



FAST FACTS

\$28,525,000

Total NSF awards to Wyoming in FY19

\$27,726,000

Amount invested in fundamental research in Wyoming in FY19

\$799,000

Amount invested in STEM education in Wyoming in FY19

\$1,001,000

Amount invested in Wyoming startups through NSF's small business program in FY19

\$4,960,000

Amount dedicated to stimulating competitive research in Wyoming through NSF EPSCoR

TOP NSF-FUNDED ACADEMIC INSTITUTION FOR FY19

\$27,450,000

University of Wyoming

NSF & WYOMING

In Fiscal Year (FY) 2019, the **National Science Foundation made \$28,525,000 in awards** to Wyoming in support of fundamental research, advanced technical education, entrepreneurial training, STEM teacher training, long-term ecological monitoring, small business development, major research instrumentation, and more.

DID YOU KNOW?

IMPACT | Wyoming-based small business, **Engineered Salinity (ESal)** was awarded a \$759,947, two-year Small Business Innovation Research (SBIR) project grant through August 2021, to deploy a revolutionary water-flood technology to increase oil recovery. Rather than drilling thousands of new wells, ESal's approach revitalizes old fields and requires little modification to the existing infrastructure and operational procedures. ESal would allow older fields to continue to operate, providing jobs and taxes while increasing and further diversifying our domestic oil reserves. Full success of enhanced oil recovery could produce up to 21.7 billion barrels of additional oil generating over \$1 trillion for the US oil industry over the next twenty-five years, thereby increasing the energy security of the U.S. and creating more jobs while stabilizing domestic oil production at much lower costs than other technologies.



The Cheyenne Supercomputer located at NWSC in Cheyenne, Wyoming has a peak computation rate of over 3 billion calculations per second for every watt of power consumed.

Image Credit: ©UCAR; photo by Carlye Calvin

SUPPORTING STUDENTS | The **University of Wyoming** was awarded a \$10,557,329, five-year Mid-scale Research Infrastructure grant through September 2024, to modernize the aging University of Wyoming King Air (UWKA) research aircraft by building a state-of-art airborne atmospheric research and education laboratory (UWKA-2) on a new King Air aircraft. These technologies will become an integral part of NSF's Lower Atmospheric Observing Facility. The advanced airborne in-situ and remote sensing measurement capabilities are critical for validation and refinement of algorithms used in space-borne measurements and for providing observational constraints on numerical models for weather, climate, air quality, wildfire predictions, and supporting many federal agencies' missions, such as those of the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the Department of Energy (DOE), the Environmental Protection Agency (EPA), the Department of Interior (DOI), and the Department of Defense (DOD). The modernized instrument suite, extra payload capability, a longer flight range, and advanced communications will enable innovative observations and education in Arctic science. The new capabilities of real time access to the platform and instruments during field experiments will allow special educational deployments and enable students, early career scientists from many universities, and K-12 students/teachers to remotely participate in field campaigns.

SCIENCE & ENGINEERING (S&E) INDICATORS | 3.13% of the Wyomingite workforce is employed in S&E occupations and 9.48% of Wyoming's business establishments are industries with high employment in science, engineering and technology occupations⁺

FACILITY | The **NCAR-Wyoming Supercomputing Center (NWSC)** provides advanced computing services to scientists studying a broad range of disciplines, including weather, climate, oceanography, air pollution, space weather, computational science, energy production and carbon sequestration. NWSC is operated by the National Center for Atmospheric Research (NCAR) under the sponsorship of NSF.

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⁺ National Science Board, National Science Foundation. 2020. Science and Engineering Indicators 2020: The State of U.S. Science and Engineering. NSB-2020-1. Alexandria, VA. Available at <https://nces.nsf.gov/pubs/nsb20201/>.