



NORTH DAKOTA SPACE GRANT CONSORTIUM (NDSGC) STRATEGIC PLAN: FY 2025 - 2028

NDSGC Executive Abstract

The [North Dakota Space Grant Consortium \(NDSGC\)](#) aligns its program priorities with the [National Space Grant College and Fellowship Project](#), [NASA Office of STEM Engagement \(OSTEM\)](#), [NASA Mission Directorate](#) needs, and the [University of North Dakota's Strategic Plan](#).

The NDSGC supports innovative, creative, and enhanced STEM opportunities. Methods to accomplish overarching goals and SMART objectives include: 1) Fund student experiences in NASA-relevant research, team competitions, STEM Ambassadorships, and conference travel; 2) Foster collaboration between affiliate institutions, NASA, and industry partners; 3) Provide unique opportunities for educators to engage in NASA and STEM projects; and 4) Engage the North Dakota community in NDSGC-organized community projects such as statewide STEM challenges.

The NDSGC will build, sustain, and deploy a skilled and high-performing workforce that meets the current and emerging needs of NASA, North Dakota, and the nation through each of its program initiatives. Project outcomes include: 1) An enhanced NASA technical workforce, 2) Robust research capabilities across NDSGC affiliate institutions, 3) Increased ND educator competencies in STEM fields, and 4) A well informed ND community on the importance of NASA missions and STEM experiences.

NDSGC Mission Statement

The NDSGC fulfills the NASA Space Grant mission by supporting opportunities for ND students, educators, staff, and faculty, in multi-institutional, collaborative, NASA-relevant research and education projects, while also engaging the ND community in NASA initiatives, its

purpose, and its missions. NDSGC engagements provide pathways for North Dakotans to become leaders in STEM and at NASA.

NDSGC Profile

Affiliate Membership

The North Dakota Space Grant Consortium (NDSGC) encompasses 20 participating affiliate organizations, with the University of North Dakota (UND) as the lead institution. NDSGC affiliate institutions include: ND public colleges and universities, three informal education organizations, two research universities, and one regional education and outreach agency.

Unique Consortium Aspects

The NDSGC is unique in that it is housed in the [John D. Odegard College of Aerospace Sciences](#) at UND, a global leader in Aerospace education and research. The NDSGC is therefore uniquely positioned to foster education and research connections in Aerospace, STEM, NASA, and ND communities.

North Dakota's Needs and Alignment with NASA Priorities

The ND state slogan is, "Be Legendary." The NDSGC encompasses this mantra through supporting higher education and K-12 initiatives which are relevant to key industries in the state: agriculture, energy & natural resources, autonomous systems, information technology, and advanced manufacturing.¹ These key industries are in direct alignment with NASA's Mission Directorates as well as the NDSGC's NIF, MDAP, and CAP programs.

NDSGC Vision

This four-year strategic plan, in alignment with the NDSGC's FY 2025 - 2028 proposal, is a comprehensive plan that defines the consortium's overarching goals, SMART objectives, programmatic elements, and metrics that provide strategic direction for NDSGC achievements. The NDSGC intentionally follows North Dakota's state slogan, "Be Legendary." In FY 2025 - 2028, the NDSGC will be: "Leveraging Effective Goals of Engagement in North Dakota and Advocacy for Researchers and Youth (LEGENDARY)."

The NDSGC is guided by the [National Space Grant College and Fellowship Project](#), housed in NASA's Office of STEM Engagement. NASA initiated the National Space Grant College and Fellowship Project, also known as Space Grant, in 1989. Space Grant is a national network of

¹ <https://www.nd.gov/>

colleges and universities. These institutions are working to expand opportunities for Americans to understand and participate in NASA's aeronautics and space projects by supporting and enhancing science and engineering education, research and public outreach efforts.

The Space Grant national network includes over 850 affiliates from universities, colleges, industry, museums, science centers, and state and local agencies. These affiliates belong to one of 52 consortia in all 50 states, the District of Columbia and the Commonwealth of Puerto Rico.

The 52 consortia fund fellowships and scholarships for students pursuing careers in science, mathematics, engineering and technology, or STEM, as well as curriculum enhancement and faculty development. Member colleges and universities also administer pre-college and public service education projects in their states.

NDSGC Overarching Goals

The NDSGC aligns its six overarching goals with NASA's Office of STEM Engagement, NASA's Mission Directorate priorities, and additionally incorporates the unique needs of the state of North Dakota.

1. Center STEM Workforce Development in all NDSGC programming for all participants.
2. Involve students, staff, and faculty at all **affiliate institutions** in statewide NDSGC programming
3. Support graduate, undergraduate, and K-12 **student** STEM experiences that will lead to enhancement of the NASA and technical workforce.
4. Foster **research** initiatives that will develop multi-institutional, collaborative projects aligned with NASA's Mission Directorates.
5. Broaden **educator** competencies and resources in STEM fields in all ND communities.
6. Engage the North Dakota **community** in public events that center on NASA's mission and STEM activities.

NDSGC Programmatic Elements

To meet the NDSGC's six overarching goals, the NDSGC has defined 21 programmatic elements that fall into one of three categories:

1. NASA Internships and Fellowships (NIFs 1-5)
2. Mission Directorate Aligned Projects (MDAPs 1-7)
3. Competitively Awarded Projects (CAPs 1-9)

NASA Internships & Fellowships (NIFs)

The NDSGC supports college students at affiliate institutions through the following NASA internships and fellowships. Through these opportunities, students work with mentors on authentic, hands-on research projects, through a NASA center, an industry partner, or their academic institution. Projects are in STEM and STEM education fields and are relevant to one or more NASA Mission Directorates. NIF awards align with NDSGC Overarching Goals 1 - 4.

- NASA Internships (NIF-1)
- Industry Internships (NIF-2)
- Graduate Research Fellowships (NIF-3)
- Undergraduate Research Stipends (NIF-4)
- Bridge Research Stipends (NIF-5)

Mission Directorate Aligned Projects (MDAPs)

The NDSGC supports staff, faculty, college students, K-12 students, educators, and North Dakota communities in Mission Directorate Aligned Projects. Through these opportunities, participants engage in professional learning and research opportunities, in both formal and informal environments. The NDSGC also collaborates with other organizations through programming that benefits NDSGC stakeholders. MDAPs align with all NDSGC overarching goals.

- STEM Ambassador Program (MDAP-1)
- IDEAS Workshop (MDAP-2)
- In-service Educator Workshops (MDAP-3)
- Pre-service Educator Workshops (MDAP-4)
- Strategic Partnerships (MDAP-5)
- STEM Engagement Events (MDAP-6)
- Synergistic Activities (MDAP-7)

Competitively Awarded Projects (CAPs)

The NDSGC supports staff, faculty, college students, K-12 students, educators, and North Dakota communities through competitively awarded projects. CAPs include both individual and group awards to conduct STEM research, participate in local, regional, and national challenges, and to further STEM education for K-12 and college students. CAPs align with all NDSGC overarching goals.

- Student Scholarships (CAP-1)
- Graduate Assistantships (CAP-2)
- Travel Grants (CAP-3)
- Student STEM/NASA Competition Teams (CAP-4)
- Faculty Course Development Stipends (CAP-5)
- ASCEND (CAP-6)
- College Student Research Mini Grants (CAP-7)
- Affiliate Mini Grants (CAP-8)
- Educator Mini Grants (CAP-9)