Geoscience Open House Program

The Department of Marine, Earth and Atmospheric Sciences (MEAS) at North Carolina State University will host a series of open house events to provide opportunities for Wake County Public School Students to learn about research and careers in the geosciences. High School students will have opportunities to meet and interact with a variety of geoscience faculty from MEAS to learn about how geoscience is being applied to answer local, national, and global research questions.

This initiative includes a series of lab open house events held in late afternoon/early evening (5-7 PM) when two or three faculty will provide tours of their labs, discuss their research and/or have students participate in activities. MEAS contains three disciplines (geology, marine science, meteorology), consequently we are ideally situated to give students access to faculty doing research in a great diversity of topics and locations. Open house visits will emphasize topics that have a potential societal impact or research that has relevance to North Carolina. Participating faculty will discuss topics such as:

- Understanding how ice sheets and glaciers respond to climate change.
- Applying ground penetrating radar data and geophysics in forensic science and archaeology.
- Using spacecraft and field observations of Earth to reinforce how comparative planetology can help us understand our place in the cosmos.
- How satellite imagery analyzes data about Earth by measuring the spectral properties of natural materials (e.g. rocks, vegetation).
- Examining sediment cores and fossil material and other data to demonstrate how scientists analyze geological materials to describe past environments.
- Conducting simple sediment transport experiments to explore how a hurricane might be inferred from sediment layers sampled from beneath the ocean floor.
- Using the Tangible Landscape modeling system to explore the effectiveness of various landscape designs for controlling runoff and erosion.
- Making water quality measurements to learn how the concentrations of oxygen and the acidity of natural waters shape the suitability of aquatic habitats to support life.
- Exploring the ice nucleation efficiency of different materials using freezing experiments and computer guided analysis of results.
- Using high-powered microscopes to observe unicellular organisms that form the base of food webs and are responsible for the oxygen we breathe.
- Completing activities to model how deep-earth processes are linked to the topography of the Southern Appalachian Mountains of western North Carolina.
- Examining weather data to learn about snow storms and investigate a database of 100,000+ snowflakes to see which snowflakes occur in different air temperature conditions.

We anticipate at least four of these events each year with the potential for more if there is sufficient interest among students.

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