



NSF & NEVADA

FAST FACTS

\$25,951,000

Total NSF awards to Nevada in FY19

\$19,186,000

Amount invested in fundamental research in Nevada in FY19

\$6,764,000

Amount invested in STEM education in Nevada in FY19

\$1,950,000

Amount dedicated to stimulating competitive research in Nevada through NSF EPSCoR

In Fiscal Year (FY) 2019, the **National Science Foundation made \$25,951,000 in awards** to Nevada in support of fundamental research, advanced technical education, entrepreneurial training, STEMteacher training, long-term ecological monitoring, small business development, major research instrumentation and more.

DID YOU KNOW?

DISCOVERY | NSF-funded atmospheric scientist Neil Lareau from the **University of Nevada, Reno**, discovered that a fire-generated vortex called a “firenado” -- a massive stream of rising, spinning, smoke, ash and fire -- that topped out at 17,000 feet above the Earth, accelerated the Carr Fire that killed eight people and devastated a widespread area in the Redding, California, region in July 2018. Lareau found a number of factors that combined at just the right time and place to catalyze the deadly fire. Lareau used satellite and radar observations to document the evolution of the vortex, which spun with the power of an EF-3 tornado. Knowledge gleaned from the study may help forecasters and scientists identify conditions that could lead to future fire-generated vortices.



Atmospheric monitoring instruments observe climate hydrological and ecological impacts of large-scale solar energy installations.

Credit: Scotty Strachan, University of Nevada

STEM WORKFORCE DEVELOPMENT | **Truckee Meadows Community College**, in Reno, received an Advanced Technological Education (ATE) award to help address the need for manufacturing technicians, a key issue in achieving the economic development goals of the region. With an emphasis on two-year Institutions of Higher Education (IHEs), the ATE program focuses on the education of technicians for the high-technology fields that drive our nation's economy. The ATE program supports curriculum development; professional development of college faculty and secondary school teachers; career pathways; and other activities.

SUPPORTING STUDENTS | **The University of Nevada, Las Vegas** received an NSF Major Research Instrumentation award providing a high-speed multiphoton laser scanning microscope system to view the behaviors of cells in living tissues with time-lapse images. Availability of this instrument eliminates the barrier of transporting samples to other states and enables Nevada researchers to study living systems at new levels of sensitivity and depth. The high-speed imaging technology decreases tissue damage and increases sensitivity, allowing detection of fast-changing processes over periods of seconds to hours. This type of imaging is driving unexpected discoveries about the brain and how cells work together to build the architecture of many other organs.

SCIENCE & ENGINEERING (S&E) INDICATORS | **2.43% of the Nevadan workforce is employed in S&E occupations**, and 10.6% of Nevada's business establishments are industries with high employment in science, engineering and technology occupations.⁺

STIMULATING RESEARCH | The Nevada System of Higher Education received EPSCoR funding for the Solar Energy Water Environment NEXUS. This project has the potential to develop less costly and thus more competitive solar electricity generation techniques aimed at minimizing both water usage and environmental degradation. The technological solutions to be developed are applicable to other solar energy installations nationally and globally.

⁺ National Science Board. 2018. Science and Engineering Indicators 2018. Alexandria, VA: National Science Foundation (NSB-2018-1).

TOP NSF-FUNDED ACADEMIC INSTITUTION FOR FY19

\$14,892,000

University of Nevada, Reno

\$8,584,000

University of Nevada, Las Vegas

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