

ASL Introduces the AZFP-ice, the Next Generation of Upward Looking Sonars for Ice-Infested Waters

ASL Environmental Sciences is pleased to announce the combining of our [Acoustic Zooplankton Fish Profiler](#) (AZFP) with our [Ice Profiling Sonar](#) (IPS) to provide a comprehensive solution for ice thickness detection and water column profiling of fish, zooplankton, bubbles and suspended sediments in ice-infested waters. The AZFP-ice is the next generation in high resolution, low power, continuous recording subsurface instruments that are capable of long-term deployments of a year or more. The AZFP-ice would typically be used in an upward looking taut-line mooring as illustrated below but could easily be inverted to record the water column in a downward looking orientation. Built into the ice profiling sensor is a logarithmic detector which resolves both strong and weak acoustic targets. In practice, this means that the signal from strong reflections such as the water-air interface at close range doesn't saturate, and weak targets such as the water-ice interface at long range are still measurable.

A narrow-beam 420 kHz frequency channel on this Instrument (identical to the one used on ASL's well-known IPS) is used for high spatial resolution ice cover measurements. The three other calibrated fishery acoustic channels of the instrument acquire details of constituent targets within the water column. The memory capacity of this new generation instrument has been upgraded from a single 32 GB compact flash card to the now expanded 512 GB capacity using dual 256 GB SD cards with plans to continue expanding memory capacity.

The first AZFP-ice prototype with ice profiling capabilities was deployed in October 2021. ASL expects to formally launch this new instrument in the Spring of 2022.

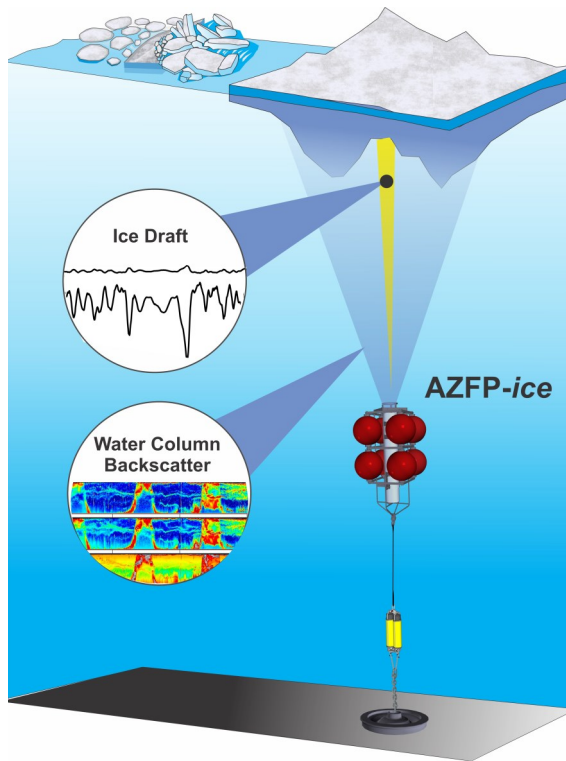


Diagram of AZFP-ice deployment showing the ice and water column profiling capabilities.



AZFP-ice deployment configuration. The black circular transducer is for the ice profiler and the black square transducer is for the multi-frequency calibrated echosounder.