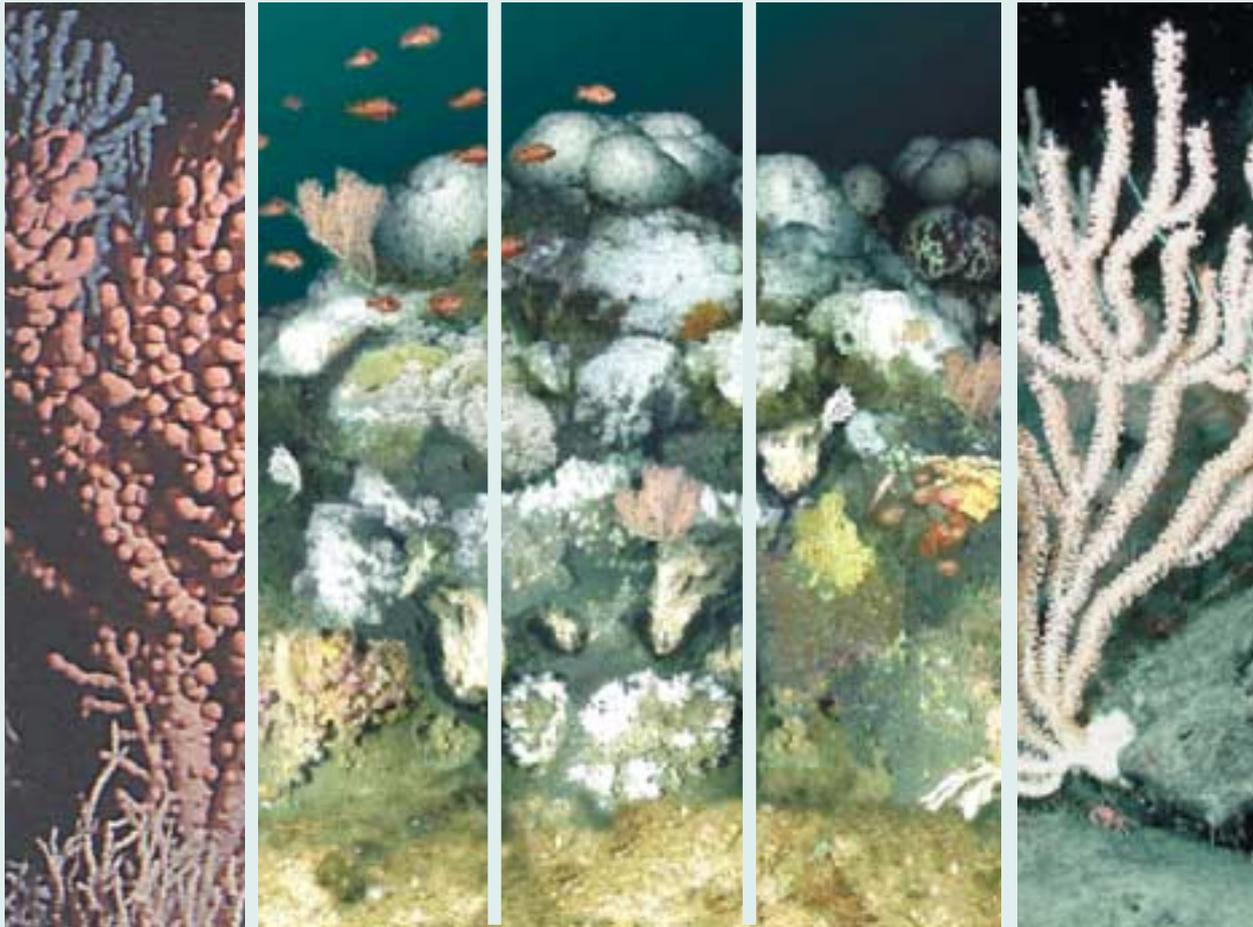




# Cold-water coral reefs



**Out of sight – no longer out of mind**

André Freiwald, Jan Helge Fosså, Anthony Grehan,  
Tony Koslow and J. Murray Roberts



The planet's life-support systems are the source of stability for all peoples, all nations. Cold-water coral reefs are emerging as a new piece in this vital web of life which now requires our urgent attention.

**Klaus Toepfer, Executive Director, UNEP**

Cold-water coral reefs form a remarkable and truly valuable ecosystem off our coasts which our nations must work together to protect.

**Minister Martin Cullen, Department of Environment, Heritage and Local Government, Ireland**

International cooperation and action is essential to conserve cold-water coral reefs, including those in areas beyond national jurisdiction.

**Elliot Morley, Minister for Environment and Agri-Environment, Defra, UK**

These reefs are biological treasures, a natural heritage that we should protect for future generations.

**Børge Brende, Minister of the Environment, Norway**

WWF calls upon leaders of governments and industry to take urgent action to conserve the spectacular and unique ecosystems of cold-water coral reefs.

**Dr Claude Martin, Director General, WWF-International**



NMFS

Rebecca Reuter, NMFS

Victoria O'Connell

# Cold-water coral reefs

Over the past few decades, the exploration of deep-water environments, using new technologies, has provided an insight into parts of our planet, challenging our conventional knowledge. Coral reefs, once thought to be restricted to warm, shallow waters in tropical and subtropical regions, have been found in dark, cold, nutrient-rich waters in almost all the world's oceans. To date, most studies have been carried out in high latitudes, where cold-water coral reefs occur at depths from some hundreds of metres to just 40. However, cold-water corals are increasingly being observed in the tropics, where they

thrive at greater depths.

Reef-building cold-water corals form dense three-dimensional structures, comparable to their warm-water relatives in size and complexity, on the sea floor. They harbour a distinct and rich ecosystem, providing niches, habitats and nursery grounds for a variety of species, including commercial fish species.

Cold-water coral ecosystems are long lived and fragile, which makes them particularly vulnerable to physical damage. The impacts of human activities are evident in almost every survey, regardless of the depth at which the corals occur. Fisheries, with bottom trawls, have already

destroyed or scarred several reefs and represent one of the major threats to these ecosystems. Other documented and potential sources of impact include hydrocarbon and mineral exploration and production; cable and pipeline placement; and dumping.

Following an expert description of the various reef and habitat-forming cold-water corals and their global distribution, the report outlines our current knowledge of their ecology, status and socio-economic value. It is evident that there are large gaps in our understanding which need to be closed by further mapping and integrated, multidisciplinary research including biology, ecology, ocean-



John Reed, HBOI



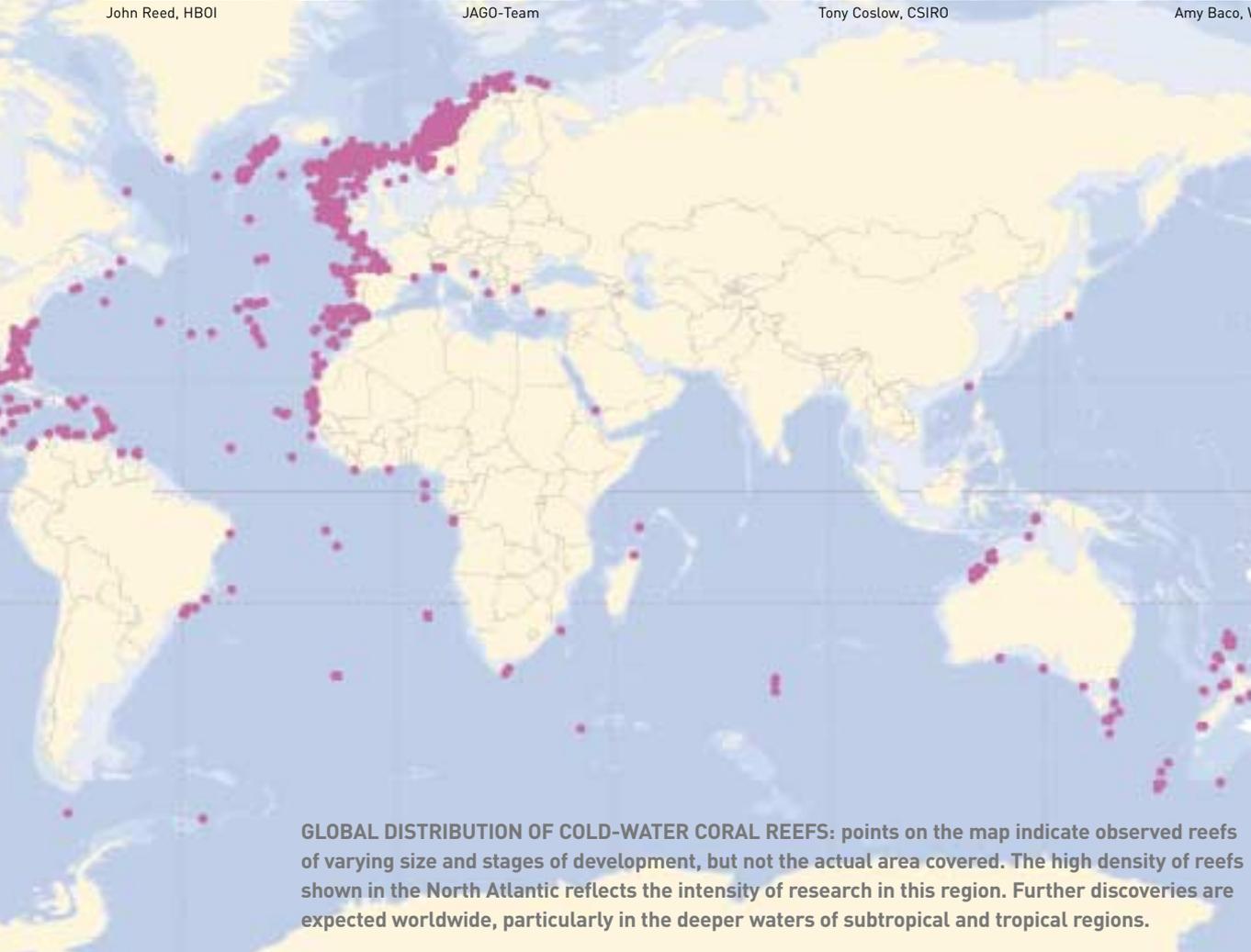
JAGO-Team



Tony Coslow, CSIRO



Amy Baco, WHOI



UNEP-WCMC

## Out of sight – no longer out of mind

ography, geology, and the assessment of human impacts.

Information campaigns and strategic programmes by academia and non-governmental organizations in recent years have increased the awareness and recognition of the need for the international community to protect these vulnerable marine ecosystems. The state of and threats to cold-water coral reef ecosystems are starting to appear on political agendas, and actions to prevent further degradation are emerging.

Based on an overview of national and international activities on cold-water coral reefs, this report provides a set of recommendations concerning

the urgent need for information management and research; monitoring and assessment; the development and implementation of management regulations; and the international coordination of activities and awareness.

These are aimed at providing national and international policy makers and the various stakeholders from developed and developing countries with a 'tool-box' of options for taking concerted action in the conservation, protection and sustainable management of these beautiful, largely unexplored and fragile cold-water coral reefs.

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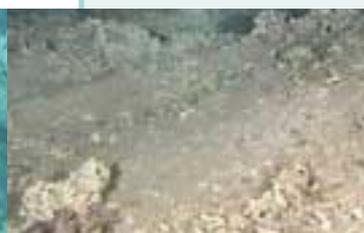
Chapter 6 Socio-economic considerations

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The report also provides a list of cold-water coral reef institutions, experts and internet sites.





# Cold-water coral reefs

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This document has been produced by a team of international experts, with the support of the Governments of Ireland, Norway and the UK as well as the World Wide Fund For Nature (WWF) and UNEP. It presents a comprehensive and up-to-date compilation of information and data on marine cold-water coral reefs from around the world.

Recent underwater studies have shown the beauty and diversity of cold-water coral reefs, which are comparable in their size and complex structure to the warm-water coral reefs of the tropics.

*Cold-water coral reefs, Out of sight – no longer out of mind* describes the various cold-water coral reef ecosystems and associations together with their known and potential worldwide geographical distribution. Case studies and observations from several locations illustrate the state of these reefs and highlight their vulnerability to threats caused by human activities, which have already destroyed or affected a large number of cold-water coral reefs.

*Cold-water coral reefs, Out of sight – no longer out of mind* aims to raise the awareness of decision makers and industrial and environmental stakeholders about cold-water coral reefs. It provides managers as well as national and international policy makers with a set of expert recommendations for the concerted and urgent action that needs to be taken in the conservation, protection and sustainable management of these fascinating, beautiful but fragile ecosystems.

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**More information:** <http://www.unep-wcmc.org/press/cold-water-coral-reefs>

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