

MONMOUTH UNIVERSITY, URBAN COAST INSTITUTE /
ROCKEFELLER UNIVERSITY, PROGRAM FOR THE HUMAN ENVIRONMENT
MARINE RESEARCH AND POLICY INITIATIVE
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Topic: Noise in the Ocean and the International Quiet Ocean Experiment

Background:

Scientists and most citizens interested in the ocean note that humans have introduced more noise into the sea in the last few decades. Today larger ships, offshore oil and gas exploration, drilling and production, offshore wind platform siting, various kinds of construction in the littoral zone and the occasional active (“pinging”) sonars of the world’s navies have added noise to the ocean. The ocean has never been particularly quiet. Marine life itself adds sound to ocean for communication, defense, and navigation. Mother Nature is noisy as well with lightning strikes, undersea earthquakes, vents and volcanoes, rain, wind, and ice motion.

There are very few existing or modern sets of ocean ambient noise data. Those that exist are not standardized and their historical coverage is not globally complete. Several internationally prominent marine mammal scientists and ocean acousticians have developed a science program concept called the International Quiet Ocean Experiment (IQOE) to improve data holdings on ocean noise, especially noise added by human activity and most likely to affect marine life.

Discussion:

Some members of the marine science community are concerned about the potential effects of increasing human-made noise on behaviors of marine life and even the viability of some populations. At the same time, the community recognizes that sound is a key tool used to measure many characteristics of the ocean; sound is an obvious by-product of commercial prosperity; and sound is crucial for maritime defense. As scientists try to understand sound in the ocean better, the benefits and risks must be analyzed in a balanced way.

Rockefeller University’s Professor Jesse Ausubel has been a leader in developing the IQOE concept. IQOE scientists have since developed a program that includes measuring noise in the sea; better understanding its impact on marine mammals and other marine life; conducting pilot experiments where noise is intentionally reduced, and, finally, modeling the results so that operational and regulatory decision makers will have better tools for managing sound in the sea. The IQOE program is endorsed by two authoritative international science organizations: the Partnership for Observation of the Global Oceans and the Scientific Committee on Oceanic Research. It is not yet funded.

MURU Role and Actions:

Working with IQOE scientists, and acknowledging that no one agency can fund a full IQOE program, MURU will actively promote the IQOE concept, encourage more acoustic data collection and help facilitate the sharing of the (standardized) data among those who are pursuing IQOE and other interested parties. Further, MURU will help ensure the program maintains a neutral point of view that acknowledges and respects the competing interests involved, while making it advantageous for the many and varied stakeholders to participate.