

OceanObs'09

## **Community White Paper Proposal**

Title:

### **Technology Legacy of the Census of Marine Life**

Lead author:

Alex Rogers, Zoological Society of London Regent's Park, London, NW1 4RY  
United Kingdom, Tel: +44-20-7449-6669, E-mail: Alex.Rogers@ioz.ac.uk

Contributing authors:

Mairi Best (mmrbest@uvic.ca)  
David Farmer (dfarmer@gso.uri.edu)  
Michael Fedak (maf3@st-andrews.ac.uk)  
Chris German (cgerman@whoi.edu)  
John Gunn (John.Gunn@csiro.au)  
Pat Halpin (phalpin@duke.edu)  
Marlon Lewis (Marlon.Lewis@dal.ca)  
Ed Urban (Ed.Urban@scor-int.org)  
Edward Vanden Berghe (evberghe@iobis.org)

Description:

This paper will summarize the contributions that the Census of Marine Life (CoML) has made to observations of marine life. The technology for observing marine life has advanced greatly in the 2000s, in part stimulated by CoML projects that are studying organisms from microbes to marine mammals, turtles, and birds. Several other white papers will describe specific technologies used by CoML projects (e.g., electronic tags and tracking networks, molecular barcoding, deep exploration, data management and visualization); this paper will make the case for the importance of long-term, integrated, sustained monitoring of marine organisms, particularly at higher trophic levels. It will present an overview of CoML technologies not covered by other papers, such as novel sensors, new approaches such as gene sequencing and active acoustics, and deployment of these technologies on novel platforms such as marine organisms, as well as more-traditional platforms such as remotely operated vehicles, autonomous underwater vehicles, and human-occupied vehicles. An important complement to new observing technologies is data management and data sharing, and the development of integrated, cross-discipline data systems, such as through the Ocean Biogeographic Information System.