



Geoscience education at the National Center for Atmospheric Research in Boulder, Colorado: multiple approaches to reaching learning communities

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Improving geoscience education and public science literacy in the geosciences requires the focused efforts of a wide spectrum of specialists, including scientists. This need provides the opportunity for national research centers, such as the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, to develop programs that seek to uniquely bring their science to educators and the public. At NCAR, we have developed a multifaceted program for science education and outreach designed to bring our science to these learning communities in a way that builds on our specialized expertise in science and learning technologies. Collaboration with scientists internal to NCAR, as well as in the broader University Corporation for Atmospheric Research community, has led to numerous education and outreach projects that bring the results of funded research projects to educators, students, and the public around the world. Our professional development programs provide middle and high school educators with engaging and standards-based activities and supporting science content that highlight global and climate change topics and modeling in the geosciences offered through workshops and on-line courses. Our web sites provide extensive resources for students, educators, and the public to learn on their own about our science, supplemented by interactives and hands-on activities. Our exhibit and tour program offers topically focused exhibits, interactive activities and opportunities to learn about the science underway at the laboratory supplemented by extension materials and supplementary classroom activities. Annual events are open to the public, providing high-energy science demonstrations and lectures on our science for the public. These resources and programs are increasingly being offered in both English and Spanish, with the hope of serving the large Spanish-speaking community in Colorado

and around the world. We work to encourage promising undergraduate students into study at the graduate level in atmospheric and related sciences through our Undergraduate Leadership Workshop and through the SOARS program, which focuses on minority students. Central to all of these activities is the active participation of lab scientists and staff, whose personal enthusiasm and science expertise enriches the program for our audiences.