

Using Coastal Seas Programs to Advance Science Education

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Abstract

Research and monitoring activities conducted in conjunction with programs for the environmental management of enclosed coastal seas are potential sources of data and authentic information for science, mathematics, and technology education. The challenge is to assist school teachers to access, understand, interpret, and apply this information for use in "hands-on" classroom and field curricula. Faculty at coastal marine laboratories can help by mentoring teachers through specially arranged research internships. We describe a teacher internship program offered by the University System of Maryland that has enabled us to link Chesapeake Bay research with middle school science education. The research experience also prepares teachers to understand and apply the increasingly rich new resource of authentic data being posted to the Internet by coastal seas program managers and scientists. We use examples downloaded from Chesapeake Bay research and monitoring Internet pages to show how such data can be used to teach the principles of estuarine circulation and physical oceanography. We conclude that more teachers would use this exciting new resource if the data were specially interpreted for their use and organized to meet the science and mathematics learning standards of their school systems. Coastal seas programs have the potential to change the way young people learn science, mathematics, technology, and environmental stewardship worldwide, and school teachers are an under-used professional resource for achieving this goal.