

Ocean acidification is accelerating and severe damages are imminent

30 January 2009

Urgent action is needed to limit damages to marine ecosystems, including coral reefs and fisheries, due to increasing ocean acidity, according to 155 of the world's scientific experts who will release the Monaco Declaration this Friday.

The Declaration is based on results from the Second International Symposium on the Ocean in a High-CO₂ World, held at the Oceanography Museum in Monaco last October and organised by the International Geosphere-Biosphere Programme (IGBP), UNESCO's Intergovernmental Oceanographic Commission, the Scientific Committee on Oceanic Research (SCOR) and the International Atomic Energy Agency (IAEA).

The ocean absorbs a quarter of the carbon dioxide emitted into the atmosphere from human activities. Observations from the last 25 years show increasing acidity in surface seawater, following trends in increasing atmospheric CO₂.

"Measured recent increases in ocean acidity follow exactly what is expected from basic chemistry; meanwhile, key ocean regions reveal decreases in shell weights and corals that are less able to build skeletal material," explains Dr. James Orr, of the Marine Environment Laboratories (MEL-IAEA), Monaco and Chairman of the symposium's International Scientific Committee.

"The Monaco Declaration is a clear statement from this expert group of marine scientists that ocean acidification is happening fast and highlights the critical importance of documenting associated changes to marine life", says Professor Sybil Seitzinger, Executive Director of the International Geosphere-Biosphere Programme (IGBP), one of the sponsors of the Symposium.

According to the experts, ocean acidification may render most regions of the ocean inhospitable to coral reefs by 2050, if atmospheric CO₂ levels

continue to increase. It could lead to substantial changes in commercial fish stocks, threatening food security for millions of people as well as the multi-billion dollar fishing industry.

The Declaration draws attention to the "other CO₂ problem". Carbon dioxide, a greenhouse gas responsible for increases in global temperature and climate change, is also a pollutant which causes acidification of the ocean. The scientists behind the Declaration urge policymakers around the world to develop ambitious, urgent plans to cut CO₂ emissions drastically to prevent severe damages from ocean acidification.

According to Dr. Hermann Held of the Potsdam Institute for Climate Impact Research, Germany, who helped craft the Declaration, "About 2 % of the Gross World Product would need to be invested in energy production, efficiency and usage to reach the stabilisation target of 450 ppm, a cost considered to be tolerable by most economists".

"I strongly support this declaration", says Prince Albert II of Monaco, whose environmental foundation provided support for the symposium. He added, "I hope the declaration will be heard by all the political leaders meeting in Copenhagen in December 2009", at the United Nations Climate Change Conference, COP15.

Reference URL: www.ocean-acidification.net

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