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U.S. Effort on Ocean Acidification Needs Focus on Human Impacts

A new report urges that federal efforts to combat rising ocean acidity must focus on effects on people and the economy

By Brian Bienkowski and DailyClimate.org | Friday, January 11, 2013 | 1 comments

A federal plan to tackle ocean acidification must focus more on how the changes will affect people and the economy, according to a review of the effort by a panel of the National Research Council.

"Social issues clearly can't drive everything but when it's possible they should," said George Somero, chair of the committee that wrote the report and associate director at Stanford University's Hopkins Marine Station. "If you're setting up a monitoring station, it should be where there's a shellfish industry, for example."

Acidification is one of the larger problems associated with greenhouse gas emissions, as oceans serve as a giant sponge for carbon dioxide. When carbon dioxide is dissolved in seawater, water chemistry changes and acidity increases. More acidic seawater can hurt ocean creatures, especially corals and shellfish, because it prevents them from properly developing their skeletons and shells. Shrinking coral reefs could dent eco-tourism revenue in some coastal areas. It also could trigger a decline in fish populations dependent on those reefs.

Decreasing shellfish populations would harm the entire ocean food chain, researchers say, particularly affecting people who get their protein or paycheck from the sea. Globally, fish represent about 6 percent of the protein people eat.

The acidification blueprint was drafted by nine federal agencies in March 2012. It establishes guidelines for federal research, monitoring and mitigation of ocean acidification. In reviewing the plan, the research council, which advises the government on science policy, recommended that federal research and action be focused on issues with human and economic consequences.

Pacific Northwest

The panel cited the Pacific Northwest as an economic example, where high acidity levels have hampered oyster hatcheries, worth about \$270 million and 3,200 jobs to coastal communities there. It is unclear if ocean acidification is the culprit, but it could be a harbinger of things to come, according to the report.

In 2011, U.S. commercial fishers caught 10 billion pounds of seafood valued at \$5.3 billion, according to the National Oceanic and Atmospheric Administration.



A beachgoer harvests oysters near New Kamilche, Washington. Scientists fear increasing ocean acidification as a result of greenhouse gas emissions could impair the ability of oysters and other sea creatures to grow a shell, impacting the lives and livelihoods of many dependent on the sea.

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The panel also suggested the plan should have a clearer mission, prioritized goals and ways to measure progress.

"This plan would cost a lot of money so there needs to be priorities and ways to prove impact," Somero said. "The federal budget simply won't allow for everything that needs to be done."

In 2009, Congress passed the Federal Ocean Acidification Research and Monitoring Act, creating a federal program to deal with ocean acidification.

Somero said the agencies will take the recommendations and "tune up" the plan.

Ocean acidification is an "emerging global problem," according to NOAA. Over the past 250 years, about one third of the carbon dioxide produced by the burning of fossil fuels has ended up in oceans, according to a 2010 study. Over that time, ocean acidity has increased about 30 percent, according to the National Research Council.

Ocean advocacy groups supported the panel's recommendations.

"Ocean acidification is one of the greatest threats to marine life and fisheries," said Matthew Huelsenbeck, a marine scientist at Oceana. "We are encouraged that the Council has suggested communicating this issue to policy makers and the public to increase awareness and hopefully lead to solutions."


Julia Roberson, a director at the Ocean Conservancy, said the original plan was a good first step and she hopes government will use the council's suggestions.

Amid recommendations, the panel also offered praise for the federal effort, saying the plan does "an excellent job of covering the breadth of current understanding of ocean acidification and the range of research that will be required to advance a broadly focused and effective National Ocean Acidification Program."

This article originally appeared at The Daily Climate, the climate change news source published by Environmental Health Sciences, a nonprofit media company.

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