

Marine Mammals Exploring the Oceans Pole to Pole

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Project summary

Marine Mammal Exploration of the Oceans Pole to Pole (MEOP) will deploy state-of-the-art animal-borne CTD (Conductivity-Temperature-Depth) tags on strategically chosen, deep-diving marine mammal species to explore their current movement patterns, behaviour and habitat utilization in Polar Regions. Concomitant with the sampling of ecological data sets on these top predators, the animals will themselves (via the equipment they carry) collect a vast, high-precision oceanographic data set from logistically difficult areas of ocean in Polar Seas at the fringes of the North and South Atlantic and the South Pacific that are strategically important to climate and ocean modelling. Co-operation between programmes within IPY will provide MEOP with comprehensive, synoptic oceanographic coverage that will allow us, for the first time ever at this level, to quantify factors determining habitat selection by key polar marine mammal species. The oceanographic data collected in MEOP will, in turn, provide otherwise unobtainable oceanographic data sets collected at natural hot-spots of productivity, as input data to physically-oriented modelling projects (e.g. the Bipolar Atlantic Thermohaline Circulation Programme). The cross-disciplinary merging of classical oceanography and marine mammal ecology in this programme will significantly advance our understanding of the world's oceans and top predators that live in them.

MEOP has strong potential to be an "IPY favourite" with the public; marine mammals can serve as polar ambassadors that highlight -- the need for good ecosystems management, wise fisheries practices, good toxicology legislation, the risk of climate change impacts, and the need for a broad understanding of whole ocean systems. The program is timely given the predictions for ecosystem changes in both Arctic and Antarctic systems within the coming decades due to climate change, in addition to increasing fisheries and tourism activities in both the Arctic and Antarctic.