

# Census of Marine Life (CoML)

## 海洋生物普查计划 ( CoML )

A growing global network of researchers in more than 70 nations engaged in a ten-year initiative to assess and explain the diversity, distribution and abundance of marine life in the world's oceans - past, present and future.

70多个国家的越来越多的研究人员组成的全球研究网络，致力于这项首创性的为期十年的研究，其目的在于评估和解释世界海洋生物的多样性，分布以及丰富程度，它们的过去，现在和将来。

### The Census of Marine Life Executive Summary

海洋生物普查计划执行委员会总结

In a world characterized by crowded shorelines, oceanic pollution, and exhausted fisheries, only an encompassing global marine census can probe the realities of the declines or global changes in ocean resources and the extent of our ignorance. Archives spanning centuries, technologies empowering exploration, and communications connecting scientists open opportunities for such a census. In the year 2000, the Census of Marine Life (CoML) began, led by an International Scientific Steering Committee of experts in diverse forms of life, habitats, and technologies.

在这样一个以拥挤的海岸线，海洋污染和过度捕鱼为特色的世界里，只有一个涵盖全球海洋生物的普查能够显示海洋资源全球性变化或者衰减的现实，以及我们认识上无知的程度。跨越几个世纪的历史数据，使探索成为可能的新技术，和科学家之间的沟通，给这样一个普查提供了新的契机。海洋生物普查计划 ( CoML ) 开始于2000年，由· #22269; 际科学指导委员会· #39046; 导计划的实施。这个委员会由专长于生命多样性，栖息地和技术方面研究的专家组成。

**Mission:** Assess and explain the changing diversity, distribution, and abundance of marine species from the past to the present, and project future marine life.

**计划使命：**评估和解释从过去到现在的海洋物种的不断变化的多样性，分布以及丰富程度，借此来反映未来的海洋生物的变化趋势。

**Scope:** Global marine life since fishing became ecologically important, from icy polar to warm tropical waters, from tidal zones shared by humans to obscure trenches 10,000 meters deep, from microscopic plankton in the light and sea lions plunging into the dark to worms in abyssal sediments, from organisms shifting on the slopes of seamounts to ones tolerating fiery oceanic vents, the 5 percent of the ocean that

is fairly regularly visited and the 95 percent of the ocean whose life is largely unexplored.

**研究范围：**随着渔业在生态学上变得越来越重要，我们的研究范围包括全球海洋生物：从冰冷的极地到温暖的热带水域，从人类共享的潮汐区域到深达10,000米的阴暗海沟，从阳光下微小的浮游生物，喜欢投入黑暗中的海狮到深海沉积物中的蠕虫，从海底山坡上移动的有机体，到能够忍受火热海洋气孔的生命体，从那百分之五经常被光顾的海域到百分之九十五的蕴含大量未知生命的海域。

**Strategy:** Through 2010, scientists worldwide will exploit and organize what is known, shrink the unknown, and minimize diversion into the unknowable. Three large questions define the tasks of the Census: What did live in the oceans? What does live in the oceans? What will live in the oceans? Globally, scientists collaborating in CoML are mining historical and environmental archives, typically since about the year 1500, to write a History of Marine Animal Populations (HMAP), quantifying how fishing and environmental fluctuations changed what lived in the oceans. Fourteen cooperative international Ocean Realm Field Projects as well as affiliated national efforts are exploring the diversity, distribution, and abundance of what lives in six ocean realms from tidal zones to deep trenches. The observers in the field projects, as well as HMAP, deposit their data in the Ocean Biogeographic Information System (OBIS), a global georeferenced database about marine species, accessible on the web with tools for visualizing relations among species and environments. The Future of Marine Animal Populations (FMAP) network integrates the extensive Census-generated data in mathematical models to predict how environmental and human influences will change what will live in the oceans.

**研究策略：**到2010年，世界范围的科学家们将要发掘和整理已知的知识，缩减未知的范围，最大限度减小不可知事物的牵制。三大问题定义了这次普查计划的任务：海洋中过去曾经有什么生物生存？现在有什么生物正在游弋？未来又会有什么生物出现？全球范围内，参与合作海洋生物普查计划的科学家们正在挖掘历史和环境档案数据，尤其是从公元1500年以后的数据，以期编写一部海洋生物种群历史研究（HMAP），来定量分析渔业以及环境波动如何影响曾经生活在海洋里的生物。十四个国际合作性的海域实地考察项目，以及其他附属的国家范围的努力，将一起探索六大洋内从潮汐区域到深层的海沟现今生活在那里的生物的多样性，分布和丰富程度。观测员们把从海洋生物种群历史研究及实地勘测得到的数据存放在一个全球地理索引数据库·#28023;洋生物地理信息系统·#65288;OBIS)里面。

OBIS系统支持因特网访问并且提供反映物种和环境之间关系的可视化工具。海洋生物种群预测研究（FMAP）网络用数学模型整合普查产生的大量数据，来预测环境和人类的影响如何改变将来生活在海洋里的生物物种。

**Progress:** Since 2000, CoML planned its research and outreach, formed management at national, regional, and international levels, entered partnerships with major international organizations concerned with marine biodiversity, raised funds, and got in the water. Researchers from more than 70 nations are working together. In 2003, its Baseline Report provided a filter for explorations likely to yield the great surprises. HMAP completed case studies of southeast Australia and

southwest Africa. The Mid-Atlantic Ridge project collected 80,000 specimens from this undersea mountain range. OBIS is on track to serve 10 million records covering all known marine species by 2007. FMAP charted evolving biodiversity hot spots for fish in the open ocean.

**进展：**从2000年开始，海洋生物普查计划制订了研究计划和超越的目标，在国家，地区和国际范围内建立了管理机构，和关心海洋生物多样性的主要国际组织结成伙伴，募集资金，开始计划的实施。来自世界70多个国家的研究人员协同工作。2003年的**底线报告筛选了可能产生巨大发现的探索工作**。海洋生物种群历史研究完成了澳大利亚东南部和非洲西南部的实例分析。中大西洋山脊项目收集了这个海底山脊区域的80000个样本。OBIS的到2007年提供1000万条涵盖已知海洋物种记录的目标在按计划进行。海洋生物种群预测研究描绘了在开放海域的鱼类的演变多样性热点。

**Completion:** After passing established milestones in 2005 and 2007 and concluding in 2010, COML will have shrunk the unknown with a census of diversity, distribution, and abundance. It will grant legacies of improved methods for biological sensing for the Global Ocean Observing System, access to data on marine life in OBIS, information for wise management of marine resources, and a better informed public.

For more information on the Census of Marine Life, please explore this web site or contact the individuals listed below.

**完成：**在经过2005年和2007年的既定里程碑和2010年计划结束时，通过一个对海洋生物多样性，分布和丰富程度的普查研究，海洋生物普查计划将已经大大减少了未知知识的范围。

它将有产生如下成果：

改进的全球海洋观测系统生物监测技术，从OBIS系统对海洋生物数据的获取，关于如何明智管理海洋资源的信息，公众也将因此增加知识。

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For further information, contact:

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