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Ocean Acidification: Home

What is ocean acidification?

The cause of OA is clear

Ocean acidification, or OA, has been called an "inevitable consequence" of rising atmospheric carbon dioxide (CO_2) levels. Like a dry sponge absorbing a puddle of water, seawater absorbs CO_2 from the atmosphere in an effort to balance the CO_2 partial pressures of air and ocean. In the past, this rebalancing occurred over thousands of years, which was slow enough that other natural processes like rock weathering could make up for this extra CO_2 in seawater. Today, atmospheric CO_2 levels are rising so quickly that the ocean is absorbing CO_2 faster than the Earth can respond, making the world's oceans more acidic and affecting marine life.

The effects of OA are less clear

Scientists around the world are currently researching OA's specific consequences, but at this point they agree that the ocean, and especially ocean life, will be affected in many ways. Humans could feel OA's effects through changes in food supplies, natural resources, coastal protection, and economic activities. OA's full range of consequences is not yet completely known.

Find OA-related information organized by theme, under "Learn About OA" above. Topics include:

Chemistry---how does CO_2 make seawater acidic?
Geology---how do rocks normally control ocean chemistry?
Physics---how does circulation affect ocean CO_2 levels?
Biology---how will OA affect marine organisms?
Society---how will OA affect humans?

Related Links

» Marine Conservation Biology Institute's Jeff Ardron explains.

» Ocean acidification blog
Stay up-to-date on OA news and research with this blog -- updates are added nearly every day.

Ocean acidification's effects could be far-reaching

Effects on ecosystems and economies are tough to evaluate

Even after we know how individual marine animals will handle ocean acidification, we still must understand what will happen to marine food webs, many of which are very complex. We also need to study how changes in marine resources like fish and reefs will affect the human communities that depend on them. Ocean acidification is expected to have many indirect, and sometimes surprising, effects.

A hungry world depends on a healthy ocean

UN FAO statistics 20% of protein

New Bedford, MA depends on scallop fishing. Losing scallops to OA could cost fishermen their jobs, which could in turn hurt other industries that depend on either the scallops or the fishermen.

Related Multimedia

Meet some of the scientists studying OA
» View Slideshow

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