Woods Hole Oceanographic Institution

Biology Department Seminar

Thursday, July 24, 2014
Redfield Auditorium – 12:00 Noon

Understanding cetacean spatial behavior: precisely positioning whales and dolphins in space and time

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Animals often live in groups, and individual and group behaviors underlie many aspects of ecology. The effects of behavior often depend on the relative position of an individual within a group. Therefore, studies of social behavior frequently require positioning animals in space and time. However, this is extremely difficult to do in the field, and efforts to locate marine animals have often relied on estimating positions by eye from a distance with practicality requiring estimates to be grouped into broad spatial categories that are sampled at several minute intervals. This low spatial and temporal resolution make it extremely difficult to observe many fine-scale behaviours. Here, I will describe two approaches for easily capturing high-resolution positions of multiple animals, beginning with the development of a portable system that uses 3D stereo photogrammetry and continuing to new complementary methods using simultaneous tagging of echolocating bottlenose dolphins. We have combined these methods with DTAGs and deployed them on long-finned pilot whales in the Strait of Gibraltar and bottlenose dolphins in Sarasota, FL.