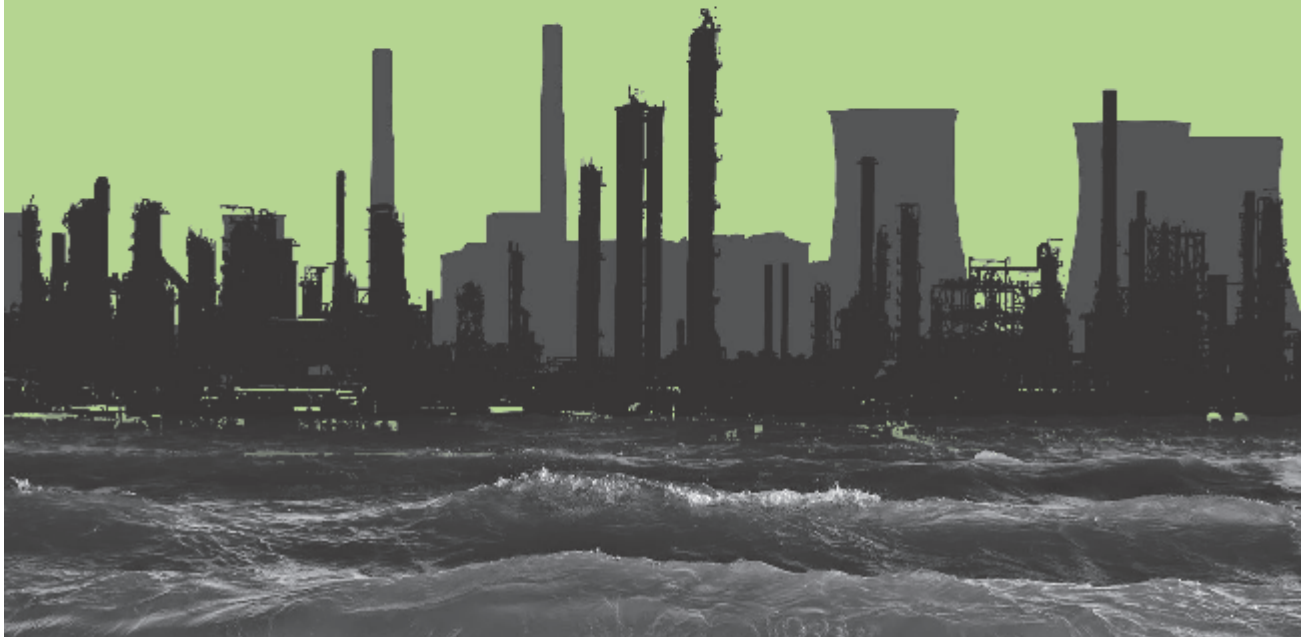


2014 NOSB Theme “Ocean Acidification”

The global impacts of ocean acidification are numerous and wide-spread from biological, physiological and ecological impacts on marine life to economic impacts on commercial fisheries and tourism to cultural impacts on indigenous people. The U.S. Pacific Northwest is already seeing the direct effects, especially on its shellfish industry. Ocean acidification in Washington state appeared decades sooner than expected, and regional factors, such as coastal upwelling and land run-off, are only exacerbating the amount of acidification.

Therefore, it was easy to decide upon the theme for the 2014 National Ocean Sciences Bowl Finals Competition, hosted by Washington Sea Grant at the University of Washington (UW). UW stepped up to the challenge and became an example for the nation in coordinating research and monitoring of ocean acidification and its effects on local oysters, clams and fish.

Our ocean acidification theme encourages increased awareness of the impacts of excessive carbon dioxide on our changing ocean and enhanced understanding of the carbon dioxide cycle, human actions that increase carbon dioxide, and the effects on marine ecosystems. There are ways for you, as our next generation of ocean scientists and stewards, to help explain the impacts and raise awareness in your communities: explain how the carbon cycle and land-sea interactions work; share success stories from regions, such as the Pacific Northwest, which are currently facing the issue and searching for solutions; explain the need for increased research and monitoring; and remind others to do their part in reducing local sources of pollution, preserving local marine communities and promoting leadership in others.



2014 Theme Resources - Ocean Acidification

Books

Emerson, Steven and Hedges, John. Chemical Oceanography and the Marine Carbon Cycle. Cambridge University Press, 2008. ISBN-10: 0521833132, ISBN-13: 978-0521833134

Gattuso, Jean-Pierre and Hansson, Lina. Ocean Acidification. Oxford University Press, 2011. ISBN-10: 0199591091, ISBN-13: 978-0199591091.

Articles

Ocean acidification due to increasing atmospheric carbon dioxide. Royal Society, June 2005.

http://royalsociety.org/uploadedFiles/Royal_Society_Content/policy/publications/2005/9634.pdf

[Ocean Acidification Fact Sheet](#)

Websites

Ocean Acidification (NOAA)

<http://www.oceanacidification.noaa.gov/>

Sea Change - Seattle Times Ocean Acidification Reporting Project

<http://apps.seattletimes.com/reports/sea-change/2013/sep/11/pacific-ocean-perilous-turn-overview/>