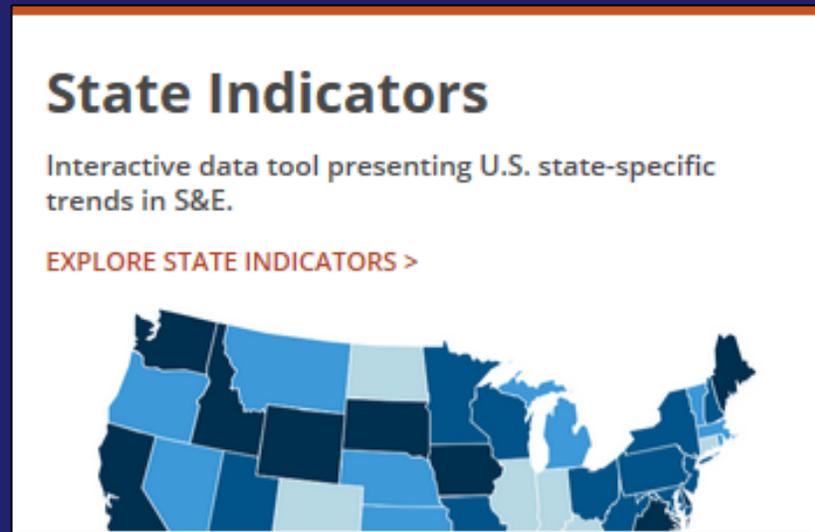




# State Indicators Data Tool

- NCSES has begun regular updates!
- Tentative update schedule
  - Quarterly
  - First update: 2018Q1 data; June, 2018
  - Second update: 2018Q2 data; late summer 2018
  - Topics covered: workforce, higher education, K-12 education
- Communication to stakeholders
  - Inform re-imagined *Indicators*



NATIONAL SCIENCE BOARD  
SCIENCE & ENGINEERING INDICATORS 2018 State Indicators

Home Browse State Indicators Compare State Indicators Overview Technical Notes Downloads **Updates** Help 2018 Report

### Updates

The following issues were discovered and corrected after publication of *Science and Engineering Indicators 2018*. To report an error, please send an email to [ncsesweb@nsf.gov](mailto:ncsesweb@nsf.gov).

Change Type	Date	Details
BUG FIX	6.7.18	Remedied an issue with blank table cells appearing in certain file exports; improved performance by speeding the initial application load.
DATA UPDATE	6.7.18	Updated Indicators <a href="#">S-10</a> , <a href="#">S-11</a> , <a href="#">S-21</a> , <a href="#">S-26</a> , <a href="#">S-28</a> , <a href="#">S-33</a> , <a href="#">S-42</a> , <a href="#">S-47</a> with new data series, appearing in the tool interface (tables, maps, chart, histogram) as well as in the downloadable spreadsheets.
DESIGN CHANGE	6.7.18	Added 'Last Updated' and 'Recommended Citation' information to indicator pages; added iconography to the Technical Notes pages.
BUG FIX	4.19.18	Fixed cases where states with special characters disappeared when sorting tables.
DESIGN CHANGE	4.19.18	Minor formatting changes to the landing page to accommodate long indicator names on mobile devices and improve iconography.
DESIGN CHANGE	4.19.18	Added Table S-A and S-B to the <a href="#">Downloads page</a> .
ERRATA	3.1.18	Value for <a href="#">Appropriations of State Tax Funds for Higher Education</a> for Idaho in 2000 corrected from 0 to NA.
BUG FIX	3.1.18	The Excel download tables have been updated to show the most appropriate number of digits after the decimal for each data element. Duplicate information in the source and notes text has been removed.
DESIGN CHANGE	3.1.18	Minor formatting changes. Updated <a href="#">Overview</a> page to include team acknowledgments. Added <a href="#">Updates</a> page.



NCSES

# Guiding Principles for Re-imagining *Indicators*

- Maintain high-quality data and analyses
- Increase effectiveness and value to key stakeholders
  - Build on 2016 transition to a digital platform
- Production sustainability for SBE/NCSES & NSB

The screenshot displays the homepage of the Science & Engineering Indicators 2018 report. The main title is "Science & Engineering Indicators 2018" with the subtitle "Broad-based, objective information on the U.S. and international S&E enterprise". The page is organized into several sections:

- Full Report:** Includes a link to "GO TO THE 2018 REPORT >" and a brief description: "Learn about S&E indicators in education; workforce; R&D; industry, technology, and the global marketplace; invention, knowledge transfer, and innovation; and public attitudes and understanding." It features a line graph showing trends over time.
- Digest:** Described as "The Digest is a condensed version of the main report, comprising a selection of indicators that draws attention to important trends." It includes a link to "EXPLORE THE 2018 DIGEST >" and a cover image for the "2018 DIGEST SCIENCE & ENGINEERING INDICATORS".
- Explore:** Contains three sub-sections: "Topics" (with a search bar and a list of categories), "Data Sources" (explaining that users can view data sources by chapter or provider), and "Downloads" (listing options for full report PDF, data, and graphics).
- An Overview of the State of the U.S. S&E Enterprise in a Global Context:** A prominent green box with a circular icon containing a globe and arrows.
- Data:** Offers "Detailed tabular data that can be used for independent analysis." with a link to "SEE ALL DATA >" and a small table snippet.
- Figures:** Provides "Interactive, visual representations of major findings discussed in the report." with a link to "SEE ALL FIGURES >" and a bar chart comparing data for 2005 and 2015.
- State Indicators:** An "Interactive data tool presenting U.S. state-specific trends in S&E." with a link to "EXPLORE STATE INDICATORS >" and a map of the United States.
- Featured Content:** A section titled "Domestic R&D expenditure" stating "The United States accounted for 26% of worldwide R&D." with a link to "GO TO THIS CHAPTER >" and a line graph.
- More from the National Science Board:** A section titled "Understanding the data" explaining that the NSB produces reports, tools, and resources on S&E topics, with a link to "VISIT THE NSB WEBSITE TO FIND ADDITIONAL PRODUCTS >".

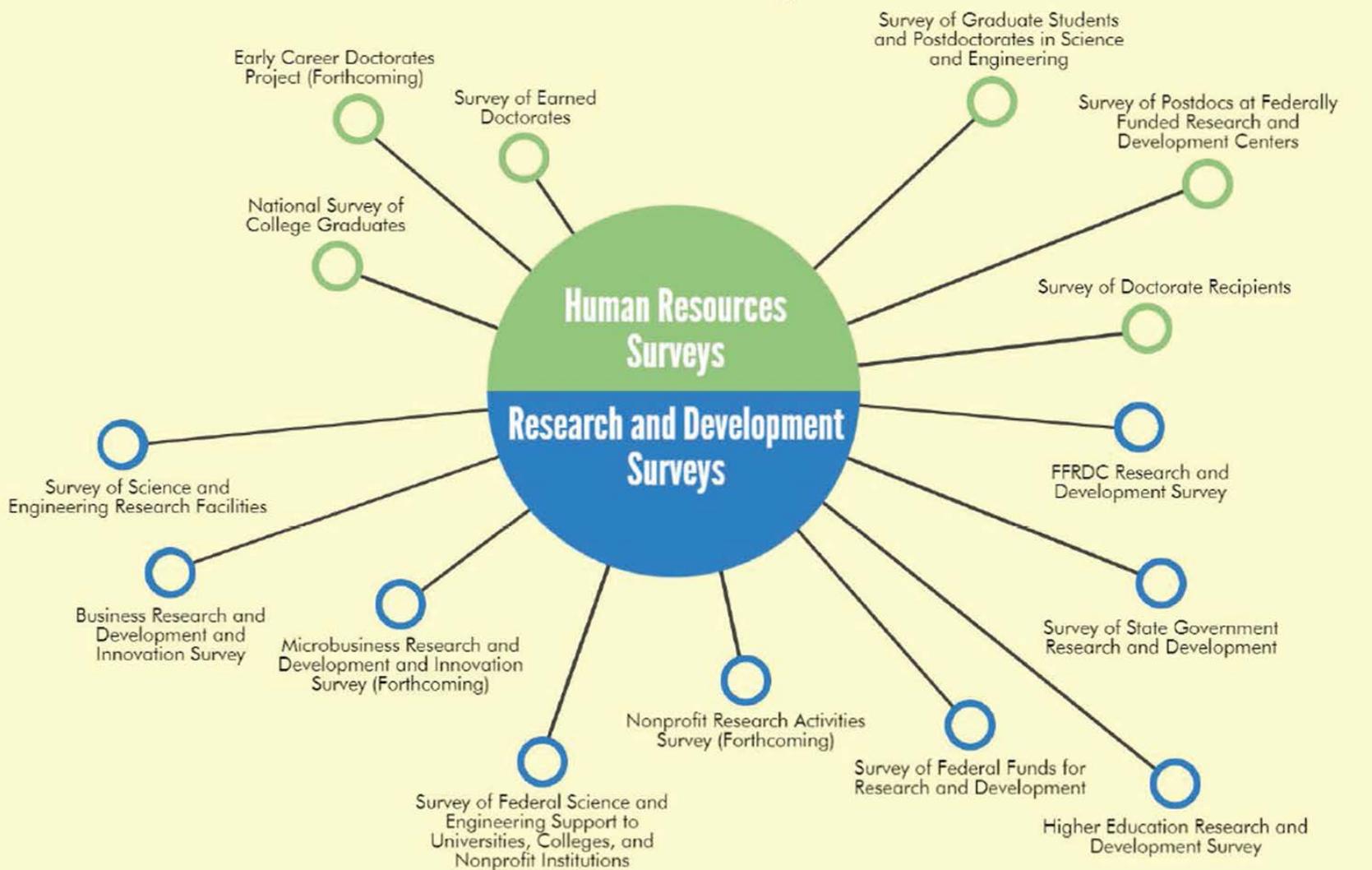
The National Science Board logo is visible in the bottom right corner of the interface.



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# Beyond Indicators

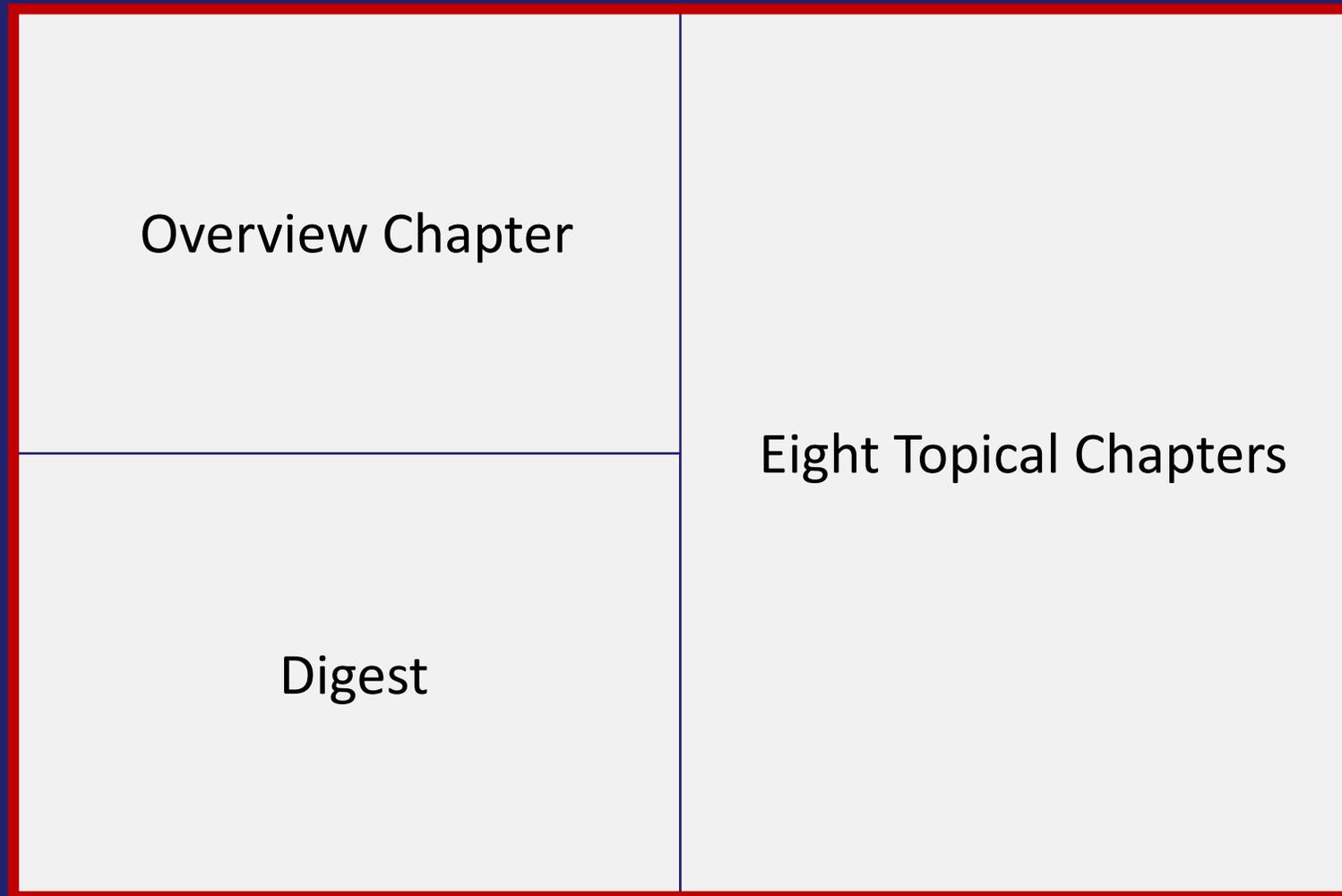
## NCSES conducts more than a dozen surveys



Responsible for statistical data and analysis on:

- Research and development
- Science and engineering workforce
- U.S. competitiveness in science, engineering, technology, and R&D
- The condition and progress of STEM education in the United States

# Current *Indicators* Report



NCSES Produced and Delivered Simultaneously  
on January 15

# Vision for Re-imagined *Indicators*

1

## Summary Report on the State of the U.S. S&E Enterprise

Digest/Overview-like Report

Statutory Delivery  
January 15, 2020

2

## Eight Thematic Reports

Series of Streamlined Reports

Not Part of Statutory Delivery

3

## Special, One-Off Reports

After 2020  
New Indicators;  
Emerging Issues

4

## NSB Policy Companions

# Guidelines for Thematic Reports

- Published as a series of reports (not tied to statutory date)
- Developed by SBE/NCSES (with Board guidance)
- Policy relevant, neutral
- Concise, targeted versions of current topical chapters
  - Timely, effective, higher impact ➡ improved value to stakeholders
  - Uniform production burden
- 2020 cycle: Eight thematic reports



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# Considerations for Thematic Reports

## Key considerations

- Indicators on the state of the S&E enterprise
- Major findings in an accessible, effective fashion
- Leverage other published reports
- Special, one-time reports
- Maintain quality while improving the efficiency and sustainability of the process



Supplemental data tables to thematic reports

# Thematic Report: S&E Higher Education

## ➤ Main topics

1. U.S. institutions providing S&E education
2. Undergraduate and graduate S&E degree awards
3. Demographic attributes of S&E degree recipients
4. International S&E higher education

## ➤ Proposed modifications

- Enrollment
- Demographic information
- For-profit institutions; online education
- Revenue and expenditure trends
- Selected international topics

Tentative release:  
Summer 2019



NCSSES

# Thematic Report: Knowledge and Technology-Intensive (KTI) Industries

## ➤ Main topics

1. Patterns and trends of KTI industries
2. Global trends in trade of KTI products and services
3. Sustainable energy technologies

## ➤ Proposed modifications

- Possible new sidebar on artificial intelligence
- Sustainable energy technologies

Tentative release:  
Fall 2019



NCSSES

# Thematic Report: U.S. and International R&D Trends

## ➤ Main topics

1. Recent trends in U.S. R&D performance
2. Cross-national comparisons of R&D performance
3. U.S. business R&D
4. Federal government support for U.S. R&D

## ➤ Proposed modifications

- Leverage existing NCSES publications on R&D
- R&D by multinational enterprises (MNE)

Tentative release:  
Fall 2019



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# Appendix: Vision for Re-imagined *Indicators*

## 1. The State of Science and Engineering in the U.S.

- Digest/Overview-like report
- Statutory delivery January 15, 2020

## 3. Special, “one-off” Reports

- After 2020
- New indicators, emerging issues

## 2. Thematic Reports on the S&E Enterprise

- Series of reports

## 4. NSB Policy Reports

- Current companion reports



NCSSES