

Improving Scientific Literacy in Elementary Schools

The ocean has a dramatic effect on the global economy and weather. Despite the ocean's importance to people in New Jersey, concepts and topics about the ocean are hardly taught in K-12 schools.

Scientists and staff at the Rutgers Institute of Marine and Coastal Sciences (IMCS) are working to increase ocean-related education in New Jersey. IMCS's Marine Activities Resources & Education (MARE) program is one way in which they are filling the educational gap. MARE is a dynamic, inquiry-based, K-8 program that transforms entire schools into laboratories for the exploration of the ocean. The program improves reading, science, and mathematical skills while promoting environmental awareness and ocean literacy.

Another vehicle, the COOL Classroom, is a program of the Coastal Ocean Observation Laboratory, a collaboration of oceanographers studying coastal waters. The COOL Classroom features a series of Internet-based instructional modules that link middle and high school classrooms with active oceanographic research.

These two programs advanced science education for New Jersey students. MARE has documented positive changes that include the increased ability of science teachers to use hands-on methods for teaching science, increases in parental involvement, and greater student interest in science. Evaluations also suggest that MARE enhances teacher competence and confidence in facilitating science learning.

Studies have shown that students gain a deeper understanding of science and math when the experience is authentic and has real linkages and value to the scientific community. The COOL Classroom exposes children to real-time data as they track actual scientific experiments online. This heightens student engagement to a level unachievable in a traditional classroom alone.

To help support these programs, please contact The Office of Development at 732-932-9000, ext. 576 or development@sebs.rutgers.edu for more information.

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