

Rationale for Teaching with Ocean Observing Systems & Data

Why teach with ocean and coastal data?

- For climate and weather topics: because the ocean is the largest influence on weather and climate
- Students need practice in synthesizing information, and ocean data provides good opportunities
- The ocean is largely unexplored, and ocean data and observing systems provide information and ways to learn more about the ocean
- Students can use higher order learning and thinking skills when organizing and interpreting data
- Students get excited about technology
- Students can act as scientists, and use ocean data to investigate questions that they propose
- Students can have a direct link with scientists
- It's important for students to know that scientists use instruments, data, and math, so ocean data give good examples of how technology and math are applied to carry out investigations
- STEM careers – ocean data can introduce many of the skills students need for the future economy, when people with these skills will have many employment opportunities
- The fields of science and technology are constantly changing – by using data and current information, class instruction and information is more accurate
- Students can connect their own experiences in observing or sampling to these studies
- Studying the ocean using ocean observing systems and data can help students appreciate ocean and know why it is important to conserve and work towards sustainability
- It's clear that much more information is needed to help us understand ocean and coastal systems and respond to extreme weather events and rescue or repair situations
- Ocean observing systems are related to how we use energy and will help us find ways to develop energy sources that may be based in the ocean
- There is so much we don't understand about the ocean and coastal systems, and ocean observing technology and data can help students understand the factors, interactions, and variability that characterize the ocean and coastal systems

