Title: The Center for Integrated Marine Technologies: Long-term Ocean Observing System in Monterey Bay Can Provide Oceanographic Data and Monitoring Information toward Marine Protected Areas

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Abstract:
The Center for Integrated Marine Technologies' (CIMT) was organized to understand the relationship between the physical dynamics and productivity, from wind to whales, of California's coastal ocean. CIMT’s mission is to create a coastal ocean observing and forecasting system that provides a scientific basis for the management and conservation of the Monterey Bay, and serves as a model for all of California's coastal marine resources. The CIMT falls within the Central and Northern California Ocean Observing System (CeNCOOS) and has been simultaneously collecting data via moorings, shipboard surveys, apex predator tagging and tracking, and satellite, aircraft, and land-based remote sensing since 2002 and is build on a foundation of data from the Wind to Whales effort since 1997. Data integration provides new insights to the complex interactions among resource characterization, climatic events, riverine input of iron, and wind-driven coastal upwelling of nutrients to phytoplankton production, the distribution and abundance of animals from zooplankton to fish, seabirds, marine mammals and sea turtles. This approach provides the ability to develop predictive models of how marine resources respond to variability in coastal dynamics. The CIMT data and information collected is available and being integrated in multiple formats from raw data to models to GIS. This information is available to stakeholders and can prove valuable in the marine protected area process.