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## Institutions

- Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Bremerhaven
- Australian Antarctic Division, Tasmania
- Hubbs-Sea World Research Institute, San Diego
- Instituto Antártico Argentino, Buenos Aires
- Mammal Research Institute, University of Pretoria
- National Institute of Polar Research, Tokyo

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Coordination: Horst Bornemann, Joachim Plötz Alfred Wegener Institute

## Partner

- Marthán N. Bester, P.J. Nico de Bruyn, Mammal Research Institute, University of Pretoria
- Harry R. Burton, John van den Hoff, Australian Antarctic Division
- Maria E.I. Márquez, Instituto Antártico Argentino
- Brent S. Stewart, Hubbs-Sea World Research Institute
- Yasuhiko Naito, Akinori Takahashi, Yuuki Watanabe, National Institute of Polar Research

Data curator: Horst Bornemann, Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung, Bremerhaven

## Project summary

The Marine Mammal Tracking (MMT) project of AWI and its Partner Institutions concentrates on the Southern Ocean. Long-distance tracking of marine mammals in the Southern Ocean by satellite relies on the ARGOS system. ARGOS satellite transmitters for marine mammal applications are designed to provide the animals' at-sea locations. Some types of transmitters are combined with archival data logging units to provide high-quality behavioural data on diving and feeding activity, optionally collected in tandem with data on environmental variables at the animals' immediate position.

Marine top predators including seals and birds have the ability to detect areas of high food abundance. Ocean fronts, eddies and shifting sea ice facilitate areas of high biological productivity where intermediate and upper trophic level interactions maximise. These conditions attract top predators which concentrate their foraging on lucrative feeding spots. Variations in foraging ranges and movements of top predators are hence an important source of information about environmental variability integrated over a wide range of spatial and temporal scales.

Although MMT is dedicated primarily to marine mammals, the project is in liaison with other top predator studies. Thus data of penguins equipped with satellite or archival tags are incorporated as well. The complex synthesis of data on marine mammal positioning and feeding locations with oceanography and bathymetry aims to identify those parameters which are characteristic for feeding areas of top predators in the respective regions, and will provide clues as to why some areas of the Antarctic Ocean are important to these animals while others are not. This will further our understanding of the distribution patterns of marine mammals in Antarctic and Subantarctic marine ecosystems of the Southern Ocean.

