



EDUCATIONAL DEPLOYMENT OF FACILITIES

REQUEST FACILITIES FOR EDUCATIONAL DEPLOYMENTS AT YOUR CAMPUS

The National Science Foundation (NSF) reserves a portion of the Lower Atmosphere Observing Facilities (LAOF) Deployment Pool for use by educators wishing to gain access to observational facilities for classroom instruction and hands-on learning experience. Instruments can be made accessible for graduate, undergraduate, and K-12 education, including the deployment of a facility to a university for a limited period of time. These educational deployments offer unprecedented opportunities for inquiry-based learning, real-time research, and teamwork in the field of observational meteorology. Instruction and guidance provided by facility staff.



REQUESTABLE GROUND-BASED REMOTE SENSING PLATFORMS

- » NCAR S-PolKa Radar
- » NCAR High Spectral Resolution Lidar (HSRL)
- » CSWR Doppler on Wheels
- » CSU CHILL Radar

REQUESTABLE SURFACE AND SOUNDING SYSTEMS

- » NCAR Integrated Surface Flux System (ISFS)
- » NCAR Integrated Sounding System (ISS)
- » NCAR GPS Advanced Upper-air Sounding System (GAUS)

REQUESTABLE RESEARCH AIRCRAFT

- » University of Wyoming King Air



National facilities are available on a competitive basis to qualified researchers from U.S. universities at no additional cost to their grants. Deployment allocations are driven by the scientific merit of the proposed use, the capabilities of a specific facility to

carry out the proposed observations, and the availability of the facility for the requested time period.

» **Learn more:** www.eol.ucar.edu/educational-deployments

INTERNSHIPS

SUMMER UNDERGRADUATE PROGRAM FOR ENGINEERING RESEARCH (SUPER)

EOL hires undergraduate engineering students who would like to gain skills and knowledge in the atmospheric sciences during the summer months. SUPER interns work hand-in-hand with NCAR/EOL engineers and technicians on atmospheric observing systems and developments, which include radar, lidar, and sounding systems and associated software developments. Interns may spend part of the summer participating in a field deployment, operating and supporting EOL facilities.



Interns are encouraged to develop their own engineering solutions as they work with and are mentored by professional, experienced engineers and technicians. Interns have access to a large number of resources such as sophisticated testing and calibration instruments, technical documentation, and state-of-the-art fabrication capabilities.

- » **Target:** Undergraduate students with engineering interests
- » **Learn more:** www.eol.ucar.edu/super

TECHNICAL INTERNSHIP PROGRAM (TIP)

TIP provides unique experiences to prepare science support-focused students from two-year colleges and vocational/technical institutions for successful careers. Interns are hired to work hands-on with technical and scientific support mentors for up to 20-hours a week for 12-weeks. TIP provides a salary during the internship and is flexible to work with academic schedules.



TIP interns work on projects with EOL scientific and science support staff to learn skills that will assist them in their career and academic advancement. TIP interns are paired with mentors and develop knowledge to help them in future science support careers related to geosciences.

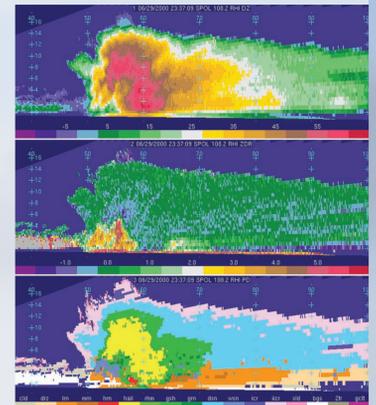
Areas for internships have in the past included electronics technicians, computer system help desk support, data loading technicians, entry level programming and scripting, instrument makers, and aircraft mechanics.

- » **Target:** Two-year college and vocational/technical students
- » **Learn more:** www.eol.ucar.edu/tip

WEB-ENABLED ACTIVITIES

INTEGRATE RADAR TECHNOLOGY AND DATA COLLECTION AND ANALYSIS

Educators can remotely access and operate EOL's S-Pol Dual Polarization Doppler Radar for use in classroom activities, providing unique and inquiry-based learning opportunities for students. We all understand that traveling with a group of students can be costly, however new technology is allowing for educators to remotely operate our 10-cm wavelength S-Pol radar.



Radar technology is ideal to show the applied use of science, technology, engineering, and math in classroom:

- » Science: physics, meteorology, atmospheric science, ecology, etc.
- » Technology: MATLAB or other data visualization software, data collection and analysis
- » Engineering: explore the design and engineering principles of radar
- » Math: calculus, data analysis, statistics, time series, wave functions
- » **Learn more:** www.eol.ucar.edu/remotely-operate-spolka-radar

UTILIZE PROJECT FIELD CATALOGS TO ENGAGE WITH ONGOING EARTH SCIENCE FIELD RESEARCH

Project field catalogs can be accessed by educators and students to connect directly with atmospheric science field research projects around the world. The project field catalog is a suite of mission-critical tools used during research projects for real-time decision making and situational awareness.



The field catalog provides a comprehensive view of a study area by combining radar and satellite images with modeled weather forecast outputs, flight level winds, sonde data (e.g., atmospheric temperature, pressure, relative humidity), lightning data, and video, giving viewers on the ground and in the air a new perspective on the characteristics of the atmosphere during missions. Educators and students can:

- » Track project facilities in real-time
- » Monitor real-time satellite data products and overlays of current conditions
- » Observe environmental conditions of targeted research areas
- » Chat with scientists in the field during scheduled times
- » **Learn more:** www.eol.ucar.edu/data-software/field-catalog