

**NATIONAL SCIENCE FOUNDATION (NSF)  
ESTABLISHED PROGRAM TO STIMULATE COMPETITIVE RESEARCH (EPSCOR)  
REPORT TO CONGRESS FOR FISCAL YEAR 2023**

In prior years, this report was titled “NSF’s EPSCoR Congressional Report in Compliance with Public Law 114-329: American Innovation and Competitiveness Act, Sec. 103 (D) (1-3)”. Starting with FY 2023 and moving forward, the report that follows will provide a comprehensive and transparent update to Congress for NSF’s activities related to support for EPSCoR jurisdictions. Therefore, this report summarizes fiscal year (FY) 2023 NSF funding to institutions and entities in EPSCoR jurisdictions, as required by the following enacted legislation:

- Public Law 114-329 - American Innovation and Competitiveness Act (AICA) Sec. 103(d)(1-3).
- Public Law 117-167 - Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act Title III Sec. 10325 (a)(3)(F)(i-III)

Specifically, report details responding to the AICA include:

- (1) a description of the program strategy and objectives;
- (2) a description of the awards made in the previous fiscal year including:
  - (A) the total amount made available, by jurisdiction, under EPSCoR;
  - (B) the total amount of agency funding made available to all institutions and entities within each EPSCoR jurisdiction;
  - (C) the efforts and accomplishments to more fully integrate the EPSCoR jurisdictions in major agency activities and initiatives;
  - (D) the percentage of EPSCoR reviewers from EPSCoR jurisdictions;
  - (E) the number of programs or large collaborator awards involving a partnership of organizations and institutions from EPSCoR and non-EPSCoR jurisdictions; and
- (3) an analysis of the gains in academic research quality and competitiveness, and in science and technology human resource development, achieved by the program over the last 5 years.

Furthermore, report details responding to the CHIPS and Science Act include:

- (1) the Foundation’s implementation of Sec. 10325 (a);
- (2) progress in building research capacity, including both infrastructure and personnel, in EPSCoR jurisdictions, including at Historically Black Colleges and Universities, Tribal Colleges or Universities, minority-serving institutions, and emerging research institutions; and
- (3) if the Foundation does not meet the requirement described in subparagraph (A), an explanation relating thereto and a plan for compliance in the following fiscal year and remediation.

**American Innovation and Competitiveness Act (P.L. 114-329)**

**1. EPSCoR Strategies and Objectives (Sec. 103(d)(1).c)**

EPSCoR’s strategies and objectives in FY 2023 remain the same as those described in the FY 2022 report. Specifically, the mission of EPSCoR is “to enhance research competitiveness of targeted jurisdictions (states, territories, commonwealths) by strengthening Science, Technology, Engineering and Mathematics (STEM) capacity and capability.” EPSCoR’s goals are:

- To catalyze the development of research capabilities and the creation of new knowledge that expands jurisdictions’ contributions to scientific discovery, innovation, learning, and knowledge-based prosperity.
- To establish sustainable STEM education, training, and professional development pathways that

## *NSF Authorizations and Other Reports*

advance jurisdiction-identified research areas, NSF focus areas, and workforce development.

- To broaden direct participation of diverse individuals, institutions, and organizations in the project's science and engineering research and education initiatives.
- To effect sustainable engagement of project participants and partners, the jurisdiction, the national research community, and the general public through data-sharing, communication, outreach, and dissemination.
- To impact research, education, and economic development beyond the project at academic, government, and private sector levels.

EPSCoR uses three investment strategies in pursuit of its goal to strengthen research capacity and competitiveness in eligible jurisdictions. These investment strategies are: (1) Research Infrastructure Improvement (RII) awards that support physical, human, and cyberinfrastructure development; (2) Co-Funding in partnership with NSF directorates and offices that support individual investigators and groups within EPSCoR jurisdictions; and (3) Outreach activities and workshops that bring EPSCoR jurisdiction investigators together with program staff from across the Foundation to explore opportunities in emerging areas of science and engineering aligned with NSF strategic priorities and with jurisdictional science and technology goals.

EPSCoR's RII programs are instrumental in helping to build jurisdictional capability and capacity. RII Track-1 awards provide up to \$4 million per year for up to five years. They are intended to improve the research competitiveness of jurisdictions by improving their academic research infrastructure in areas of science and engineering supported by NSF and critical to the particular jurisdiction's science and technology initiative or plan. RII Track-2 Focused EPSCoR Collaborations awards provide up to \$1 million per year for up to four years as collaborative awards between two EPSCoR jurisdictions or up to \$1.5 million per year for up to four years to a consortium of three or more EPSCoR jurisdictions. These awards build interjurisdictional collaborative teams of EPSCoR investigators in scientific focus areas consistent with NSF priorities. RII Track-4: EPSCoR Research Fellows provides opportunities for early career, non-tenured, and tenured assistant/associate professor faculty to further develop their individual research potential through extended collaborative visits to the nation's premier private, governmental, or academic research centers. Through these visits, the EPSCoR Research Fellows learn new techniques, benefit from access to unique equipment and facilities, and shift their research toward transformative new directions. The experience gained through the fellowship is intended to provide a foundation for research collaborations that span the recipient's entire career. These benefits to the Fellows are also expected to in turn enhance the research capacity of their institutions and jurisdictions.

EPSCoR often co-funds proposals submitted to other NSF programs if the applicant is located in an EPSCoR jurisdiction. The proposals selected for this funding have been merit reviewed and recommended for award but could not be funded without the combined support of EPSCoR and the co-funding directorates. Co-funding leverages EPSCoR investment and facilitates participation of EPSCoR scientists and engineers in NSF-wide programs and initiatives.

EPSCoR also funds workshops, conferences, and other community-based activities to explore opportunities in emerging areas of science and engineering, and to share best practices in strategic planning, diversity, communication, cyberinfrastructure, evaluation, and other areas of importance to EPSCoR jurisdictions. In addition, EPSCoR supports outreach travel that enables NSF staff from all directorates and offices to work with the EPSCoR research community on NSF opportunities, priorities,

programs, and policies. This travel better acquaints NSF staff with the science and engineering accomplishments, ongoing activities and new directions and opportunities in research and education in EPSCoR jurisdictions.

2. Awards Made in Previous Fiscal Year (Sec. 103(d)(2))

*NSF Funding Made Available, by Jurisdiction, under EPSCoR (Sec. 103(d)(2)(A)).*

In FY 2023, NSF EPSCoR invested a total of \$234.13 million in support of its programmatic activities. Within total FY 2023 funding, \$154.73 million (66.1 percent) was directed to 107 RII awards, \$78.49 million (33.5 percent) to 364 co-funded awards, and \$910,000 (0.4 percent) to outreach activities and one workshop award. The table below details the investments from EPSCoR resources and EPSCoR investments in co-funding actions.

**FY 2023 EPSCoR Funding by Jurisdiction**

(Dollars in Millions)

EPSCoR Jurisdiction	RII Program	Outreach & Workshops	EPSCoR Co-funding	EPSCoR Total
AK	\$2.55	-	\$1.36	\$3.91
AL	9.31	-	6.67	15.98
AR	-	-	2.29	2.29
DE	0.19	-	2.43	2.62
GU	3.76	-	0.08	3.84
HI	5.79	-	2.33	8.12
IA	7.78	-	6.76	14.54
ID	5.80	0.10	2.26	8.16
KS	15.91	-	3.24	19.15
KY	3.02	-	1.40	4.42
LA	10.73	-	4.80	15.53
ME	4.40	-	2.73	7.13
MS	4.59	-	3.72	8.31
MT	4.48	-	3.38	7.86
ND	7.93	-	1.47	9.40
NE	6.98	0.77	2.68	10.43
NH	1.64	-	1.37	3.01
NM	2.13	-	4.47	6.60
NV	5.72	-	2.10	7.82
OK	2.40	-	6.24	8.64
PR	4.09	-	2.21	6.30
RI	3.99	-	1.34	5.33
SC	6.52	-	5.35	11.87
SD	4.06	-	1.87	5.93
VI	6.54	-	-	6.54
VT	4.74	-	1.30	6.04
WV	5.12	-	3.66	8.78
WY	11.58	-	0.98	12.56
Admin	2.98	0.04	-	3.02
<b>Total</b>	<b>\$154.73</b>	<b>\$0.91</b>	<b>\$78.49</b>	<b>\$234.13</b>

*NSF Authorizations and Other Reports*

*Total NSF Funding Made Available in all EPSCoR Jurisdictions (Sec. 103 (d)(2)(B)).*

In FY 2023, NSF invested a total of \$1,204.98 million in support of EPSCoR jurisdictions. The table below details NSF investments in EPSCoR jurisdictions including research support, STEM Education, and major research equipment funding.

<b>FY 2023 NSF Funding</b>	
<b>Made Available to All EPSCoR Jurisdictions</b>	
(Dollars in Millions)	
EPSCoR Jurisdiction	NSF Funding
AK	\$62.91
AL	103.63
AR	26.06
DE	37.08
GU	4.39
HI	67.66
IA	74.29
ID	32.04
KS	59.33
KY	27.49
LA	54.41
ME	30.48
MS	38.84
MT	42.57
ND	27.13
NE	51.65
NH	36.58
NM	56.32
NV	43.09
OK	51.76
PR	26.69
RI	60.77
SC	97.01
SD	21.49
VI	8.86
VT	15.21
WV	24.22
WY	23.02
<b>Total</b>	<b>\$1,204.98</b>

*Integration of EPSCoR Jurisdictions in Major Activities and Initiatives of the Foundation (Sec. 103 (d)(2)(C)).*

All EPSCoR programmatic activities target integration and assimilation of EPSCoR jurisdictions into the research and education programs of the Foundation's disciplinary directorates. RII awards promote the coordination and integration of recipient jurisdictions into major NSF programmatic activities. Additionally, EPSCoR consults and engages NSF disciplinary program officers (POs) in merit review processes and post-award evaluations, such as site visits and reverse site visits (RSVs). Site visits and RSVs are intended to provide additional project oversight by allowing jurisdictions to report on the progress of their RII projects in relation to their stated goals and the programmatic terms and conditions. Disciplinary POs assist in the identification of reviewers for RII merit review panels, serve as site visit and RSV observers, and provide knowledge about the ongoing activities within the directorate that could be leveraged to sustain RII efforts after the performance period of the EPSCoR award.

National, regional, and jurisdictional meetings of the EPSCoR community facilitate grantee interactions with NSF leadership to learn about the Foundation's strategic priorities and funding opportunities. Participation by EPSCoR researchers and educators in the merit review process across all disciplinary domains of the Foundation, in Committees of Visitors (COV) activities, in external advisory (Federal Advisory Committee Act) committees, and in disciplinary workshops that shape new activities is also vital to this integration.

Outreach to EPSCoR jurisdictions by NSF staff promotes integration of the EPSCoR community into mainstream NSF programs, as does co-funding of awards with the disciplinary programs of the Foundation. There is also an effort to promote in-reach, whereby EPSCoR facilitates opportunities for researchers and educators from EPSCoR jurisdictions to meet with NSF staff. In these meetings, the EPSCoR participants are provided with information on NSF strategic priorities and funding opportunities.

In FY 2023, EPSCoR staff promoted engagement of the EPSCoR community in NSF and other national activities. Examples are:

- Hosted its 2023 EPSCoR Annual Principal Investigator (PI) Meeting May 15-16. The EPSCoR community and NSF POs shared effective practices in research, strategic planning, diversity, communication, evaluation, and other areas of importance to EPSCoR jurisdictions and NSF. In addition to presentations and breakout sessions, there were program-specific roundtables that offered valuable insight to PIs. The agenda also included an NSF Open House for PIs to meet with POs from across the Foundation to discuss specific funding opportunities. Every EPSCoR jurisdiction was represented at this meeting, which had over 300 non-NSF participants (in-person and virtual).
- Encouraged EPSCoR-supported faculty to participate in NSF committee and review panels across NSF (e.g., COVs, site visits, and merit review panels).
- Maintained investment in RII Track-2: Focused EPSCoR Collaborations (RII Track-2 FEC). In FY 2023, proposals were invited on the topic of "advancing climate change research and resilience capacity to expand opportunities for disproportionately affected communities." Eleven projects were awarded in FY 2023, representing a total EPSCoR investment of \$55.9 million over their four-year award duration.
- Continued RII Track-4: EPSCoR Research Fellows, with 42 awards made, representing a total EPSCoR investment of \$8.9 million over their two-year award duration.
- Continued Track-4 Fellows:@NASA, a collaboration with NASA-EPSCoR. Track-4: @NASA allows for

## *NSF Authorizations and Other Reports*

PIs from MSIs to further develop their individual research potential through extended collaborative visits to NASA research facilities located at NASA Centers throughout the United States. Ten of the 42 awards made for the FY 2023 RII Track-4 competition were made through the Track-4:@NASA mechanism.

- Invested \$4.9 million in support of Campus Cyberinfrastructure (CC\*) awards to EPSCoR jurisdictions. The CC\* program invests in coordinated campus-level networking and cyberinfrastructure improvements, innovation, integration, and engineering for science applications and distributed research projects.
- Contributed \$3.5 million in co-funding towards the design of a national testing facility led by an institution in an EPSCoR jurisdiction for enhancing wind resiliency of infrastructure in tornado-downburst-gust front events. This Mid-scale Research Infrastructure award is a collaboration between nine institutions (three in EPSCoR jurisdictions) to mitigate the impacts of high-wind hazards on the built environment and significantly reduce fatalities and economic losses.
- Committed \$16.7 million to fund 43 awards related to acquisition of major research instrumentation and equipment. These fundamental infrastructure-building awards will help to build STEM capacity in EPSCoR jurisdictions.
- Provided \$15.2 million for 54 CAREER awards for early-career faculty in EPSCoR jurisdictions. The NSF CAREER program supports early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.
- Partnered with CISE, ENG, and MPS Directorates to hold an EPSCoR Workshop on Quantum Computing, Information, Science, and Engineering (QISE) in March 2023 at NSF. This workshop brought together scientists from across the country, building new collaborations to respond to the National Quantum Initiative Act. In addition, EPSCoR contributed \$2.0 million in co-funding for ExpandQISE awards and \$2.0 million in co-funding for quantum sensing research.
- Convened two meetings with the EPSCoR Interagency Coordinating Committee (EICC) to share relevant program information and identify opportunities for maximizing jurisdictional impact.
- Hosted the workshop series, "Building Bridges to Use-Inspired Research and Science-Informed Practices." This activity was co-funded with the BIO and TIP Directorates to build partnerships that will help facilitate the translation of basic research to innovation, better inform evidence-based practices, and establish novel training opportunities for careers in use-inspired research.
- NSF EPSCoR announced new programmatic opportunities, EPSCoR Research Incubators for STEM Excellence (E-RISE) RII and the EPSCoR Collaborations for Optimizing Research Ecosystems (E-CORE) RII, which will replace the sunseting RII Track-1 activity. The first E-CORE and E-RISE awards are expected in FY 2024, and will develop and coordinate core research, networks of research teams, and incubator activities to impact the jurisdiction's research ecosystem. These activities will connect individuals, institutions, and research networks and leverage other funding mechanisms, including current NSF and other federal investments. E-RISE and E-CORE were created in response to provisions in the CHIPS and Science Act (P.L. 117-167) and three reports issued during FY 2022: (1) Envisioning the Future of NSF EPSCoR report,<sup>1</sup> (2) a Government Accountability Office issued report,<sup>2</sup> and (3) an exploratory analysis and conceptual framework for examining research competitiveness.<sup>3</sup>

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<sup>1</sup> <https://beta.nsf.gov/funding/initiatives/epscor/future-nsf-epscor>

<sup>2</sup> [www.gao.gov/assets/gao-22-105043.pdf](https://www.gao.gov/assets/gao-22-105043.pdf)

<sup>3</sup> <https://nsf.gov-resources.nsf.gov/2022-06/EPSCoR%20Base%20Period%20Final%20Report%20-%2028508%20Compliant%29.pdf>

*EPSCoR Reviewers (Sec. 103(d)(2)(D)).*

EPSCoR collects demographics of all reviewers who evaluate EPSCoR proposals. In FY 2023, 194 out of 296 reviewers self-identified their demographics. Of those 194 reviewers, 42.2 percent were female, 11.8 percent were from groups traditionally underrepresented in STEM, 0.7 percent were disabled, and 26.7 percent were from EPSCoR jurisdictions.

*EPSCoR Collaborations and Partnerships (Sec. 103(d)(2)(E)).*

All RII awards involve collaborations among scientists and engineers in EPSCoR jurisdictions. Though most RII awards are made to a primary institution, there are always several subaward institutions involved in RII Track-1 and Track-2 awards. While subaward funding is not reflected in the tables provided earlier in this report, subaward funding helps to enhance jurisdictional competitiveness. Data on research progress and outcomes are collected from subawards as well as the primary institution. In addition to subaward partnerships, RII awards require institutional collaborations, which are defined as collaborations among researchers at a RII awardee or sub-awardee and those at institutions not receiving any RII funds. These institutional collaborations and partnerships help to drive economic development and catalyze technology transfer within and across jurisdictions.

In FY 2023, RII Track-1 participants developed 508 institutional collaborations within EPSCoR jurisdictions; 551 institutional collaborations between EPSCoR jurisdictions and non-EPSCoR jurisdictions; and 260 collaborations between institutions in EPSCoR jurisdictions and in foreign countries. These collaborative efforts highlight the vast network of institutional involvement among EPSCoR jurisdictions and their partners in RII Track-1 projects. Of these 1,319 collaborations, 81 (6.1 percent) were with national laboratories and 101 (7.7 percent) were with industry partners.

Among the 364 awards co-funded by EPSCoR in FY 2023, 324 involved collaborative research between multiple institutions. Of those 324 collaborative awards, 152 (46.9 percent) were collaborations between investigators from institutions in EPSCoR and non-EPSCoR jurisdictions.

### 3. Analysis of Gains Over Last 5 Years

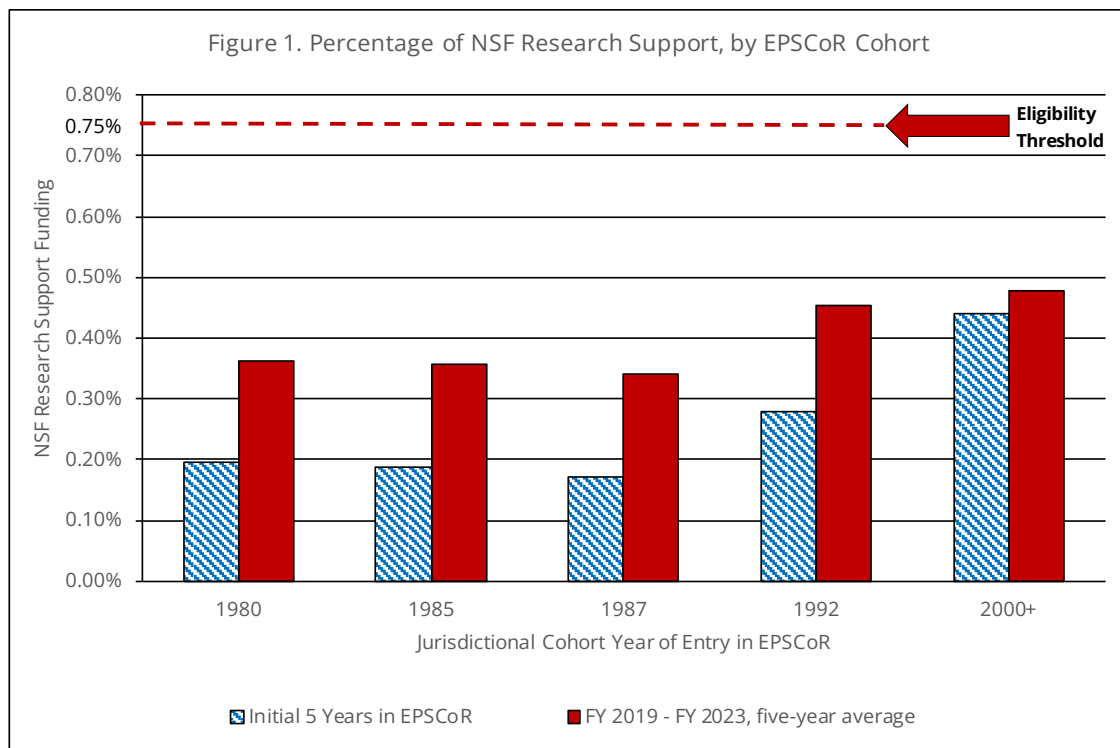
*An analysis of the gains in academic research quality and competitiveness, and in science and technology human resource development, achieved by the program over the last 5 fiscal years (Sec. 103(d)(3)).*

NSF EPSCoR eligibility is frozen until FY 2027 per the CHIPS and Science Act of 2022 (P.L. 117-167, Sec.10325 a.3.H.i). However, EPSCoR continues to collect data related to eligibility as a measure of a jurisdiction's ability to obtain NSF funding. Historically, a jurisdiction was eligible to participate in EPSCoR programs if its level of NSF funding was equal to or less than 0.75 percent of the total NSF budget over the most recent five-year period, excluding NSF funding to other federal agencies and EPSCoR RII and workshop/conference funding. Jurisdictions above 0.75 percent but less than 0.80 percent were allowed to remain EPSCoR-eligible for up to five years. Given EPSCoR's aim to stimulate research that is fully competitive in NSF's disciplinary and multidisciplinary research programs, increases in the ability to capture NSF research funds serve as a proxy for gains in research competitiveness.

Figure 1 (below) shows the average annual amount of NSF research funds given to each cohort for the initial five years (hatched bars) and the most recent five years (solid bars) of their participation in NSF EPSCoR. A cohort is defined as the group of states or jurisdictions that entered EPSCoR within a given fiscal year. For example, the 1980 cohort consists of the initial five states that qualified for EPSCoR at

## NSF Authorizations and Other Reports

that time. For this summary, the 2000+ cohort consists of jurisdictions that entered EPSCoR in FY 2000 or later and are still EPSCoR-eligible for RII competitions. Former EPSCoR jurisdictions Missouri, Tennessee, and Utah are excluded because they were not EPSCoR-eligible in FY 2023.



Each cohort shows an increase in competitiveness over the periods of participation. For example, the 1980 cohort (Arkansas, Maine, Montana, South Carolina, West Virginia) shows an 86 percent increase in NSF research funding over the past 43 years of EPSCoR activity. The 1985 cohort (Alabama, Kentucky, Nevada, North Dakota, Oklahoma, Puerto Rico, Vermont, and Wyoming) demonstrates a 91 percent increase during its 38 years of participation in EPSCoR. The 1987 cohort (Idaho, Louisiana, Mississippi, and South Dakota) shows a 98 percent increase over the past 36 years, whereas the 1992 cohort (Kansas and Nebraska) has a 63 percent increase in competitiveness over its 31 years of EPSCoR involvement. Currently eligible jurisdictions participating in EPSCoR since FY 2000 entered into the program at a higher level of NSF research funding than the previous cohorts. For the 2000+ cohort (Alaska, Delaware, Guam, Hawaii, Iowa, New Hampshire, New Mexico, Rhode Island, and the Virgin Islands), there has been a small, yet demonstrable 8 percent increase in research funding.



**Percentage of NSF Funding,  
by Jurisdiction and EPSCoR Cohort**

	Initial 5 Years in EPSCoR <sup>1</sup>	Most Recent 5 Year Period (FY 2019-2023) <sup>2</sup>	Percent Change Over Time
<b>1980 Cohort</b>	0.19%	0.36%	86%
Arkansas	0.10%	0.32%	233%
Maine	0.27%	0.26%	-5%
Montana	0.13%	0.43%	231%
South Carolina	0.41%	0.61%	51%
West Virginia	0.07%	0.19%	179%
<b>1985 Cohort</b>	0.19%	0.36%	91%
Alabama	0.33%	0.86%	160%
Kentucky	0.22%	0.38%	77%
Nevada	0.14%	0.38%	168%
North Dakota	0.06%	0.19%	206%
Oklahoma	0.30%	0.47%	58%
Puerto Rico	0.15%	0.22%	47%
Vermont	0.10%	0.13%	33%
Wyoming	0.20%	0.22%	12%
<b>1987 Cohort</b>	0.17%	0.34%	98%
Idaho	0.08%	0.33%	329%
Louisiana	0.36%	0.57%	58%
Mississippi	0.16%	0.30%	91%
South Dakota	0.09%	0.16%	72%
<b>1992 Cohort</b>	0.28%	0.46%	63%
Kansas	0.34%	0.47%	37%
Nebraska	0.22%	0.44%	102%
<b>2000+ Cohort</b>	0.44%	0.48%	8%
Alaska	0.55%	0.68%	23%
Delaware	0.41%	0.50%	22%
Guam	0.02%	0.01%	-50%
Hawaii	0.56%	0.65%	17%
Iowa	0.71%	0.71%	-
New Hampshire	0.44%	0.42%	-5%
New Mexico	0.58%	0.63%	9%
Rhode Island	0.70%	0.65%	-7%
Virgin Islands	-	0.04%	400%

<sup>1</sup> Percentages based on eligibility guidelines at the time of entry into the EPSCoR program.

<sup>2</sup> Percentages based on current eligibility guidelines.

*NSF Authorizations and Other Reports*

*Additional EPSCoR Impacts – FY 2023*

This section provides FY 2023 EPSCoR RII Track-1 and Track-2 science and technology outputs of academic research capacity, human resource development, and the demographics of participants.

The following table demonstrates quantifiable outputs of NSF EPSCoR’s RII Track-1 and Track-2 programs in FY 2023. This information clarifies the gains in academic research capacity and competitiveness, as defined by publications, leveraged grants, and patents, all strong indicators of economic development. The number and valuation of grants awarded encompass all federal, private industry, and private foundation awards across the U.S. for all active projects. These leveraged grants help to build on EPSCoR-funded research and drive academic capacity and capability across EPSCoR jurisdictions.

<b>FY 2023 RII Track-1 and Track-2 Aggregate of EPSCoR Outputs<sup>1</sup></b>			
	Track-1	Track-2	Total
Number of Active Awards	26	50	76
Publications	796	463	1259
Grants Awarded	299	312	611
Value of Grants Awarded (Dollars in Millions)	\$224.96	\$235.50	\$460.46
Patents Awarded	5	4	9
Patents pending	31	18	49

<sup>1</sup>Data is self-reported by each project through annual reports and aggregated for the program, by year. FY 2023 data displayed for publications, grants awarded, and patents is based on reporting of 23 Track-1 and 40 Track-2 awards.

The table below indicates EPSCoR’s ongoing support of human resources in STEM in the RII Track-1 and Track-2 program. The number of faculty and students involved in these projects signifies strong commitment by NSF and the jurisdictions in strengthening jurisdictional human capital in science and engineering research and education.

<b>FY 2023 RII Track-1 and Track-2 Human Resource Development<sup>1</sup></b>			
	Track-1	Track-2	Total
Faculty Supported	989	592	1,581
Post-Docs Supported	145	130	275
Graduate Students Supported	928	556	1,484
Undergraduates Supported	804	463	1,267
New Faculty Hired	68	29	97
Graduate Degrees Conferred	166	85	251
Undergraduate Degrees Conferred	247	139	386

<sup>1</sup>Data is self-reported by each project through annual reports and aggregated for the program, by year. FY 2023 human resource development data displayed is based on reporting of 23 Track-1 and 40 Track-2 awards.

Along with EPSCoR, broadening participation is one of NSF’s major initiatives. EPSCoR’s goals reflect the efforts to broaden direct participation of diverse individuals, institutions, and organizations in funded projects’ STEM research and education activities. To that end, EPSCoR collects demographic data of project participants. The tables below reflect EPSCoR’s ongoing support of FY 2023 broadening

participation efforts in the RII Track-1 and Track-2 programs.

Out of over 3,300 project participants across the RII Track-1 projects, 92.2 percent self-identified their demographics. Of those, 44.2 percent were female, 22.4 percent were from one or more group traditionally underrepresented in STEM, and 1.6 percent were disabled. Out of over 2,000 project participants across the RII Track-2 projects, 90.0 percent self-identified their demographics. Of those, 43.3 percent were female, 22.4 percent were from one or more group traditionally underrepresented in STEM, and 2.2 percent were disabled.

**RII Track-1 Broadening Participation**

	Total <sup>1</sup>	Male	Female	African American	Hispanic or Latinx	Other Ethnic	Disabled
Faculty Supported	989	617	324	48	59	36	7
Technical Support Staff	186	106	66	8	12	9	-
Non-technical Support Staff	285	60	171	28	18	27	7
Post-Docs Supported	145	97	45	4	6	8	1
Graduate Students Supported	928	503	364	70	76	29	17
Undergraduates Supported	804	335	390	75	120	57	18
<b>Total</b>	<b>3,337</b>	<b>1,718</b>	<b>1,360</b>	<b>233</b>	<b>291</b>	<b>166</b>	<b>50</b>

<sup>1</sup> Aggregate demographics may not add to Total due to project participants who chose not to identify in one or more categories

**RII Track-2 Broadening Participation**

	Total <sup>1</sup>	Male	Female	African American	Hispanic or Latinx	Other Ethnic	Disabled
Senior Researchers	333	227	99	8	19	38	9
Early-career Researchers	259	149	105	12	9	21	4
Post-Docs Supported	130	72	50	7	7	6	6
Graduate Students Supported	556	321	206	47	37	19	8
Undergraduates Supported	463	192	184	34	34	11	7
Other Project Participants	291	75	148	24	10	10	6
<b>Total</b>	<b>2,032</b>	<b>1,036</b>	<b>792</b>	<b>132</b>	<b>116</b>	<b>105</b>	<b>40</b>

<sup>1</sup> Aggregate demographics may not add to Total due to project participants who chose not to self-identify in one or more categories.

Additionally, out of the 364 projects co-funded by EPSCoR, 80 percent of the PIs self-identified their demographics. Of those, 110 awards (32.6 percent) went to female PIs and 27 (9.3 percent) went to PIs from groups traditionally underrepresented in STEM.

In FY 2023, EPSCoR completed the development of a new data collection system, which will help track project and programmatic progress in relation to EPSCoR's goals and objectives. This system builds upon the data collection efforts already in place. It will help the program to standardize the depth and breadth of information collected from all funded EPSCoR RII projects and will be used to measure capacity-building efforts within the research competitiveness evaluation framework for the program. The new system is in place for EPSCoR RII awardees to use in FY 2024 and beyond.

NSF EPSCoR has a multi-prong implementation strategy for addressing the eight recommendations

## *NSF Authorizations and Other Reports*

from the *Envisioning the Future of NSF EPSCoR*<sup>4</sup> report. including development of new programs, coordination of agencywide programs and initiatives, and enhancement of NSF outreach and engagement activities in EPSCoR jurisdictions. Intended outcomes of implementing key activities and efforts in EPSCoR jurisdictions include:

- Growth of sustainable innovation research ecosystems in jurisdictions,
- Partnerships between EPSCoR and non-EPSCoR jurisdictions,
- Development of grant management and proposal writing capabilities in jurisdictions,
- Enhanced external outreach to jurisdictions,
- Focused Minority-Serving Institution and Emerging Research Institution engagement,
- Focused Center-level engagement and opportunities for jurisdictions,
- Support of relevant workshops & conferences to promote capacity building activities, and
- Enhanced reporting and tracking of EPSCoR programmatic and jurisdictional outcomes.

### **Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act (P.L. 117-167)**

Acknowledging the historical importance of EPSCoR, the CHIPS and Science Act reiterated the ongoing importance of investments in EPSCoR jurisdictions and encouraged the development of new programs throughout NSF responsive to EPSCoR jurisdictions' and the Nation's discovery, innovation, and training goals. NSF activities in response to the CHIPS and Science Act will have sustainable positive impact, which will be reflected in each future EPSCoR annual report.

#### 1. Foundation's implementation of Sec. 10325 (a)

NSF's implementation strategy of the provisions in Section 10325 of the CHIPS and Science Act is multi-faceted and organized around two strategies aligned with the intent of the legislation of "prioritizing funding and activities that enable sustainable growth in the competitiveness of EPSCoR jurisdictions". The strategies are as follows:

1. Develop or grow NSF funding opportunities that support new or enhanced research capacity building approaches to promote sustainable research infrastructure advancements at institutions in EPSCoR jurisdictions.
2. Enhance and track EPSCoR-relevant knowledge sharing within NSF and expand external outreach to institutions and organizations in EPSCoR jurisdictions.

To implement the provisions in Sec 10325, a cross-cutting leadership and management structure is being used. At the agency level, NSF's executive leadership team provides strategic direction in activities and efforts to support implementation of the two aforementioned strategies. Additionally, the NSF EPSCoR Strategy, Engagement, and Consultation (ESEC) working group, comprised of representatives from NSF's directorates and offices, coordinates the agencywide implementation plan process for directorates and offices. NSF has created internal resources available to all NSF staff to monitor the agency's progress toward achieving annual spending targets.

#### 2. Building Research Capacity in EPSCoR jurisdictions at Minority-serving Institutions and Emerging Research Institutions

For FY 2023, NSF's progress in building research capacity at minority-serving institutions (MSIs), including historically Black colleges and universities (HBCUs) and tribal colleges and universities, as well as emerging research institutions (ERIs) in EPSCoR jurisdictions is provided in the table below.

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<sup>4</sup> CEOSE. 2022. *Envisioning the Future of NSF EPSCoR*. Alexandria, VA: National Science Foundation.

**NSF's FY 2023 Support of Emerging Research Institutions and Minority-Serving**

(Dollars in Millions)

	FY 2023			
	Award Funding	Proposals Evaluated	Awards Funding	Funding Rate
All IHEs <sup>3</sup>	\$6,972.95	33,692	9,864	29%
All EPSCoR IHEs <sup>3</sup>	\$1,077.04	5,353	1,517	28%
All ERIs	\$1,286.85	9,233	2,457	27%
All MSIs	\$1,172.63	5,500	1,628	30%
All HBCUs	\$147.37	627	219	35%
All Tribal Colleges	\$19.74	34	19	56%
ERIs in EPSCoR Jurisdictions	\$262.58	1,435	417	29%
MSIs in EPSCoR Jurisdictions	\$203.67	679	228	34%
HBCUs in EPSCoR Jurisdictions	\$35.99	165	52	32%
Tribal Colleges in EPSCoR Jurisdictions	\$16.17	25	15	60%

<sup>1</sup> Figures sourced from *NSF by the Numbers* - <https://new.nsf.gov/about/about-nsf-by-the-numbers>

<sup>2</sup> Data retrieved on February 23, 2024.

<sup>3</sup> IHEs filter excludes: federal, individuals, industry, other, and small business.

**3. Foundation's Compliance with EPSCoR Funding Targets from CHIPS and Science Act**

For FY 2023, NSF had two CHIPS and Science Act directed funding targets:

- 15.5 percent “of the amounts appropriated to the Foundation for research and related activities, and science, mathematics, and engineering education and human resources programs, excluding those amounts made available for polar research and operations support (and operations and maintenance of research facilities), shall be awarded to EPSCoR institutions.”
- 16 percent “of the amounts appropriated to the Foundation for scholarships (including at community colleges), graduate fellowships and traineeships, and postdoctoral awards shall be used to support EPSCoR institutions.”

NSF's EPSCoR funding targets for total award funding and scholarships, fellowships, traineeships, and postdoctoral awards are calculated using a consistent and replicable methodology that will enhance NSF's ability to monitor and provide oversight in the agency's progress to meeting the funding targets in a given fiscal year.

As stated earlier in the report, NSF's total FY 2023 funding to EPSCoR jurisdictions was \$1,204.98 million representing an EPSCoR jurisdiction investment rate of 15.9 percent. This exceeds NSF's FY 2023 CHIPS and Science Act funding target of 15.5 percent. The funding target percentages for FY 2023 and moving forward are calculated consistent with the legislative text described above.

With regard to the funding target of 16 percent for scholarships, fellowships, traineeships and postdoctoral awards, NSF exceeded this target and achieved an investment rate of 18.5 percent in FY 2023. This target is based on NSF's programs where NSF controls funding for scholarships, graduate fellowships and traineeships, and postdoctoral awards.

