Scientist-Educator Collaborative Workshop

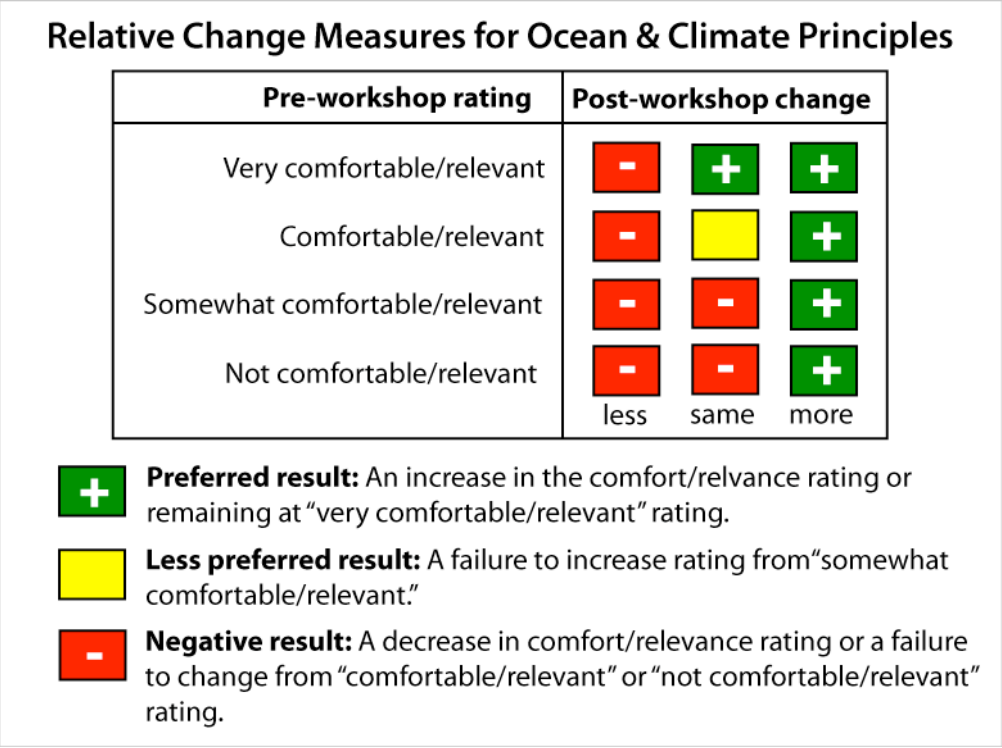
University of Connecticut, October 2009

Ocean & Climate Literacy Concepts

COSEE-OS uses literacy principles in a novel way: to create teams of educators and scientists who work together at the workshops. Rather than let participants self select their teams, we "match make" educators with scientists to ensure maximum learning for everyone. Using ocean and climate literacy principles that best align with the research areas of the workshop scientists, applicants are asked to rate their comfort with and the relevance of the concepts to their own work. Following the workshop, educators are asked to indicate whether changes occurred in their comfort with and the their sense of the relevance of the same literacy concepts.

Literacy change data are presented in the charts below, color-coded as green ("preferred result"), yellow ("less preferred result"), and red ("negative result"). Our preferred result is: 1) they remained "very comfortable" with a principle or continued to find it "very relevant" after the workshop; or 2) they were "more comfortable" with a literacy principle or felt it was "more relevant" after the workshop. Our less preferred result is that the workshop failed to increase an initially moderate "comfort" or "relevance" rating for any principle. We consider any of the following to be a "negative result": 1) a decrease in "comfort" or "relevance" after the workshop; or 2) their post-workshop status remained either "somewhat" or "not" comfortable / relevant.

For all the literacy concepts, everyone who attended the UConn workshop said that their comfort with and sense of the relevance of the concepts had either remained the same or increased. The degree to which this was the case varied between concepts, some being less emphasized than others at the workshop. The following charts provide a summary of those results.



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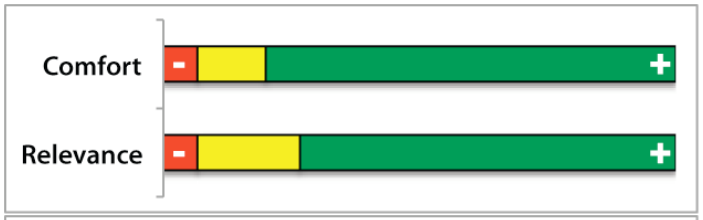
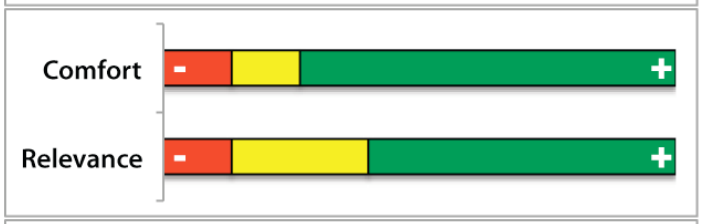
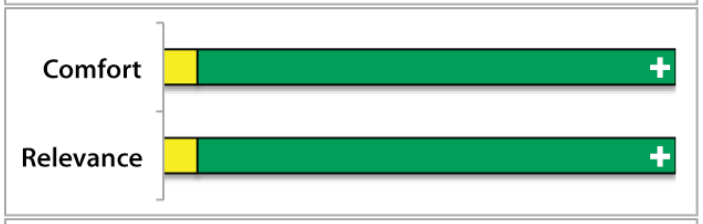
Life on Earth, including microbes, plants, and animals such as humans, can influence climate substantially and has throughout the evolution of life on the planet.



The carbon cycle influences climate in a variety of ways, including seasonal interactions between atmosphere, biosphere and hydrosphere, and formation/ consumption of fossil fuels. Carbon dioxide, an important greenhouse gas, is removed from the atmosphere in the ocean and other parts of the Earth system through biologic and geologic processes.

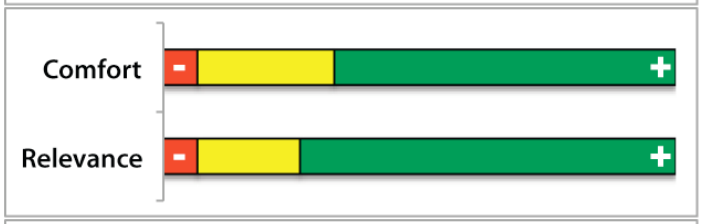


The ocean is connected to major lakes, watersheds & waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments, pollutants from watersheds to estuaries and to the ocean.

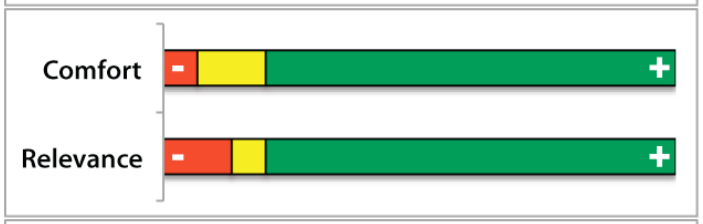


The ocean has had, and will continue to have, a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.

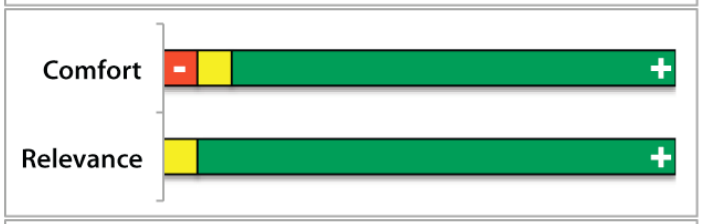
Ocean biology provides many unique examples of life cycles, adaptations and important relationships among organisms that do not occur on land.



Ocean habitats are defined by environmental factors. Due to interactions of abiotic factors, ocean life is not evenly distributed temporally or spatially. Some regions of the ocean support more diverse and abundant life than anywhere on Earth while much of the ocean is considered to be a desert.



New technologies, sensors and tools are expanding our ability to explore the ocean. Ocean scientists are relying more and more on satellites, drifters, buoys, subsea observatories and unmanned submersibles.



Use of mathematical models is now an essential part of ocean sciences. Models help us understand the complexity of the ocean and of its interaction with Earth's climate. They process observations and help describe the interactions among systems.

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