



Overview

Ocean acidification (OA) is the name for the process of the oceans becoming more acidic due to increased levels of carbon dioxide in the atmosphere. This change threatens ocean ecosystems, the food chain and the livelihood of coastal residents.

As the ocean absorbs carbon dioxide, it reacts with water molecules to form carbonic acid, thereby increasing the overall acidity. This puts commercially and culturally important species such as lobsters, clams and oysters at risk. More information is needed about the extent of these changes in specific regions and how to best mitigate those effects.

Legislation

- In 2019, Maine established the Science and Policy Advisory Council to assess the impact of climate change on Maine's marine species. This council works to strengthen scientific monitoring and research regarding the potential effects of climate change on the state's marine ecosystems. The full text can be found [here](#).
- [Maine](#) and [Maryland](#) task forces have completed reviews, and legislators in those states are now looking to implement recommendations. Massachusetts, Rhode Island, New Hampshire and Oregon have introduced similar bills to establish an OA task force.
- Oregon introduced [S.B.260](#) (2019), which appropriates money from the Oregon Science Trust and the State Department of Fish and Wildlife and Higher Education Coordinating Commission to analyze ocean chemistry.

KEY POINTS

- The ocean absorbs 25-30 percent of carbon dioxide emissions from the atmosphere, roughly 22 million tons per day, according to [NOAA](#).
- The oceans are acidifying at a rate 100 times faster than any time in the last 200,000 years, and perhaps all of Earth's history, according to a 2012 [study](#).
- Fishermen and the aquaculture industry will lose jobs and profits due to OA. A 2009 [study](#) found that mollusk—shelled animals like oysters—sales could drop between \$75 and \$187 million annually due to acidic ocean conditions.

More Information

- A \$500,000 OA monitoring investment in the struggling West Coast shellfish industry is expected to provide \$35 million in [benefits](#).
- The Gulf of Maine has the lowest ability to resist acidification along the entire Eastern Seaboard, according to a [study](#) by Woods Hole Oceanographic Institute.
- Washington State's staple seafood economy is at risk from OA. This industry alone is worth \$1.7 billion and provides more than 42,000 jobs to the state's economy.
- By 2050, coastal waters are expected to be [70 percent](#) more corrosive than in the pre-industrial era.

