

### Census of Marine Life

*In 2009, the Census of Marine Life signed a memorandum of understanding with the Convention on Biological Diversity with the goal of providing unbiased scientific information to policy and management processes. The Census is a GOBI partner.*

The Census of Marine Life ([www.coml.org/](http://www.coml.org/)) was launched in 2000 to assess and explain the diversity, distribution, and abundance of marine life. Each plays an important role in what is known, unknown, and may never be known about what lives in the global ocean. A global network of 2,700 researchers in more than 80 nations is engaged in this 10-year scientific initiative. They will release their results in October 2010, providing a much clearer picture of what lives below the surface around the globe. Several reasons make such a report timely, indeed urgent: crises in the sea are reported regularly and better information is needed to fashion the management that will sustain fisheries, conserve diversity, reverse losses of habitat, reduce impacts of pollution, and respond to global climate change. Hence, there are biological, economic, philosophical and political reasons to push for greater exploration and understanding of the ocean and its inhabitants. Indeed, the United Nations Convention on Biological Diversity requires signatories to collect information on living resources, but, as yet, no nation has a complete baseline of such information. The Census of Marine Life's global network of researchers will help to fill this knowledge gap, providing critical information to help guide decisions on how to manage global marine resources for the future. Together, the Census of Marine Life projects have created a baseline against which future change can be measured.

The Census aims to produce species range maps – areas where the animals have been observed or where they could live. Knowing species range matters, for example, for those concerned about

possible consequences of global climate change. Diversity varies in space. Marine hot spots, like the rain forests of the land, exist for large fish off the coasts of Brazil and Australia. The goal is to know much more about marine hot spots, to help conserve these large fish. Their abundance and thus their diversity is changing, especially for commercially important species. Between 1952 and 1976, for example, fishermen and their customers emptied many areas of the ocean of tuna.

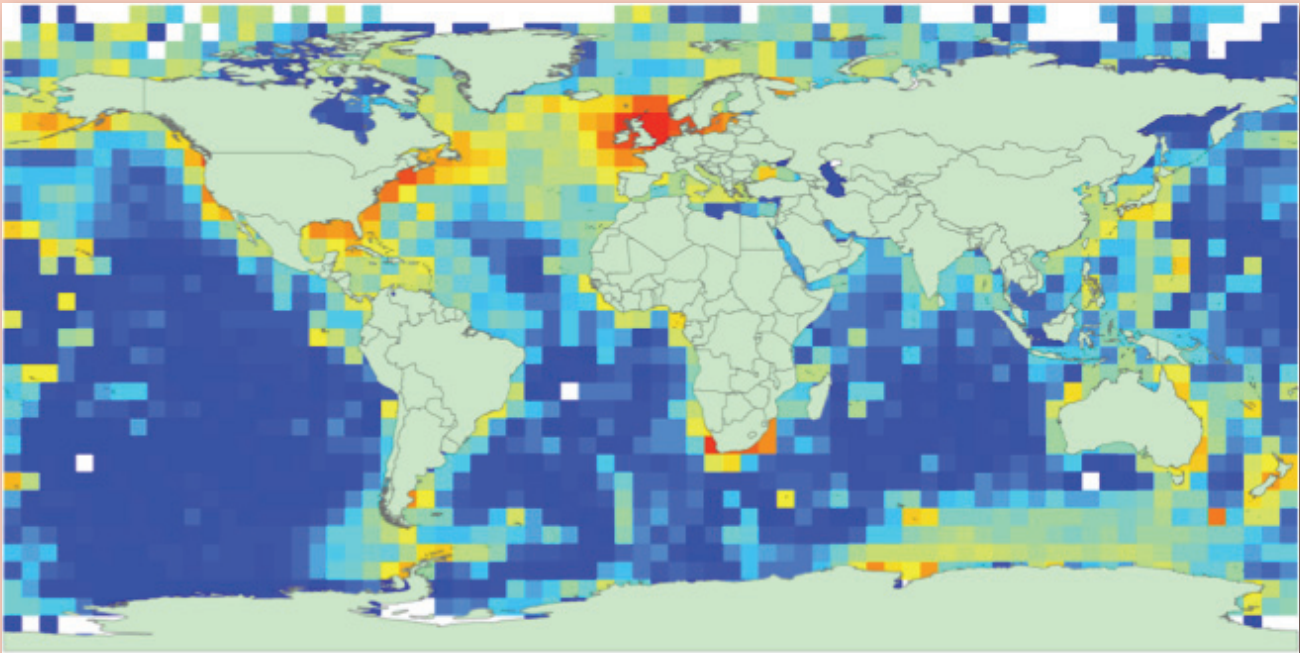
The Census was implemented through 14 field projects, to touch the major habitats and groups of species in the global ocean. Eleven field projects addressed habitats, such as seamounts or the Arctic Ocean. Three field projects looked globally at animals that either traverse the seas or are globally distribute such as tuna, swordfish, plankton or microbes. Three other projects completed the consortium. OBIS served as the data integration component. HMAP, the History of Marine Animal Populations, looked into historical aspects of changes of marine populations, mainly commercial species. FMAP is the Future of Marine Animal Populations, predicting future trends through modelling.

In 2009, the Census of Marine Life signed a memorandum of understanding with the Convention on Biological Diversity with the goal of providing unbiased scientific information to policy and management processes. One of the activities carried out as a part of this memorandum is the partnership with IUCN and GOBI to define the criteria for Ecologically or Biologically Significant Areas on the high seas.

## OBIS

The Ocean Biogeographic Information System (OBIS, [www.iobis.org/](http://www.iobis.org/)), the world's largest online repository of spatially referenced marine life data, was established by the Census to publish its biogeographic data. OBIS is now part of the Intergovernmental Oceanographic Commission of UNESCO, under its International Oceanographic Data and Information Exchange programme. OBIS currently contains nearly 30 million georeferenced, accurately identified species records from more than 800 datasets (as of September 2010). OBIS provides spatial query tools for visualising relationships among species and their environment. This information is readily and freely

accessible on the Internet and requires no special software to use. OBIS will assist coastal states by helping them assess their marine biodiversity. It provides a framework for data repatriation, making sure that the data is available where governments need them to manage their marine living resources. It will help governments to set up programmes of marine spatial planning, and assist in deciding the locations of marine protected areas. The information in OBIS can help all countries to meet their reporting obligations under the Convention on Biological Diversity and other conventions.



Distribution of marine species data available from the OBIS Portal through July 27, 2010. The squares represent 5 degrees square. The colour represents the number of records per surface area. Red indicates a high number of records, blue a low number of records, with the few white spots having no records at all. Searching and mapping functions make OBIS the most powerful tool for studying marine biodiversity.

One of the many animals with movements stored in OBIS: a male northern elephant seal, tracked by the Tagging of Pacific Predators project ([www.topp.org](http://www.topp.org)). Photo courtesy of Daniel P. Costa, UCSC/TOPP

