



SD NASA EPSCoR Summary for Calendar Year 2011



Goals and Organization of South Dakota’s NASA EPSCoR Program

The goal of SD NASA EPSCoR is to improve research capacity in science and engineering fields that are critical to NASA’s mission and to promote science- and technology-based economic development in the state.

NASA EPSCoR funding to states has two separate components: (1) Research Infrastructure Development (RID) awards are \$125,000 per year for a three-year period and promote research collaborations through seed grants and travel to NASA Centers. RID funding also supports research collaborations between tribal universities and the state’s public and private universities. (2) Research Awards of \$750,000 for a three-year period support specific research projects that align with state and NASA priorities. Since 2007, South Dakota has received annual RID funding and has been awarded seven Research Awards for a total of \$5.975 million in NASA funds.

The NASA EPSCoR program is administered through the South Dakota NASA Space Grant Consortium (SDSGC). In addition to building research infrastructure, SDSGC seeks to increase the number of students in STEM education and careers through coordinated programs in higher education, precollege education, informal education, and public service. A major priority is to increase diversity in STEM fields by recruiting female students and student from underrepresented groups. The consortium’s 20-member network includes public, private, and tribal universities; informal science centers; industry partners; and state and federal government agencies such as the Sanford Laboratory at Homestake and the USGS EROS Data Center.

Selected Impacts on State Infrastructure for Research and Education

- In 2011, active NASA EPSCoR funding to South Dakota totaled \$5.55 million (with \$1.55 million in new 2011 awards).
- Funds support multi-institution science and engineering research projects at SDSM&T, SDSU, USD, and BHSU.
- South Dakota NASA EPSCoR has the highest funding rate of the nation’s 28 EPSCoR jurisdictions, having successfully competed for seven out eight possible awards since 2007 (total NASA funding of \$5.25 million). (See map at right)
- For projects funded in 2011 (including multi-year projects that ended in 2011) research teams reported the following metrics:
 - Senior personnel: 56
 - Graduate students: 48
 - Undergraduate students: 24
 - Papers submitted or published: 82
 - Other presentations: 116
 - Patents approved: 1
 - New grants awarded: \$12.1 million
- The success of the state’s EPSCoR research efforts is illustrated by presentations at the NASA Glenn Research Center’s Space Photovoltaic Research and Technology Conference (SPRAT XXII), held Sept. 20-22, 2011. Five of the 35 technical talks were delivered by faculty and student researchers from South Dakota.
- SD NASA EPSCoR supported an advanced technical workshop on “Carbon Nanomaterials and Applications,” Rapid City, Oct. 30–Nov. 1, 2011 (cosponsored by National Science Foundation, Army Research Lab, SDSM&T, and Georgia Tech). The 15 invited speakers included members of the National Academy of Engineering, the National Science Board, and representatives of NASA research centers, DOE national labs, and industry. The goal of the workshop was to develop a comprehensive roadmap for future research on carbon nanomaterials and to develop new collaborations among government agencies, universities, and industry.

