Experimental Program to Stimulate Competitive Research (EPSCoR)

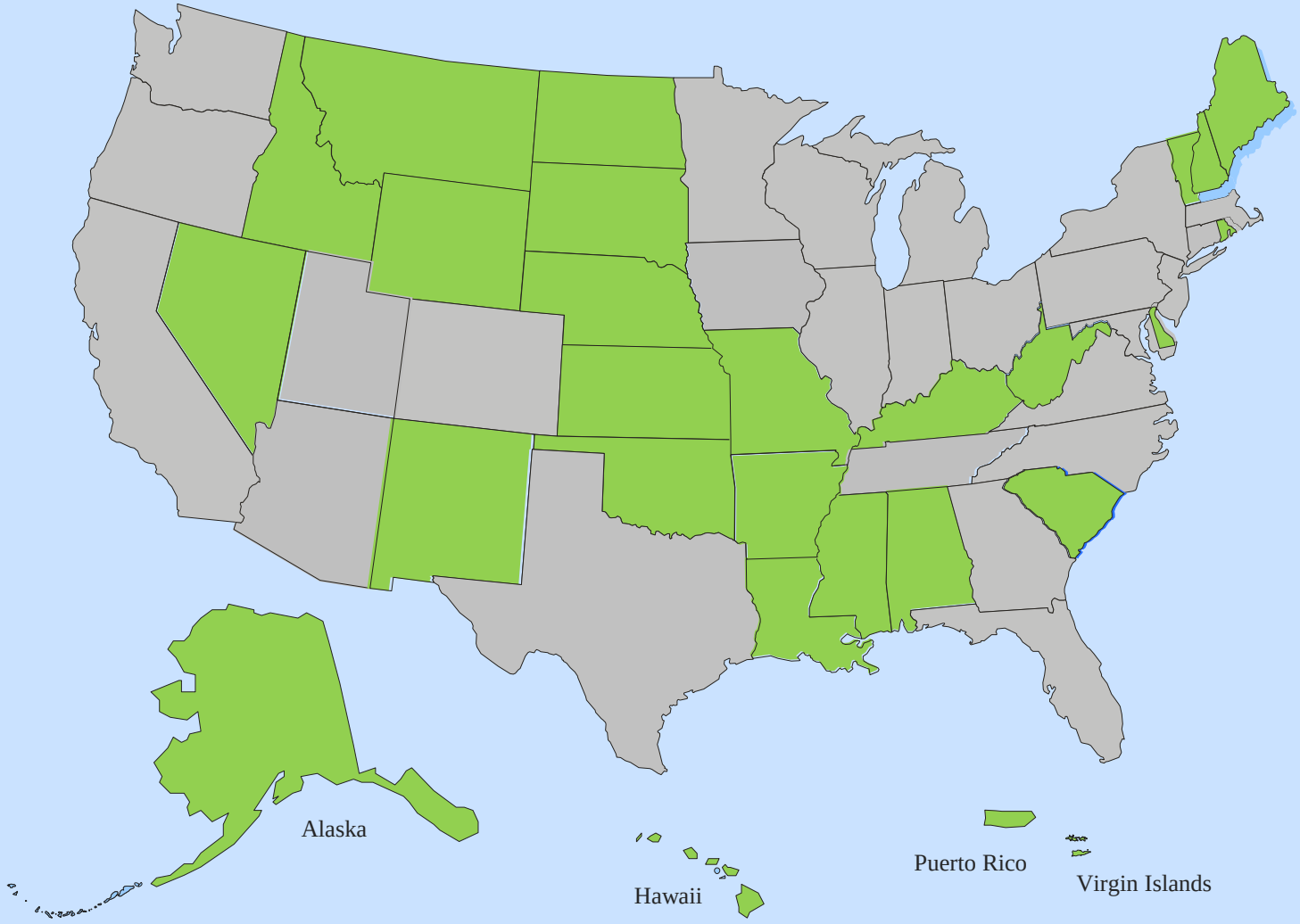
Jeppie Compton
May 18, 2015
Jeppie.R.Compton@NASA.Gov

EPSCoR Legislation

- NASA EPSCoR was established by Congress in 1992 (Public Law 102-588).

- By this legislation, NASA EPSCoR shall:
  - Address areas of research important to NASA
  - Enhance the ability of researchers to be more competitive
  - Assure the maximum distribution of grants among eligible states, consistent with merit.

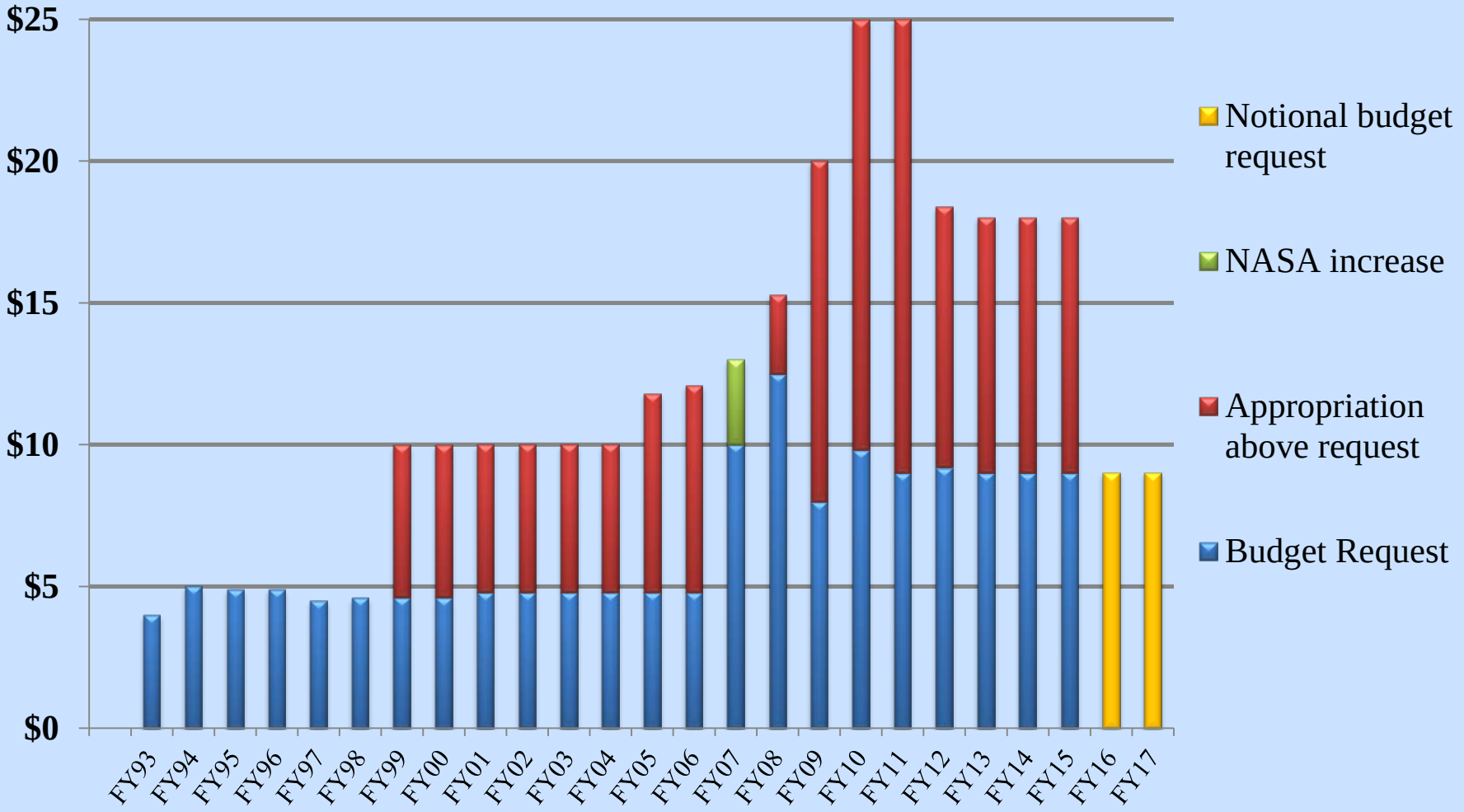
Eligible Jurisdictions



Eligible NASA EPSCoR Jurisdictions Through 2014

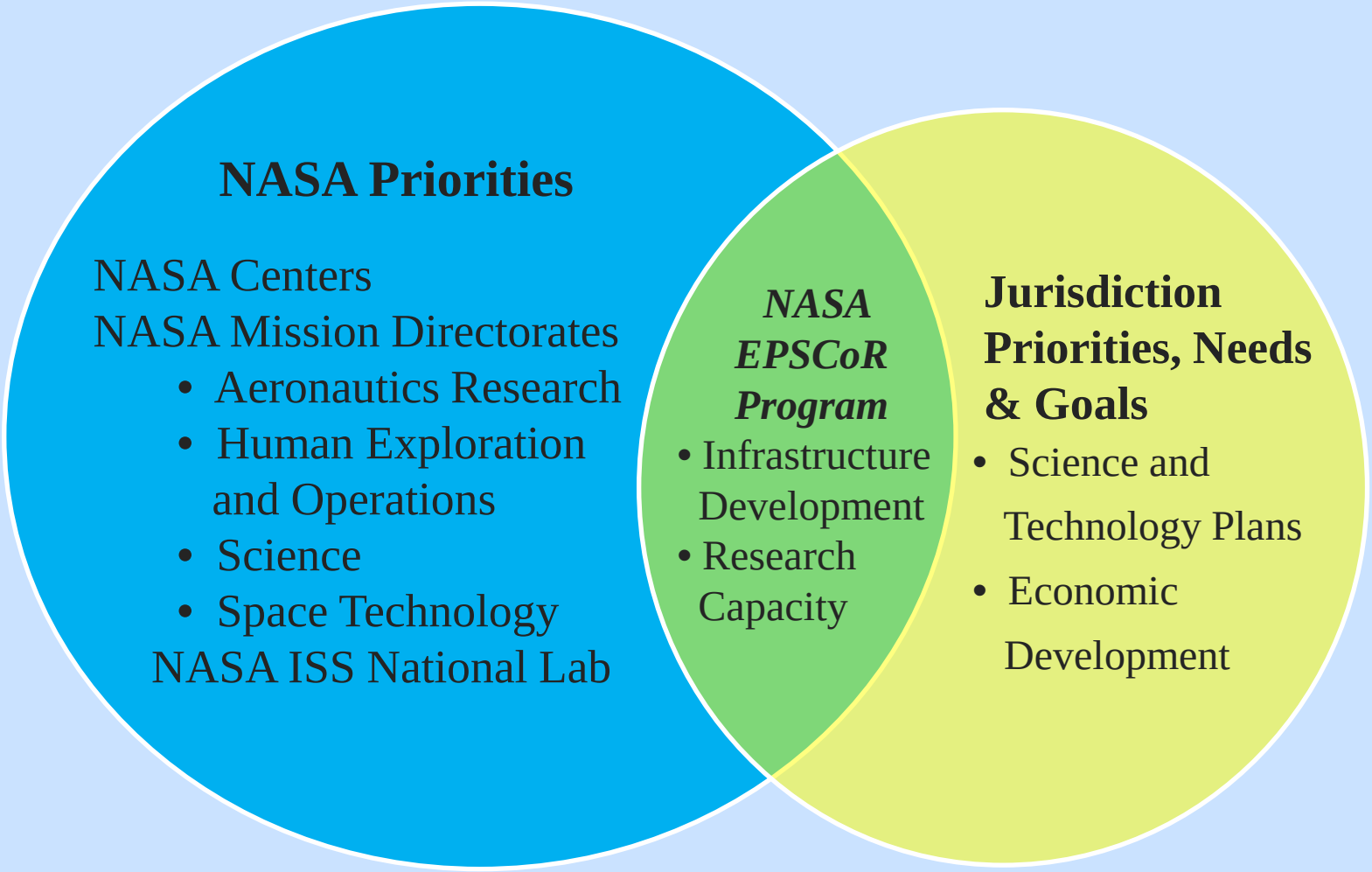
Eligibility determined by National Science Foundation EPSCoR per NASA EPSCoR legislation

Funding Profile



in Millions of dollars

EPSCoR Implementation



Primary Components

- **Research Infrastructure Development (RID) Awards**
  - Enable jurisdictions to build and strengthen relationships and improve contacts with NASA researchers; develop ideas for future proposals
  - Number of Awards: One per jurisdiction
  - $125,000/year, 3-year award
  - Cost Share (100%)

- **Research Awards**
  - Topic-specific proposals targeted at high-priority NASA research and technology development needs as determined by Mission Directorates and Office of the Chief Technologist
  - Annual solicitation
  - Max $750,000 for a 36-month award
  - Number of awards based on proposal merit and dollar amount available
  - Cost Share (50%)

Proposal Review Process

Online Peer Review

All proposals are evaluated by reviewers for technical merit and relevance to NASA research and technical development needs and priorities. The selected reviewers are nationally recognized professionals and/or NASA subject area experts.

Internal Panel Review

A HQ NASA panel composed of representatives from the four Mission Directorates evaluate the online peer review inputs. They then categorize the proposals using prioritization system from which proposals are then selected for funding.

Technical Monitor Oversight

NASA personnel are associated with all NASA EPSCoR Research Awards.

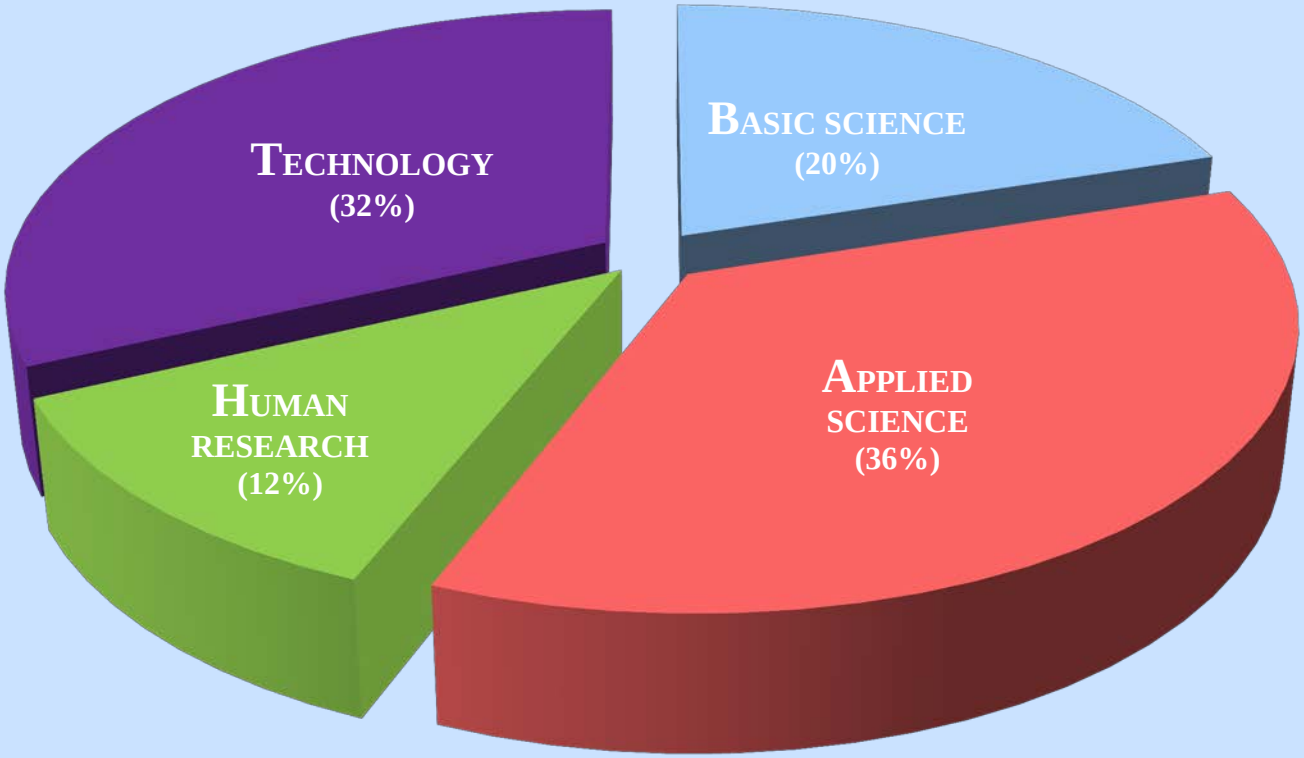
Each award has a Technical Monitor (TM) who performs the following:

- Provides guidance and technical advice
- Reviews annual reports
- Provides feedback to the EPSCoR staff

Additional activities may include:

- Integrating EPSCoR research into ongoing NASA activities or research efforts
- Increasing the research team's awareness of other related or relevant research within NASA

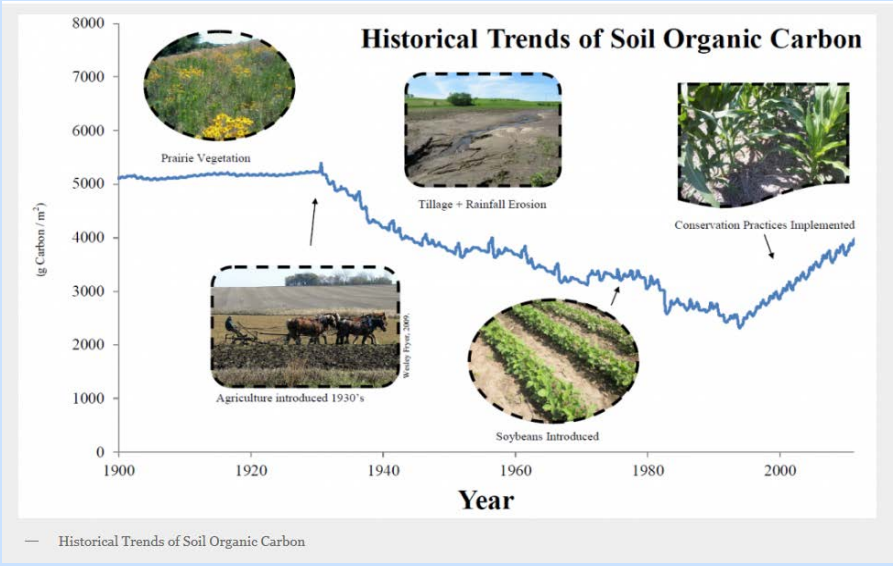
Categorization of EPSCoR Research Awards



Impact on Food & Environment

Agricultural Soil Erosion and Carbon Cycle Observations in Iowa: Gaps Threaten Climate Mitigating Policies

Goal is to build research capacity within the state to quantify the links between net greenhouse gas emissions, soil carbon, land use, and environmental impacts



— Historical Trends of Soil Organic Carbon

— Prof Papanicolaou by CO_2 Ecosystem Exchange Tower

In Iowa, projected climate shifts (e.g., increases in extreme events) coupled with intense agriculture activities (e.g., increased demands for biofuel production) create a challenging set of questions and choices for scientists, policy makers, farmers, and businesses.

Impact on Water

Passive Microwave Detection of Snowmelt and Runoff

This project uses current and historical microwave measurements gathered via satellite to predict when and where flooding caused by snowmelt will occur.

UNH researchers install automated snow temp. profile array at Hubbard Brook Exp. Forest, winter 2013-14.

UNH grad. student, measures snow temperature profiles at Hubbard Brook Exp. Forest.

Remote Sensing of the Cryosphere: Calibration and Validation

- *Students work with NASA EPSCoR researcher, Dr. HP Marshall, to perform in-situ snow measurements for calibration and validation of ground-based and satellite radar measurements*

Native American Research Laboratory(NARL)

Established at the University of Montana by a native American scientist, Professor Michael Ceballos, a research assistant professor.

- **Funding for NARL has come from a variety of sources including a NASA EPSCoR research award**

Additional Examples

http://www.nasa.gov/offices/education/programs/national/epscor/home/

Abstracts – 2010 EPSCoR Research Proposals

Estimating Spatio-Temporal Variability in Evapotranspiration in Interior Alaska Using Field Measurements, Modeling and Remote Sensing (Alaska)

Abstracts – 2009 EPSCoR Research Proposals

Hyperspectral Imaging for Biodiversity Assessment of Coastal and Terrestrial Ecosystems (Puerto Rico)

Abstracts – 2008 EPSCoR Research Proposals

Building and Enhancing a Competitive and Sustainable Remote Sensing Infrastructure for Critical Zone Studies and Cutting Edge Research (Delaware)

Climate Variability and Glacial Recession in the Wind River Range and Grand Teton Range, Wyoming (Wyoming)

Development and Automated Drinking Water Disinfection System (Tennessee)

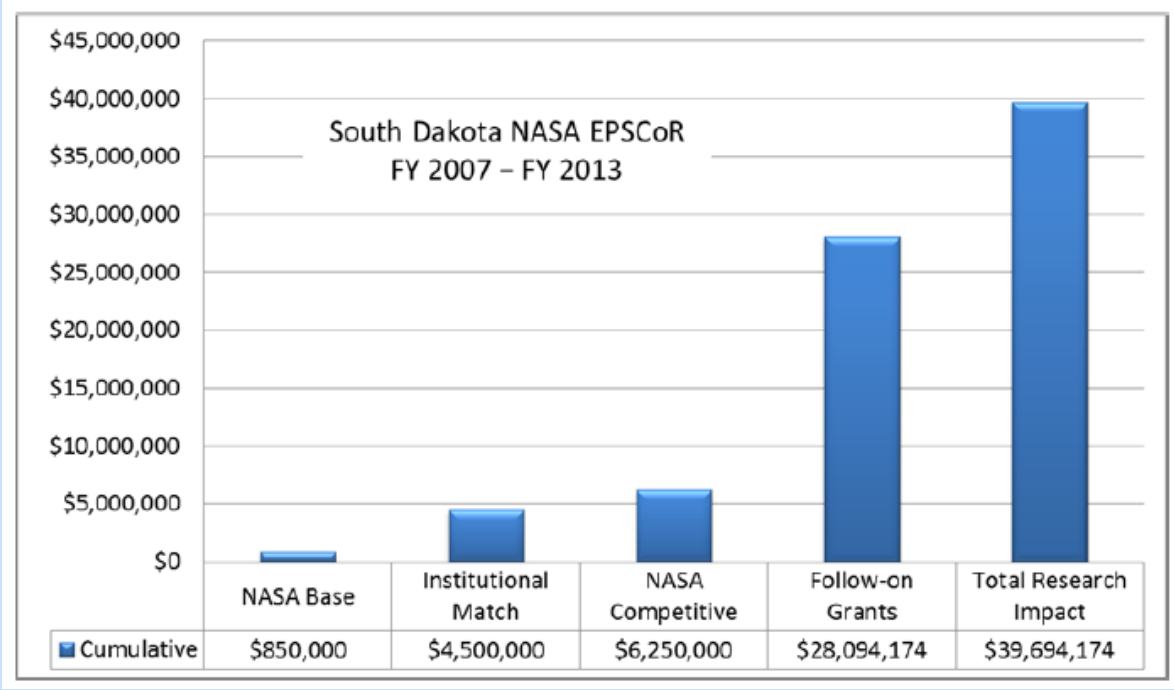
Abstracts – 2007 EPSCoR Research Proposals

Land Cover Dynamics, Regional Hydrometeorology, and the Vulnerability of Rain-Fed Agriculture to Climate Change under Scenarios of Extensive Cultivation of Biofuel Feedstocks (South Dakota)

Impact on Research

RETURN ON INVESTMENT
South Dakota

Over the period 2007–2013, NASA EPSCoR funds were matched with non-federal funds at an average rate of 63%. This cost-sharing plus competitive NASA grants and other follow-on grants gives a return on investment of approximately 45 dollars for every dollar of NASA base funding.



Contact Information
NASA Office of Education/ARCD Team

Lenell Allen, Ph.D., Director, Office of Education, Aerospace Research & Career Development (ARCD)
Ph: 202.358.1762, E: lenell.allen@nasa.gov

Jeppie Compton, EPSCoR Project Manager
Ph: 321.867.6988, E: Jeppie.r.Compton@nasa.gov

Crystal Bassett, KISS III EPSCoR Project Coordinator
Ph: 321.867.2085, E: crystal.n.bassett@nasa.gov

Warfield Teague, Ph.D., Valador Senior Program Associate
Ph: 501.908.3729, E: warfield.teague-1@nasa.gov

Sonya L. Greene, ***Ph.D.,*** Valador Senior Program Analyst
Ph: 202.358.0602, E: sonya.l.greene@nasa.gov

LaTeicia Durham, Valador Program Analyst & Grant Specialist
Ph: 202.358.2490, E: lateicia.durham@nasa.gov