

Idaho Space Grant Consortium
Lead Institution: University of Idaho
Director: Dr. Joseph D. Law
Telephone Number: 208-885-7230
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PROGRAM DESCRIPTION

The National Space Grant College and Fellowship Program consists of 52 state-based, university-led Space Grant Consortia in each of the 50 states plus the District of Columbia and the Commonwealth of Puerto Rico. Annually, each consortium receives funds to develop and implement student fellowships and scholarships programs; interdisciplinary space-related research infrastructure, education, and public service programs; and cooperative initiatives with industry, research laboratories, and state, local, and other governments. Space Grant operates at the intersection of NASA's interest as implemented by alignment with the Mission Directorates and the state's interests. Although it is primarily a higher education program, Space Grant programs encompass the entire length of the education pipeline, including elementary/secondary and informal education. The Idaho Space Grant Consortium (ISGC) is a Designated Consortium funded at a level of \$575,000 for fiscal year 2013.

PROGRAM GOALS

Consistent with the three outcomes defined in the NASA Strategic Coordination Framework, the overarching goals of the ISGC are:

1. To contribute to the development of NASA's future workforce in disciplines needed to achieve NASA's strategic goals;
2. To attract and retain students, teachers, and faculty of diverse backgrounds in STEM disciplines; and
3. To develop partnerships with NASA and related industries that provide the opportunity for Idaho students and professionals to contribute to the strategic research priorities of NASA, and to become engaged in NASA's mission.

PROGRAM/PROJECT BENEFIT TO OUTCOME (1, 2, & 3)

Outcome 1: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goals.

The ISGC continued to support Outcome 1 through its scholarship, fellowship, internship, and undergraduate research opportunities. These opportunities can effect significant change in a student's life as evidenced by the following quote from two-time NASA ISGC internship awardee, Philip Burchfield:

"The concerns that I have had as a fifty year old student that my age would be a hindrance to employability, have been laid to rest. This internship has confirmed my hopes that my experience in the technical trades combined with a current engineering degree would be of great value. NASA feels like the natural evolution of my career path and I am grateful to the

Space Grant Consortium for making this possible. The Space Grant program has given me a new appreciation for my studies by showing me a connection between the classroom and real world technology. The convergence of book and lecture to application is much more vivid now, and this awareness inspires me to be a better student. My participation in the Space Grant program has also had a marvelous effect on my children. They both have taken an interest in higher education, my son in technology (robotics and computer science), and my daughter is researching degree programs for her post high school education. I must say that your program is affecting lives beyond the immediate participants, and from my family, we thank you.” Phillip Burchfield

Outcome 2: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.

In support of Outcome 2, the ISGC continued to work on encouraging young women to pursue STEM careers as evidenced by the Women in Engineering Day event held in November 2013. Over 70 female high school juniors and seniors from all over Idaho attended this full-day event featuring a Mars rover design challenge and speed-networking with engineering professionals. Survey data collected from participants revealed that 67% of participants that felt “neutral” about engineering as a career prior to Women in Engineering Day reported an increased interest in pursuing engineering as a career after the event.

PROGRAM ACCOMPLISHMENTS

Outcome 1: *Contribute to the development of the STEM workforce in disciplines needed to achieve NASA’s strategic goals. (Employ and Educate)*

• Fellowships and Scholarships

- *Objective: The total number of undergraduate and graduate students proposing for ISGC support through the ISGC fellowship and scholarship programs will increase by 10% per year through 2015*
 - Metric: Number of undergraduate students submitting applications for ISGC scholarships
 - * 2012-2013 scholarship applications received: 65
 - * 2013-2014 scholarship applications received: 45
 - Metric: Number of graduate students submitting applications for ISGC fellowships
 - * 2012-2013 fellowship applications received: 16
 - * 2013-2014 fellowship applications received: 15
- *Objective: By 2015, the proportionate numbers of underrepresented minority students receiving ISGC support through the scholarship and fellowship program will meet or exceed the proportions represented by demographics the state of Idaho. (Idaho underrepresented undergraduate enrollment in all fields: 10%)¹*
 - Metric: Number of underrepresented graduate and undergraduate students receiving ISGC support

¹ Table 265. Fall enrollment in degree-granting institutions, by race/ethnicity of student and state or jurisdiction: 2011
http://nces.ed.gov/programs/digest/d12/tables/dt12_265.asp

- * 2012-2013: 10% underrepresented; 31% women
- * 2013-2014: 0% underrepresented; 40% women

Performance note: The ISGC is currently reviewing its fellowship and scholarship recruitment, evaluation, and selection processes to identify strategies for increasing participation from underrepresented students as well as female students.

- *Objective: By 2015, 50% of ISGC scholars will be involved in NASA related research through programs such as but not limited to the Idaho Research Involving Student Engineers and Educators (RISE), Robotic Lunar Exploration Program (RLEP), and rocket launch opportunities such as RockOn!*
 - Metric: Number of ISGC Scholars involved in NASA related undergraduate research
 - * 2012-2013: ISGC scholars involved in research: 16 of 29 total (55%)
 - * 2013-2014: ISGC scholars involved in research: Data not yet available

- **Higher Education**

- *Objective: By 2015 interdisciplinary and collaborative undergraduate courses will be offered at five higher education institutional affiliates in Idaho.*
 - Metric: Number of higher education institutional affiliates offering interdisciplinary and collaborative undergraduate courses
 - * 2012-2013: Three affiliates offered interdisciplinary courses
 - University of Idaho: Near-space engineering course
 - Northwest Nazarene University: High altitude balloon course
 - Boise State University: Hands-on introduction to engineering
 - * 2013-2014: Three affiliates offered interdisciplinary courses
 - University of Idaho: Near-space engineering course
 - Northwest Nazarene University: High altitude balloon course
 - Boise State University: Hands-on introduction to engineering
- *Objective: By 2015 the percentage of women and underrepresented minority individuals participating in ISGC higher education programs will meet or exceed state percentages.*
 - Metric: Total number of participants in ISGC higher education programs
 - * 2012-2013: 62
 - * 2013-2014: 59
 - Metric: Total number of underrepresented minorities participating in ISGC higher education programs.
 - * 2012-2013: 3 (5%)
 - * 2013-2014: 5 (8.5%)
 - Metric: Total number of women participating in ISGC higher education programs.
 - * 2012-2013: 15 (24%)
 - * 2013-2014: 15 (25%)

Performance note: The ISGC is working with women faculty and administrators as well as chapters of the Society of Women Engineers and women's centers at Idaho higher education institutions to increase the participation of women in ISGC programs.

- *Objective: By 2015 the total number of students participating in ISGC undergraduate research programs will increase by 15%.*
 - Metric: Total number of ISGC scholars participating in ISGC undergraduate research programs each year.
 - * 2011-2012: 18 (49%)
 - * 2012-2013: Data not yet available
- *Objective: By 2015 the number of higher education institutions participating in the ISGC RLEP, RISE, and/or rocket launch opportunities will be at least five.*
 - Metric: The number of ISGC education affiliates with teams participating in Idaho RISE
 - * 2012-2013: 2 institutions participating
 - * 2013-2014: 2 institutions participating
 - Metric: The number of ISGC education affiliates with teams participating in Idaho Robotic Lunar Exploration Program (RLEP)
 - * 2012-2013: 1
 - * 2013-2014: 1
 - Metric: The number of ISGC education affiliates with teams participating in rocket launch opportunities such as RockOn!
 - * 2012-2013: 1
 - * 2013-2014: 1
 - Metric: The number of ISGC education affiliates with teams participating in Idaho Microgravity University (IMU)
 - * 2012-2013: 1
 - * 2013-2014: 1
- *Objective: By 2015 the number of undergraduate and graduate students applying for summer and/or academic year internship programs with NASA or in aerospace industry will increase by 15%.*
 - Metric: The number of undergraduate and graduate students applying for ISGC-sponsored NASA and aerospace internship programs.
 - * 2012-2013: At least 18, but the full number of applicants is unknown due to ISGC's inability to access NASA's OSSI SOLAR system
 - * 2013-2014: At least 20; but the full number of applicants is unknown due to ISGC's inability to access NASA's OSSI SOLAR system
- *Objective: By 2015 the percentage of women and underrepresented minority individuals placed at a NASA center or in aerospace internship programs will meet state percentages.*

- Metric: The total number of participants in ISGC-sponsored NASA and aerospace internship programs
 - * 2012-2013: 12
 - * 2013-2014: 11
- Metric: The number of women and underrepresented minorities participating in ISGC-sponsored NASA and aerospace internship programs
 - * 2012-2013: 3 (25%) underrepresented; 3 (25%) women
 - * 2013-2014: 0 (0%) underrepresented; 3(27%) women
- *Objective: Engage 9 students from 3 higher education institutions in rocket flight opportunities.*
 - Metric: Number of students participating in rocket flight opportunities such as Rock On!
 - * 2012-2013: 13
 - * 2013-2014: 13
 - Metric: Number of institutions involved
 - * 2012-2013: 1
 - * 2013-2014: 1
- *Objective: Have two student led flight experiments that will fly by 2012 in a rocket flight opportunity.*
 - Metric: Number of student-led flight experiments flown (by year)
 - * 2012-2013: 1
 - * 2013-2014: 1

- **Research**

- *Objective: The total number of undergraduate and graduate students proposing for ISGC research support in aerospace and space science fields will increase by 10% per year through 2015.*
 - Metric: Number of undergraduate students submitting proposals for ISGC research support
 - * 2012-2013: 1 team of 7 students (Microgravity University)
 - * 2013-2014: 2 teams of 25 students (Microgravity Univ. and Rock On!)
 - Metric: Number of graduate students submitting proposals for ISGC research support.
 - * 2012-2013: 2 graduate students submitted proposals; 2 graduate students funded.
 - * 2013-2014: 1 graduate student submitted a proposal; 1 graduate student funded.
- *Objective: By 2015 proposals for research support (including student research support) in aerospace and space science fields will be received from at least five institutions of higher education in Idaho each year.*

- Metric: Total number of higher education institutions proposing for ISGC research and travel grants
 - * 2012-2013: 4 affiliates proposed
 - * 2013-2014: 4 affiliates proposed
- *Objective: By 2015 ISGC will provide research support to students from at least five higher education institutions within Idaho per year.*
 - Metric: Number of higher education institutions with students receiving ISGC research funding
 - * 2012-2013: 3 affiliates
 - * 2013-2014: 3 affiliates
- *Objective: By 2015 the total number of proposals for external NASA research funding will increase by 10%.*
 - Metric: Total number of proposals submitted for NASA research funding
 - * 2012-2013: 2 proposals submitted by ISGC researchers
 - * 2013-2014: 1 proposal submitted by ISGC researchers
- *Objective: Each year, all Research Seed Grants will include undergraduate students.*
 - Metric Total number of ISGC Research Seed Grant proposals submitted for research funding
 - * 2012-2013: 6 proposals submitted for research funding
 - * 2013-2014: 8 proposals submitted for research funding
 - Metric Number of undergraduates supported by ISGC Research Seed Grant awards
 - * 2012-2013: 7 undergraduate students supported by ISGC research projects.
 - * 2013-2014: 2 undergraduate students supported by ISGC research projects.
- *Objective: By 2015 the percentage of women and underrepresented minority individuals participating in the ISGC research infrastructure programs will meet state percentages.*
 - Metric: The total number of participants in ISGC research infrastructure programs
 - * 2012-2013: 20 (includes faculty, undergraduate, and graduate students)
 - * 2013-2014: 11 (includes faculty, undergraduate, and graduate students)
 - Metric: The number of women and underrepresented minorities participating in ISGC research infrastructure programs
 - * 2012-2013: 10 (50%) (incl. faculty, undergraduate, and graduate students)
 - * 2013-2014: 6 (55%) (incl. faculty, undergraduate, and graduate students)

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

K-12 Education

- *Objective: By 2015 the number of pre-service teachers participating in ISGC STEM initiatives will increase by 10% per year*
 - Metric: Number of pre-service teachers participating in ISGC STEM initiatives.
 - * 2012-2013: 15 pre-service teachers participated
 - * 2013-2014: 20 pre-service teachers participated
- *Objective: The number of Special Project Grant proposals received from K-12 education affiliates will increase to five per year by 2015.*
 - Metric: Number of Special Project Grant proposals received from K-12 education affiliates
 - * 2012-2013: 1 proposal received; 1 proposal funded
 - * 2013-2014: 1 proposal received; 1 proposal funded
- *Objective: The number of Idaho teachers, students, and schools participating in ISGC Pre-College programs will increase by 10% by 2015.*
 - Metric: Number of Idaho schools participating in ISGC pre-college programs
 - * 2012-2013: 65 schools participated
 - * 2013-2014: 32 schools participated
 - Metric: Number of students participating in ISGC pre-college programs
 - * 2012-2013: 1660 students participated
 - * 2013-2014: 400 students participated
 - Metric: Number of teachers participating in ISGC pre-college programs
 - * 2012-2013: 76 teachers participated
 - * 2013-2014: 65 teachers participated

Performance note: The reduction in participants in pre-college programs reflects NASA's priorities for the Space Grant program which includes an increased focus on higher education activities and a reduced focus on pre-college activities.

- *Objective: Visit the teachers from at least 6 schools that were a part of the 2010 IMU-SOI Summer of Innovation during the 2010 academic year.*
 - Metric: Number of schools visited
 - * 2013-2014: The IMU-SOI program has officially ended and this metric no longer applies.
- *Objective: Have 70% of the teachers that were a part of the IMU-SOI program implement NASA Curriculum in their classroom in 2010.*
 - Metric: Number of teachers using NASA curriculum.
 - * 2013-2014: The IMU-SOI program has officially ended and this metric no longer applies.

- *Objective: Engage 60 students with an intensive learning experience based on NASA curriculum at two school districts.*
 - Metric: Number of students participating in program.
 - * 2012-2013: 80
 - * 2013-2014: Data not yet available
 - Metric: Number of school district programs offered
 - * 2012-2013: 15 school districts
 - * 2013-2014: 14 school districts
- *Objective: Engage 25 teachers in intensive learning workshops based on NASA curriculum at two school districts.*
 - Metric: Number of teachers engaged in the program.
 - * 2012-2013: 40 teachers participated
 - * 2013-2014: 39 teachers participated
 - Metric: Number of school district programs offered.
 - * 2012-2013: 15 school districts
 - * 2013-2014: 39 school districts
- *Objective: The total number student teams that participate in Idaho TECH will reach 60 teams in FY 2010.*
 - Metric: Number of teams participating in Idaho TECH
 - * 2012-2013: 35 teams participated
 - * 2013-2014: 26 teams participated
- *Objective: The total number of student teams participating in FIRST Lego League will reach 300 teams in FY2010*
 - Metric: Number of teams participating in FIRST Lego League
 - * 2012-2013: 154 teams participated
 - * 2013-2014: 157 teams participated; 1163 youth (802 boys; 361 girls); 213 adult mentors
- *Objective: The total number of student teams participating in FIRST Tech Challenge will reach 35 teams in FY 2010*
 - Metric: Number of teams participating in FIRST TECH Challenge
 - * 2012-2013: 32 teams participated
 - * 2013-2014: 35 team participated; 242 youth (195 boys; 47 girls); 42 adult mentors

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

- *Objective: The number of Special Project Grant proposals received from informal education affiliates will increase to five per year by 2015.*

- Metric: Number of Special Project Grant proposals received from informal education affiliates
 - * 2012-2013: 0 proposals received
 - * 2013-2014: 1 proposals received; 1 proposal funded

PROGRAM CONTRIBUTIONS TO NASA EDUCATION PERFORMANCE MEASURES

- **Student Data and Longitudinal Tracking:** Total significant FY 13 awards: **59**;
 - Number of new multi-year fellowship/scholarship awards: **15**; 40% awarded to women
 - Number of students participating in higher education/research infrastructure activities and receiving significant support (internships, undergraduate research opportunities, etc.): **44**; 20% women participation
 - Number of students from minorities underrepresented in STEM fields receiving significant support: **5** (8% of total awards) (*Note: this number may be higher since eight students declined to identify race/ethnicity.*)
 - Number of women receiving significant support: **15** (25% of total awards)
 - Number of first generation college students: **11** (19% of total awards) (*Note: this number may be higher since nine students declined to identify first-generation college student status.*)
 - Number of low-income students: **6** (10% of total awards) (*Note: this number may be higher since nine students declined to identify low income status.*)

Through longitudinal tracking, the ISGC identified 44 ISGC students supported between FY 06 and FY 13 that took the next step toward a STEM career in FY13.

- 7 are pursuing advanced degrees in STEM disciplines
- 1 accepted a STEM position at a NASA contractor
- 20 accepted STEM positions in industry
- 1 accepted a STEM position in K-12 academia
- 8 accepted STEM positions in academia
- 7 went on to positions in non-STEM disciplines

The remaining students have not yet received the degree that they were pursuing while supported by the ISGC in FY 13.

- **Minority-Serving Institution Collaborations:** Unfortunately, the state of Idaho lacks any minority-serving institutions at this time. However, the ISGC is working to increase interactions with underrepresented minorities through other avenues. Examples include increasing partnerships with the community colleges in Idaho (that often have a higher percentage of underrepresented minority students), and providing special project grant opportunities to minority-focused organizations such as the Society of Hispanic Professional Engineers² for events like “Noche de Ciencias.”² Moving forward, the ISGC will explore partnering with other Space Grant consortia with minority-serving institution affiliates to expand collaborations in this area.

² For more information on Noche de Ciencias, please visit: http://magicvalley.com/news/local/mini-cassia/noche-de-ciencias-engineering-night-encourages-hispanic-students-to-pursue/article_601470ec-b246-11e3-92d5-0019bb2963f4.html

- **NASA Education Priorities**

- *Authentic, hands-on student experiences in science and engineering disciplines*

Examples of the ISGC's efforts in this area included:

- The ISGC continued to provide support to the Idaho Near Space Engineering Program, Idaho RISE (Research Involving Student Engineers and Educators), which provides Idaho high school and university students with the opportunity to develop near-space flight instrumentation in collaboration with engineers and researchers at NASA Ames and JPL. One of these teams, the Vandal Atmospheric Science Team (VAST) based at the University of Idaho, had 31 students participate this year. The VAST team had two successful launches this year; one of which launched fish embryos to study the effects of near space on fish development (results pending).
- The ISGC also supported 13 Northwest Nazarene University (NNU) students participating in the RockSat-X launch opportunity hosted by Colorado Space Grant Consortium. NNU secured a partnership with Boise-based electronics company American Semiconductor Inc. (ASI) to perform mechanical and electrical testing on ASI's FleX™ flexible substrates and integrated circuit chips. During RockSAT--X 2013, NNU tested electrical continuity and physical behavior of the substrates and integrated circuit chips in the high-gravity environment of a rocket launch and in full exposure to space. Once exposed to space, the test strips were mechanically flexed using a rotating arm to determine if the flexible assemblies would retain their physical durability without sacrificing their electrical conductivity.
- *Diversity of institutions, faculty, and student participants*
 - Diversity of institutions: The ISGC includes:
 - 7 four-year university/college affiliates
 - 2 community college affiliates
 - 7 informal education affiliates
 - 6 state government and industry affiliates
 - Diversity of students: The ISGC made new significant awards in FY 13 to:
 - Five minority students underrepresented in STEM fields (8% of total awards)
 - Fifteen women (25% of total awards)
 - Eleven first generation college students (19% of total awards)
 - Six low-income students (10% of total awards)
 - Diversity of faculty: Of 6 faculty involved in ISGC activities, 1 was female and 2 were from underrepresented groups in STEM fields
- *Engage middle school teachers in hands-on curriculum enhancement capabilities through exposure to NASA scientific and technical expertise.*

Examples of the ISGC's efforts in this area included:

- The ISGC hosted Spaceward Bound – Idaho in southern Idaho in areas of geological research interest such as: Craters of the Moon, Worswick Hot Springs, and Shoshone Ice Caves. Teachers, faculty and NASA scientists created a new curriculum (Spaceward Bound: Blue Dragon Project) for teachers to take back to the classroom. Spaceward Bound teachers presented the curriculum at the Idaho Science Teachers Association Conference in October 2013. Spaceward Bound - Idaho participants included; 15 in-service teachers, 3 NASA Ames scientists, 1 NASA Education Specialist, 4 faculty, and 3 graduate students, 1 pre-college student.
- In May 2014, the ISGC is hosting a Lunar Sample Certification Workshop for local North Idaho teachers. NASA Education Specialist, Tony Leavitt, will conduct the workshop to increase teachers’ familiarity with these excellent teaching assets and how to incorporate them into the classroom.
- *Summer opportunities for secondary students on college campuses with the objective of increased enrollment in STEM disciplines or interest in STEM careers.*

Examples of the ISGC’s efforts in this area included:

- Collaborating with the Idaho State Board of Education to host a hands-on engineering design activity on the University of Idaho campus for 18 students and their parents as a capstone event for the Idaho Science and Aerospace Scholars program.
- *Community Colleges – develop new relationships as well as sustain and strengthen existing institutional relationships with community colleges.*

Examples of the ISGC’s efforts in this area included:

- The ISGC collaborated with the College of Southern Idaho (CSI) on the Idaho TECH robotic design challenge which focuses on students in grades 4 through 6. Over 100 students and teachers participated in the April 2014 Idaho TECH competition held at CSI. This event led to new affiliate collaborations between CSI and Idaho State University focused on integrating more current and pre-service teachers into next year’s competition.
- The ISGC has identified two additional community colleges in Idaho that may have an interest in becoming an ISGC affiliate or partner. The ISGC will be cultivating those relationships in the coming year.
- *Research in Aeronautics; Research in Environmental Science and Global Climate Change*

The ISGC supported both of these priorities through the efforts of NNU researcher Duke Bulanon whose research is focused on using unmanned aerial systems for remote sensing of vegetation. Some of the progress made included:

- Developing a low-cost remote sensing platform featuring a six-rotor unmanned aerial system that allows waypoint navigation and autonomous flight

- Developing an image processing algorithm to recognize individual trees of an orchard. Results showed that the over 90% of the trees were recognized. This will be useful to estimate tree volume and biomass content
- *Enhance the capacity of institutions to support innovative research infrastructure activities to enable early career faculty to focus their research toward NASA priorities.*

The ISGC awarded two research seed grants in FY 13 to support research and student engagement:

- Grant 1: Jason Barnes, University of Idaho, Project Title: Is Saturn Unique? Searching for Rings around Extrasolar Plants
- Grant 2: Vishal Saxena, Boise State University, Project Title: Energy-efficient and Reliable Chip-scale Integrated Space Optical Communication Systems

IMPROVEMENTS MADE IN THE PAST YEAR

The ISGC made huge improvements in multiple areas. First and foremost, the ISGC is under new management with Dr. Joe Law serving as the Director and Susie Johnson as Program Manager (Program Coordinator). In addition, the ISGC welcomed a new finance/budget specialist to the ISGC team, Mrs. Renee Schlickemeyer, who has over 20 years of experience in accounting and financial management.

The ISGC worked to improve interactions (and potential partnerships) between affiliate members in FY 13. The ISGC team integrated a networking event into the Annual Affiliate Meeting which resulted in discussion of new collaborative efforts. One of those collaborative efforts is focused on transitioning ISGC's K-12 robotics program, Idaho TECH to two of our affiliates, Idaho State University and the College of Southern Idaho, for future coordination. This type of outsourcing of well-established programs to the capable hands of affiliates will allow ISGC staff to spend more time on essential duties, while keeping these important programs alive.

In FY 13, the ISGC also started a dedicated effort to document and improve existing processes. By documenting standard operating procedures for key processes, the ISGC is identifying potential areas for efficiency gains as well as creating a repository for institutional knowledge.

PROGRAM PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

The ISGC partners with academic, informal education, and industry affiliates throughout Idaho to deliver outstanding programs for students, researchers, and the public.

ISGC Academic Affiliates (in alphabetical order)

- **Boise State University:** Public 4-year research university with over 22,000 students. Role: Participates in programs and research that contribute to Outcomes 1, 2, and 3.
- **Brigham Young University – Idaho:** Private 4-year university with over 15,000 students. Role: Participates in programs that contribute to Outcome 1.

- **College of Idaho:** Private 4-year liberal arts college with over 1,100 students. Role: Participates in programs that contribute to Outcome 1.
- **College of Southern Idaho:** Public 2-year community college with over 7,000 students. Role: Participates in programs that contribute to Outcomes 1 and 2.
- **Idaho State University:** Public 4-year research university with over 14,400 students. Participates in programs and research that contribute to Outcomes 1, 2, and 3.
- **Lewis-Clark State College:** Public 4-year college with over 4,300 students. Role: Participates in programs that contribute to Outcome 1.
- **North Idaho College:** Public 2-year community college with over 6,000 students. Role: Participates in programs that contribute to Outcome 1.
- **Northwest Nazarene University:** Private 4-year liberal arts university with over 1,400 students. Participates in programs and research that contribute to Outcomes 1, 2, and 3.
- **University of Idaho:** (*Lead institution for ISGC*) Public 4-year research university with over 12,400 students. Role: Facilitates and participates in programs and research that contribute to Outcomes 1, 2, and 3.

ISGC Informal Education Affiliates (in alphabetical order)

- **Discovery Center of Idaho:** Non-profit science center offering interactive, hands-on STEM exhibits and educational programs for people of all ages and walks of life. Role: Facilitates programs that contribute to Outcomes 2 and 3.
- **Eastern Idaho Engineering Council:** Non-profit organization performing educational and charitable activities in the areas of engineering, science and technology. Role: Facilitates programs that contribute to Outcomes 2 and 3.
- **Idaho Academy of Science:** Non-profit scientific and educational organization dedicated to furthering the cause of science and science education in Idaho. Role: Facilitates programs that contribute to Outcomes 2 and 3.
- **Idaho Mobile Space Station:** Hands-on portable “space station” with simulated components (e.g., robotic arm) designed for students in grades 5 to 8. Role: Facilitates programs that contribute to Outcome 3.
- **Idaho Science Teachers Association:** Idaho State Chapter of the National Science Teachers Association. Focuses on enhancing science education in Idaho. Role: Facilitates programs that contribute to Outcomes 2 and 3.
- **Palouse Discovery Science Center:** Non-profit science center featuring hands-on science and learning experiences for people of all ages. Role: Facilitates programs that contribute to Outcome 3.
- **Warhawk Air Museum & NASA Space Place:** Non-profit museum focused on World War II history and its related technology impacts on society. Role: Facilitates programs that contribute to Outcome 3.

ISGC State Government and Industry Affiliates (in alphabetical order)

- **Bruneau Dunes State Park and Observatory:** Home to the largest single-structured sand dune in North America. The observatory offers tours and solar viewing for the public. Role: Facilitates programs that contribute to Outcome 3.

- **Craters of the Moon National Monument and Preserve:** One of the best places in the world to see the effects of volcanism and frequently visited by researchers. Role: Facilitates programs that contribute to Outcomes 2 and 3.
 - **Idaho Museum of Natural History:** State museum of natural history featuring the Idaho Virtualization Laboratory and offering classes in anthropology, Earth science, and life sciences for all ages. Role: Facilitates programs that contribute to Outcome 3.
 - **Idaho State Department of Education:** Provides expertise and technical assistance to promote educational excellence throughout Idaho. Role: Facilitates programs that contribute to Outcomes 1, 2, and 3.
 - **Idaho National Laboratory:** The U.S. Department of Energy's lead nuclear energy research laboratory. The lab works with higher education institutions, researchers, industry, and with students of all levels in a variety of capacities. Role: Facilitates programs that contribute to Outcomes 1 and 2.
 - **Idaho Transportation Department - Division of Aeronautics:** Facilitates programs and services to foster an exemplary system of airports to meet Idaho aviation community needs. Role: Facilitates programs that contribute to Outcome 3.
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- **The National Space Grant Office requires two annual reports, the Annual Performance Data Report (APD) and the Office of Education Performance Measurement System (OEPM) report. The former is primarily narrative and the latter data intensive. Because the reporting timeline cycles are different, data in the two reports may not necessarily agree at the time of report submission. OEPM data are used for official reporting.**