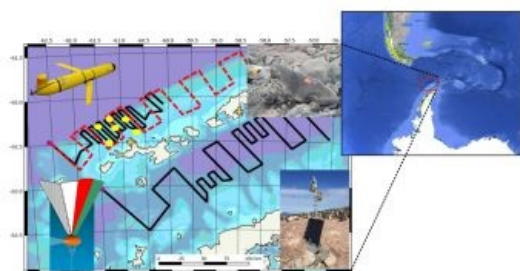


# NOAA to Use ASL<sup>™</sup>s Acoustic Zooplankton Fish Profiler in Antarctic Krill Study



The Antarctic Ecosystem Research Division (AERD) of the NOAA Fisheries Service has managed and implemented the U.S. Antarctic Marine Living Resources (AMLR) programme since 1986. Data collected from this programme is used to advise the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) on establishing catch limits and the spatial distribution of these limits for the Antarctic krill fishery. From October 2018 onwards, gliders equipped with [ASL Environmental Sciences' Acoustic Zooplankton Fish Profilers \(AZFP\)](#) will gather standardised spatial and temporal data to better understand the consequences of overlap among krill, predators and the krill fishery, and provide other dynamic oceanic attributes of the study area.

Climate changes have altered the distribution, intensity and timing of the krill fishery when compared to historical data. The fishery season, for example, has expanded as both sea ice extent and distribution have declined. This expansion leads to a potential negative impact on ecosystem health such as known areas of krill-dependent predators.

Several fishing companies such as those from Norway, China and South Korea have worked through the Association of Responsible Krill harvesting companies (ARK) to provide acoustic surveys to estimate krill biomass prior to and during the fishing season. Although this data has been useful, the acoustic data collected comes from a variety of vessels and may have varying quality, making it difficult to compare datasets year to year. In an effort to systematically provide research-based independent surveys outside of the commercial fishery, and over a longer sampling season, the U.S. AMLR programme has implemented a krill research programme that will utilise an array of moorings and gliders around the Antarctic Peninsula.



Research program consisting of three gliders (tracks indicated), six moorings (yellow dots), camera systems and tagging of predators to understand their foraging locations and behaviour.

## Framework for sustained ecosystem monitoring

Data collected from this research will replace traditional ship-based surveys and will provide standardised spatial and temporal data to better understand the consequences of overlap among krill, predators, and the krill fishery, and provide other dynamic oceanic attributes of the study area. Along with ADCPs and CTDs, the gliders will be equipped with [ASL Environmental Sciences' Acoustic Zooplankton Fish Profilers \(AZFP\)](#) using three acoustic frequencies (38, 67 and 125kHz) to record backscatter of krill biomass. This sampling programme will commence in October 2018, and is expected to provide the framework for sustained ecosystem monitoring using autonomous platforms.