



## FY 2007 PROGRAM PLAN

April 5, 2007

### SOUTH DAKOTA SPACE GRANT CONSORTIUM

<http://www.sdsmt.edu/space>

#### Vision and Mission

The vision of the South Dakota Space Grant Consortium (SDSGC) is to expand opportunities for all South Dakotans through education, research, and public service in the fields of aerospace, earth, and space science. As the link between NASA and the citizens of South Dakota, SDSGC's mission is to instill the spirit of exploration and discovery in students and educators and in the general public, with a special focus on the fields of science, technology, engineering, and mathematics (STEM) that are essential for the development of the nation's workforce.

The SDSGC is committed to excellence in student and faculty research and to promoting STEM education and expanding outreach projects across the state of South Dakota. We specifically seek to include women, Native Americans, and other underrepresented groups in all of the programs and activities supported by the South Dakota Space Grant Consortium.

#### SMART Goals & Objectives

SDSGC's Management Team has developed this FY 2007 proposed Program Plan in alignment with NASA and state priorities focused around SMART (Specific, Measurable, Acceptable, Realistic, Time frame) goals and objectives. At the heart of these goals and objectives are SDSGC's Guiding Principles for Improvement and Sustained Quality:

- **Inclusiveness** — The need to deliver a broad and equitable Fellowship/Scholarship program; to engage all affiliates in Consortium programs; to provide broader input into decision-making; and to recruit more Native American students.
- **Focus** — The need to set realistic goals consistent with available resources; to develop a strategic plan with specific short- and long-term objectives; to prioritize activities based on budget level; and to formalize the benefits and expectations of management and affiliates.
- **Alignment** — The need to align the Consortium programs and strategic plan with NASA, state, and affiliate priorities; to recognize the major transformation in NASA direction and make appropriate changes in state programs; and to seek guidance from state and industry representatives.
- **Impact** — The need to maintain accurate and consistent measurements regarding programs and participants; to formalize methods for external and self evaluation; to carry on regular assessment of the Strategic Plan, activities, and outcomes; and to recognize and implement needed adjustments to achieve results.

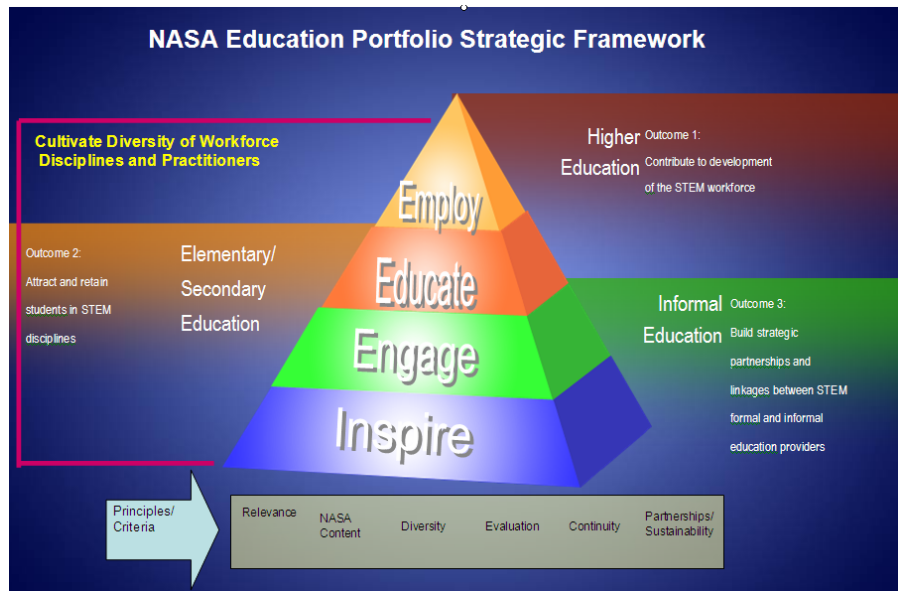
#### Budget and Associated Documentation

The enclosed budget clearly identifies our requested FY2007 funding for the work described herein. Specific Statements of Work and budgets for the following subawardees are included: SDSU, Augustana College, St. Francis Indian School, and the SD Discovery Center. [Budget

*note regarding St. Francis Indian School (SFIS): Although the attached workplan and budget for SFIS refers to three programs (i.e., Career Education Program, Summer of Action Research “SOAR”, and Other Activities/Needs) which total \$52,631, only \$20,000 of NASA Space Grant funding will be provided toward allowable expenses associated with those programs.] The subcontract budget line item for Project Initiation Grants will be awarded among Consortium affiliates based on competitive proposals for Higher Education, Research Infrastructure, and Precollege programs. A fair and balanced distribution of funds to individuals at member universities and educational affiliates will be ensured through SDSGC’s centralized, consortium-wide fellowship/scholarship program. Total undergraduate and graduate student stipends during FY 2007 will be \$104,000 of NASA Space Grant funds.*

**Alignment with NASA Education Framework and Measurable Outcomes**

SDSGC’s FY2007 program goals and objectives described below and in the Consortium’s attached **Strategic Plan** (Appendix A of the enclosed FY2006 Progress Report, which also includes the respective outcome measures) are closely aligned with NASA’s Education Framework. Consortium goals and objectives reflective of each of NASA’s three main education outcomes are summarized in the table below and described in greater detail in the narrative that follows.



Summary of SDSGC FY2007 Goals by NASA Education Outcome

<b><u>Outcome 1</u></b>	<b>Consortium Program Areas 2, 3, and 4 (Fellowship/Scholarship, Research Infrastructure, and Higher Education Programs)</b>
1.1 Faculty and Research Support	
<ul style="list-style-type: none"> <li>■ Continue to coordinate with SD NASA EPSCoR to support research seed grants and travel grants (e.g., \$133,000 awarded by SD NASA EPSCoR in FY2006)</li> <li>■ Support the new NASA Space Grant Telescope Network Project</li> </ul>	
1.2 Student Support	
<ul style="list-style-type: none"> <li>■ Continue to place graduate and undergraduate students in internships with NASA, industry, and USGS/EROS</li> <li>■ Provide fellowship/scholarship support to students in STEM degree programs</li> </ul>	
1.3 Student Involvement Higher Education	
<ul style="list-style-type: none"> <li>■ Continue to support engineering design teams and robotics teams</li> </ul>	
1.4 Course Development	

<ul style="list-style-type: none"> <li>■ Continue to make funds available to faculty for innovative curriculum development (e.g., \$10,500 awarded in FY2006 for “Interdisciplinary Robotics Initiative”)</li> </ul>
1.5 Targeted Institution and Academic Infrastructure
<ul style="list-style-type: none"> <li>■ Continue to target SDSGC’s three Tribal College affiliates for improvements in research competitiveness and STEM education opportunities</li> </ul>
<b>Outcome 2   Consortium Program Area 5 (Precollege Program)</b>
2.1 Educator Professional Development—Short Duration
<ul style="list-style-type: none"> <li>■ Continue to facilitate teacher workshops, especially the NASA Teacher Academies in cooperation with the NASA Aerospace Education Services Program; also E-missions, GEMS, and others</li> </ul>
2.2 Educator Professional Development—Long Duration
<ul style="list-style-type: none"> <li>■ Continue support programs for three NASA Explorer Schools</li> <li>■ Continue competitive grant program for K-12 math/science teachers</li> <li>■ Continue targeted STEM improvement program (3-5 year duration) with selected schools or districts (e.g., new collaboration with St. Francis Indian School, ongoing collaboration with Flandreau Indian School)</li> </ul>
2.3 Curricular Support Resources
<ul style="list-style-type: none"> <li>■ Continue to support NASA Educator Resource Centers at affiliate institutions</li> <li>■ Continue to support NASA AESP, GEMS, and E-missions teacher training</li> </ul>
2.4 Student Involvement K-12
<ul style="list-style-type: none"> <li>■ Continue support of STEM summer programs such as Gear-Up, ACE Camp, RoboCamp, and Space Camp, and high school-college bridge programs (emphasis on Native American students)</li> <li>■ Continue (and expand) support for precollege robotics programs</li> <li>■ Continue to support student/family participation in Opportunities for Enhancing Diversity in the Geosciences summer camps</li> </ul>
<b>Outcome 3   Consortium Program Area 6 (Public Service Program)</b>
3.1 Resources
<ul style="list-style-type: none"> <li>■ Continue to support activities such as “Space Days” in cooperation with Informal Education Providers (e.g., Space Days 2006 at SD Discovery Center, 2,000 teachers and students)</li> </ul>
3.2 Professional Development for Informal Education Providers
<ul style="list-style-type: none"> <li>■ Continue to facilitate NASA Teacher Academies and related programs at SDSGC’s three Informal Education affiliates</li> </ul>
3.3 Informal Education Provider Involvement Opportunities
<ul style="list-style-type: none"> <li>■ Continue to engage state’s Informal Education Providers by representation on Consortium Management Team (one currently on team, two others have applied for membership in 2007)</li> </ul>

1. ***NASA Education Outcome 1 (Educate and Employ): “Contribute to the development of the STEM workforce in disciplines needed to achieve NASA’s strategic goals”***  
 -- SDSGC Strategic Plan sections 2, 3, 4, 7 (Fellowships, Research Infrastructure, Higher Education, Workforce Development)

❖ **Fellowship/Scholarship**

**Goal:** To administer a fellowship/scholarship program that offers educational and research opportunities to students from diverse backgrounds who are pursuing degrees in fields of science, technology, engineering, and mathematics (STEM) that align with NASA’s mission and those of SDSGC members and affiliates.

- **Objective 2.1:** (Competitiveness)  
Ensure the fair distribution of funds to member universities and educational affiliates.
- **Objective 2.2:** (NASA and EROS ties)  
Offer hands-on, tangible research experiences to student research fellowship awardees at NASA Centers and EROS.
- **Objective 2.3:** (Industry ties) Offer hands-on, tangible research experiences to student research fellowship awardees at aerospace and related science and technology industries.
- **Objective 2.4:** (Mentoring and professional development) Provide mentoring and professional development experiences to student researchers, which will develop skills that contribute to the future workforce.
- **Objective 2.5:** (Diversity) Ensure funding for fellowships and scholarships to women, underrepresented minorities, and persons with disabilities.
- **Objective 2.6:** (Longitudinal tracking)  
All students who have received significant fellowship or scholarship assistance from SDSGC will be longitudinally tracked through first employment or beginning of advanced degrees.
- **Objective 2.7:** (Evaluation) The Consortium will develop methods to document, measure, and assess the impact of the fellowship and scholarship programs in conjunction with its implementation of an overall evaluation strategy (see 1.9).

**Workforce Development in NASA Outcome 1**

- NASA interns
- Industry interns
- USGS/EROS interns
- Engineering design teams
- University-NASA contacts
- Travel to NASA Centers
- Research seed grants
- Engineering design teams

**Diversity in NASA Outcome 1**

- Support for Native American students including those at Tribal Colleges
- Support remote sensing research with Tribal Colleges
- Seed grants and travel grants offered at three Tribal College affiliates
- STEM support programs for Native American students
- At least one Tribal College representative on Management Team
- NSF Opportunities for Enhancing Diversity project
- Higher Education opportunities offered to all three Tribal College affiliates

***Related objectives from Workforce***

***Development section of Strategic Plan:***

- **Objective 7.3:** (Fellowships) Offer student support through fellowships and

scholarships that encourage women and members of underrepresented groups to enter the NASA pipeline.

- **Objective 7.4:** (Mentoring and professional development) Provide mentoring and professional development experiences to Workforce Development student fellows, which will develop skills that contribute to the future workforce. (See also 2.4.)
- **Objective 7.5:** (NASA placement) Offer hands-on, tangible research experiences at NASA Centers to SDSGC Workforce Development student fellows.
- **Objective 7.6:** (Industry placement) Increase industry participation in the SDSGC Workforce Development program and increase internships and job placement.
- **Objective 7.7:** (Longitudinal tracking) All students who have received significant fellowship or scholarship assistance through the SDSGC Workforce Development Program will be longitudinally tracked through first employment or beginning of advanced degrees. (See also 2.6.)
- **Objective 7.8:** (Evaluation) The Consortium will develop methods to document, measure, and assess the impact of the Workforce Development Program in conjunction with its implementation of an overall evaluation strategy (see 1.9).

Longitudinal Tracking: In order to track the next step that students take after Space Grant funding in terms of workforce or advanced education, SDSGC will continue to secure the services of the National Space Grant Foundation throughout FY2007 and beyond to provide longitudinal tracking of all students who receive significant support from Space Grant. In South Dakota, students receiving \$1,000 or more in a single award will be included in our longitudinal tracking surveys and respective database.

#### ❖ **Higher Education**

**Goal:** To build interdisciplinary programs related to NASA's mission and goals at the state's institutions of higher education and to support related programs that serve to strengthen STEM education in South Dakota.

- **Objective 4.1:** (Curriculum and NASA content) Contribute aerospace and earth science materials to the higher education community in South Dakota.
- **Objective 4.2:** (NASA and EROS ties) Enhance faculty and undergraduate/graduate student development through planning visits, internships, and fellowships at NASA Centers and EROS.
- **Objective 4.3:** (State government) Establish and maintain linkages between SDSGC and higher education and state government.
- **Objective 4.4:** (Industry involvement) Establish and maintain linkages between SDSGC and higher education and industry in South Dakota.
- **Objective 4.5:** (Diversity) Increase the participation of women and underrepresented groups in all aspects of SDSGC's higher education program and facilitate their subsequent entry into STEM careers.

- **Objective 4.6:** (Evaluation) The Consortium will develop methods to document, measure, and assess the impact of the higher education programs in conjunction with its implementation of an overall evaluation strategy (see 1.9).

***Related objective from Workforce Development section of Strategic Plan:***

- **Objective 7.1:** (Diversity) Model diversity in the Workforce Development Program, with an emphasis on Native Americans, which make up the state’s largest minority.

❖ **Research Infrastructure**

**Goal:** To promote the improvement of research programs and capabilities of institutional and affiliate members with an emphasis on the fields of aerospace, earth science, and supporting STEM disciplines.

- **Objective 3.1:** (Research proposals) Increase the number of research proposals submitted by SDSGC institutions in fields aligned with NASA’s mission.
- **Objective 3.2:** (Research support) Support new and developing research, especially multidisciplinary and collaborative projects, in fields aligned with NASA’s mission.
- **Objective 3.3:** (Collaborations) Build research collaborations both within and outside the state.
- **Objective 3.4:** (Facilities) Promote acquisition of new facilities and shared use of existing resources.
- **Objective 3.5:** (Integrate research and education) Foster research groups and engineering design teams that integrate education, research, and development.
- **Objective 3.6:** (Diversity) Increase the participation of women and underrepresented groups in statewide research programs and facilitate their subsequent entry into STEM careers.
- **Objective 3.7:** (Evaluation) The Consortium will develop methods to document, measure, and assess the impact of the research infrastructure programs in conjunction with its implementation of an overall evaluation strategy (see 1.9).

2. ***NASA Education Outcome 2 (Educate and Engage): “Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty”***

-- SDSGC Strategic Plan section 5 (Precollege)

❖ **Precollege**

**Goal:** To increase student awareness and access to education and career opportunities in aerospace, earth science, and supporting STEM disciplines.

- **Objective 5.1:** (NASA dissemination) Disseminate information on NASA and SDSGC precollege activities and

**Workforce Development in NASA Outcome 2**

- NASA teacher training with NASA AESP staff
- Aerospace Career and Education Camp
- Space Camp
- Precollege Robotics
- Engineers’ Week

- opportunities to teachers and students statewide.
- **Objective 5.2:** (Partnerships) Facilitate partnerships for grant applications that aim to strengthen precollege STEM education.
- **Objective 5.3:** (In-service teacher training) Increase teacher capacity to effectively incorporate aerospace and earth science into the curriculum.
- **Objective 5.4:** (Science and education events) Support programs that expose K-12 students to hands-on experiences and to educational and career opportunities in the fields of aerospace, earth science and technology.
- **Objective 5.5:** (State standards) SDSGC will promote and support programs that align with state and national education standards.
- **Objective 5.6:** (Diversity) Inspire and motivate women, underrepresented minorities, and persons with disabilities to pursue STEM careers.
- **Objective 5.7:** (Evaluation) The Consortium will develop methods to document, measure, and assess the impact of the precollege education programs in conjunction with its implementation of an overall evaluation strategy (see 1.9).

***Related objective from Workforce Development section of Strategic Plan:***

- **Objective 7.2:** (Recruitment) Increase participation in the SDSGC Workforce Development Program.

NASA Explorer Schools (NES): The third NES school in South Dakota (Kadoka School District, >50% Native American enrollment) was successfully selected during FY2006 and joins two NES Tribal Schools on the Rosebud Indian Reservation which have near 100% Native American student population. SDSGC will continue supporting the NES schools in our state during FY2007 by augmenting NES program resources with Space Grant support staff, teacher-training coordination through AESP, and other informal education resources including NASA Educator Resource Center materials.

**Diversity in NASA Outcome 2**

- Targeted STEM programs at St. Francis Indian School and Flandreau Indian School
- Three NASA Explorer Schools with >50% Native American enrollment
- Gear-Up program for precollege Native American students
- Women in Science and Engineering

3. ***NASA Education Outcome 3 (Engage and Inspire): “Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA’s mission”***

-- SDSGC Strategic Plan section 6 (Public Service)

❖ **Public Service**

**Goal:** To enhance public scientific literacy in aerospace and earth science; to complement community efforts in STEM education; and to inspire citizens of diverse backgrounds through the excitement of scientific exploration and discovery.

**Workforce Development in Public Service Program**

- Space Day
- NASA content at three Informal Education affiliates
- NASA content on Public Radio

- **Objective 6.1:** (NASA dissemination) The SDSGC will increase public awareness of the Space Grant program and its activities and engage the public in the excitement of NASA missions.
- **Objective 6.2:** (Science and education events) The SDSGC will support activities of scientific discovery across the state.
- **Objective 6.3:** (Diversity) SDSGC will seek to inspire and motivate women, underrepresented minorities, and persons with disabilities through the excitement of NASA missions.
- **Objective 6.4:** (Evaluation) The Consortium will develop methods to document, measure, and assess the impact of the public service program in conjunction with its implementation of an overall evaluation strategy (see 1.9)

#### **Diversity in Public Service Program**

- Engage members of underrepresented groups in activities such as Space Day

### **Consortium Management (Administration)**

**Goal:** To ensure quality and fairness in all Consortium programs and alignment with the needs of NASA, the member and affiliate organizations, and the state of South Dakota.

- **Objective 1.1:** (Reporting) The Management Team will provide timely reporting and responses to NASA Headquarters regarding Consortium operations and finances.
- **Objective 1.2:** (National network) The Management Team will work to strengthen relationships with NASA Centers and the USGS Center for Earth Resource Observation and Science (EROS), the national Space Grant network, and the state's NASA EPSCoR Program.
- **Objective 1.3:** (Consortium network) The Management Team will faithfully represent the diverse interests and resources of the Consortium member institutions and affiliates.
- **Objective 1.4:** (State government) The Management Team will ensure that Consortium programs are aligned with state priorities.
- **Objective 1.5:** (State industry) The Management Team will foster interaction between the Consortium and state industries involved in aerospace and related technologies.
- **Objective 1.6:** (Link to public) The Management Team will seek to maintain and improve the effectiveness of the Consortium as the link between the public and NASA in the state.
- **Objective 1.7:** (Increase resources) The Management Team will pursue opportunities to increase the resources available to the Consortium, to broaden participation within the state, to collaborate with other state Consortia in areas of mutual interest and capability, and to assure long-term sustainability.
- **Objective 1.8:** (Diversity) The Management Team will ensure diversity in all Consortium programs and activities by seeking to include women, underrepresented minorities, and persons with disabilities.
- **Objective 1.9:** (Evaluation) The Management Team will continually monitor and seek to improve the quality and effectiveness of the state program.

### **Management Team Structure**

During FY2007, the Consortium's Management Team will continue to consist of the following permanent representatives from the SD School of Mines & Technology (SDSM&T), SD State University (SDSU), Augustana College, the USGS Center for Earth



Resource Observation and Science (EROS) and two additional rotating positions filled by affiliate members for a period of two years. During FY 2007 there will actually be three people in rotating positions held by representatives from the SD Discovery Center and Aquarium, Sinte Gleska University, and an affiliate representative to be selected by the start of FY2007 (5/15/07) from among five candidates who have expressed interest to date.

FY2007 Management Team members include:

- Dr. Edward Duke, Director
- Mr. Thomas Durkin, Deputy Director and Outreach Coordinator
- Dr. Daniel Swets, Associate Director at Augustana College
- Mr. Kevin Dalsted, Associate Director at SD State University
- Mr. Gregg Johnson, Senior Scientist at EROS
- ♦ Mr. James Rattling Leaf, \*Sinte Gleska University (through 5/14/08)
- ♦ Ms. Kristie Maher, Exec. Dir., SD Discover Center & Aquarium (through 5/14/08)
- ♦ Affiliate representative to be selected by 5/15/07 (through 5/14/09)
  - \* - *Minority Serving Institution*
  - ♦ - *Rotating position*

### **Diversity and Engaging Minority Serving Institutions and Minorities**

Based on data from the National Center for Education Statistics, South Dakota's minority enrollment in degree-granting institutions is \*11.3% (\*8.1% Native American). In FY2006, SDSGC roughly doubled its targeted goal of 10% of awards to minorities, both in terms of student awardees and funding provided. Fifty percent (50%) of the eight minority students funded in FY2006 attend a minority-serving institution (Tribal college.) These are meaningful engagements of minorities and minority-serving institutions attained by the Consortium this past year. A similar result will be pursued during FY2007. Connie Giroux, a Native American graduate student has been selected and funded for a summer 2007 internship at NASA JPL. Additionally, James Rattling Leaf of affiliate Sinte Gleska University (a minority-serving institution on the Rosebud Indian Reservation) has remained in one of the rotating positions on the SDSGC Management Team for three years. We are considering a representative from one of the Consortium's other two affiliate Tribal Colleges to take his place at the start of FY2007.

\*[http://nces.ed.gov/programs/digest/d05/tables/dt05\\_208.asp](http://nces.ed.gov/programs/digest/d05/tables/dt05_208.asp)

### **Outcome Completion**

The specific program areas, strategies and measurable outcome indicators used to guide the Consortium and track accomplishments are described in the Consortium's Strategic Plan (Appendix A of the enclosed FY2006 Progress Report). The enclosed FY2006 Progress Report includes "Quantitative Outcome Measures Matrix Tables" for each program area. Those tables clearly indicate whether the outcome indicators for the various program areas were completed, partially completed, or not completed during FY2006. The outcomes completed in FY2006 will be continued in FY2007 and are not repeated here. In the cases where an outcome indicator was partially or not completed last year, for each of the six program areas we indicate below 1) how and when the outcome will be achieved during FY2007, or 2) whether there has been a change to the desired outcome.

To avoid duplication, the specific projects and programs described in detail under each of the six Program Areas in the FY2006 Progress Report are not repeated here. However, the vast majority of those individual projects are planned to be continued in FY2007.

1) **Management Outcomes Partially/Not Completed in FY'06 to be Completed/Revised in FY'07**

Twenty-three (85%) of the 27 Management outcomes identified in SDSGC's Strategic Plan were completed in FY2006 (see Management "Quantitative Outcome Measures Matrix Table" in FY2006 Progress Report). Those outcomes will continue to be met in FY2007. The following three outcomes that were partially completed and the single outcome that was not completed in FY2006 will either be completed or revised in FY2007.

- Strategy/Outcome 1.3.1 will be completed by May 15, 2007. It was decided that the rotating affiliate positions on the Consortium's Management Team should coincide with the start/end of the program year (mid-May) rather than the calendar year. The FY2007 position was announced to all affiliates on March 3, 2007 and the selection will be made by the start of the FY2007 program year.
- Strategy/Outcome 1.6.2, the redesign of SDSGC's website, was partially completed by DSU students during FY2006, but the new site is not quite ready for placement online. The current website remains fully functional and is kept up to date. It will serve the Consortium until the new and improved site is ready to go online in Fall 2007.
- Strategy/Outcome 1.7.1, a Development Plan that identifies opportunities to increase funding, staffing, and matching for the Consortium's program was not made a high priority during FY2006, but is envisioned to be developed and approved by the Management Team by November 2007.
- Per Strategy/Outcome 1.9.5, SDSGC's advisory board was to convene for an annual meeting by November 15, 2006 or later (assuming the NASA EPSCoR plan has been released by NASA), but it did not convene. We anticipate that NASA Headquarters will release the new EPSCoR Research Announcement in the next few months and that the TAC will be convened one or more times in the summer of 2007 to provide input on SDSGC and SD NASA EPSCoR directions.

2) **Fellowship Outcomes Partially Completed in FY'06 to be Completed in FY'07**

Twelve (80%) of the 15 Fellowship outcomes identified in SDSGC's Strategic Plan were completed in FY 2006 (see Fellowship "Quantitative Outcome Measures Matrix Table" in FY2006 Progress Report). Those outcomes will continue to be met in FY2007. The following three outcomes that were partially completed in FY2006 will be completed in FY2007.

- Per Strategy/Outcome 2.2.2, only one of the targeted two Space Grant Fellows participated in a SD NASA EPSCoR research project during FY2006. At least two Space Grant supported students will do so in FY2007.
- Per Strategy/Outcome 2.3.2, just one of the targeted two student awardees of the state's Science and Technology Entrepreneurship Program (STEP) fellowships

received supplemental funding through SDSGC in FY2006. Because efforts to combine announcements for STEP and Space Grant fellowships advanced significantly in FY2006, it is expected that appropriate STEP fellows with NASA-related entrepreneurial interests will receive supplemental Space Grant funding in FY2007.

- Per Strategy/Outcome 2.4.1, the majority of FY2006 student researchers funded through NASA South Dakota Space Grant presented their results to campus peers, professional organizations, precollege students, or civic groups in order to highlight their research and educate the community about specific STEM content areas that pertain to their research projects. Research presentations will remain a priority for all student fellows receiving FY2007 Space Grant funding.

3) **Research Outcomes Partially/Not Completed in FY'06 to be Completed/Revised in FY'07**

Seventeen (85%) of the 20 Research Infrastructure outcomes identified in SDSGC's Strategic Plan were completed in FY 2006 (see Research "Quantitative Outcome Measures Matrix Table" in FY2006 Progress Report). Those outcomes will continue to be met in FY2007. The following three outcomes that were partially or not completed in FY2006 will either be completed or revised in FY2007.

- Per Strategy/Outcome 3.3.3, an initial research needs and capabilities assessment of SDSGC academic institutions was to be completed in 2006 to promote research collaboration among the state's academic institutions with an emphasis on programs that link faculty at institutions with limited research infrastructure (including Tribal Colleges) and faculty at research-intensive institutions. The Consortium's Management Team will bring this item before the Advisory Board during FY2007 to solicit advice on whether this outcome is a priority considering the Governor's 2010 Initiative and the limitations of SDSGC's research infrastructure resources. If identified as a priority, the strategy and outcome will remain and a Space Grant or NASA EPSCoR student fellow may be given the task of conducting the assessment.
- Per Strategy/Outcome 3.4.2, work was initiated in 2005 to develop and maintain at least three remote sensing test sites using imagery from the NASA-USGS EO-1 satellite (Hyperion and Advanced Land Imager sensors). During FY2006, imagery was acquired for two of the selected sites that were located to support Tribal College research projects at Oglala Lakota College and Sinte Gleska University. It was decided that these two sites were sufficient and a third was not necessary; thus the outcome was revised. These two test sites will promote long-term interdisciplinary research and training collaborations among SDSGC institutions and should attract collaborations from external partners.
- Per Strategy/Outcome 3.5.2, in order to encourage public and private partnerships to sponsor pre-college engineering design teams such as robotics teams, SDSGC industrial and state government affiliates were to be contacted regarding the needs and benefits of pre-college engineering design programs. One industry affiliate, Aerostar International (Raven Industries subsidiary), is providing support for a SD NASA EPSCoR research seed grant in the form of high-altitude balloons for research. This issue will be included in the next Consortium "affiliate survey"

scheduled for release in April 2007. Potential outside sponsorship can also be addressed in the Consortium's Development Plan to be completed by November 2007.

- 4) Higher Education Outcomes Partially Completed in FY'06 to be Completed in FY'07  
Six (75%) of the eight Higher Education outcomes identified in SDSGC's Strategic Plan were completed in FY 2006 (see Higher Education "Quantitative Outcome Measures Matrix Table" in FY2006 Progress Report). Those outcomes will continue to be met in FY2007. The two outcomes that were partially met (4.1.1 and 4.3.2) each had either a Management or a Fellowship component and are addressed above.
- 5) Precollege Outcomes Partially Completed in FY'06 to be Completed/Revised in FY'07  
Nine (82%) of the 11 Precollege outcomes identified in SDSGC's Strategic Plan were completed in FY 2006 (see Precollege "Quantitative Outcome Measures Matrix Table" in FY2006 Progress Report). Those outcomes will continue to be met in FY2007. One of the outcomes that was partially met had a Management component and is addressed above. The following outcome was partially completed in FY2006 and will be met in FY2007.
  - Per Strategies/Outcomes 5.3.1, SDView was to conduct and publish the results of a K-12 geospatial education needs assessment survey. The survey has been conducted and the results will be published in the coming year.
- 6) Public Service Outcomes Partially Completed in FY'06 to be Completed/Revised in FY'07  
Five (71%) of the seven Public Service outcomes identified in SDSGC's Strategic Plan were completed in FY2006 (see Public Service "Quantitative Outcome Measures Matrix Table" in FY2006 Progress Report). Those outcomes will continue to be met in FY2007. Outcome 6.1 that was partially met had a Management component and is addressed above. The following outcome was partially completed in FY2006 and will be met in FY2007.
  - Per Strategy/Outcome 6.2.3, although more than 2,500 middle and high school students were engaged with hands-on science activities, SDSGC did not award prizes at the three science fairs in Rapid City, Sioux Falls, and Brookings due to time and staff limitations. A special attempt will be made to do so at all three events during FY2007.