

Supporting Inquiry-based Earth System Science Instruction with Middle and High School Earth Science Teachers

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The Transforming Earth System Science Education (TESSE) project, a partnership between faculty at the University of New Hampshire, Pennsylvania State University, Elizabeth City State University and Dillard University, is designed to enrich the professional development of in-service and pre-service Earth science teachers. One goal of this effort is to help teachers use an inquiry-based approach to teaching Earth system science in their classrooms.

As a part of the TESSE project, 42 pre-service and in-service teachers participated in an intensive two-week summer institute at UNH taught by Earth scientists and science educators from TESSE partnership institutions. The institute included instruction about a range of Earth science system topics as well as an introduction to teaching Earth science using an inquiry-based approach. In addition to providing teachers with information about inquiry-based science teaching in the form of sample lesson plans and opportunities to revise traditional lessons and laboratory exercises to make them more inquiry-based, TESSE instructors modeled an inquiry-based approach in their own teaching as much as possible.

By the end of the Institute participants had developed lesson plans, units, or year-long course overviews in which they were expected to explain the ways in which they would include an inquiry-based approach in their Earth science teaching over the course of the school year. As a part of the project, graduate fellows (graduate students in the earth sciences) will work with classroom teachers during the academic year to support their implementation of these plans as well as to assist them in developing a more comprehensive inquiry-based approach in the classroom.