NSF & IDAHO

In Fiscal Year (FY) 2018, the National Science Foundation made $24,745,000 in awards to Idaho 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?

DISCOVERY | The NSF-funded project called SNOWIE (Seeded and Natural Orographic Wintertime Clouds—se the Idaho Experiment) produced for the first time in history, direct, quantifiable observations of cloud seeding for increased snowfall, from the growth of ice crystals through the processes that occur in clouds to the eventual snowfall. Cloud seeding stimulates snowfall by releasing silver iodide into clouds from the air or from ground-based generators. For the SNOWIE project, an aircraft released the silver iodide, while the University of Wyoming’s King Air research aircraft took measurements to monitor the silver iodide’s impact. The models are enabling researchers to study storms where measurements have not been obtained before. In the long term, researchers will be able to answer questions about how effective cloud seeding is, and what conditions may be needed. Water managers and state and federal agencies can make decisions about whether cloud seeding is a viable option to add additional water to supplies from snowpack in the mountains. The research was conducted in concert with the Boise-based Idaho Power Company, which provides a large percentage of its electrical power through hydroelectric dams.

STEM WORKFORCE DEVELOPMENT | Idaho State University received an award from NSF’s Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) program to recruit, retain and graduate 35 academically promising students through their Energy Systems Scholars (ESS) project. The project places graduates in high skilled/high wage jobs in energy and related fields. The ESS project will serve students with significant financial need from Idaho and surrounding states.

SUPPORTING STUDENTS | The University of Idaho received an NSF Major Research Instrumentation award to develop a new instrument for simultaneous assessment of brain, muscular and nervous system output during functional arm and hand tasks. This instrument will provide unprecedented insight into the inner workings of arm and hand function, including movement intention and movement performance. The developed Bilateral Upper-extremity Exoskeleton for Simultaneous Assessment of Biomechanical and Neuromuscular Output (BLUE SABINO) would be the first of its kind with the ability to record extensive metrics from both left and right hemispheres of the brain, muscle activation patterns, and movement of both left and right arms simultaneously. BLUE SABINO will also enable further study on a variety of cutting-edge research areas from brain-computer interfaces and virtual environment simulation to advanced control of industrial and medical robotics.

SCIENCE & ENGINEERING INDICATORS | 4.27 percent of the Idahoan workforce is employed in S&E occupations, and 7.08 percent of Idahoan business establishments are industries with high employment in science, engineering and technology (SET) occupations.∗

COMPETITIVE RESEARCH | NSF made $24,745,000 in awards to Idaho’s academic institutions through its Established Program to Stimulate Competitive Research (EPSCoR), which promotes scientific progress in states that have traditionally received lesser amounts of NSF research and development funding.