

Acoustic Zooplankton Fish Profiler AZFP

Profession: An autonomous calibrated scientific echosounder with multiple frequencies



Mesozooplankton and micronecton



ASL environmental Sciences (CA)

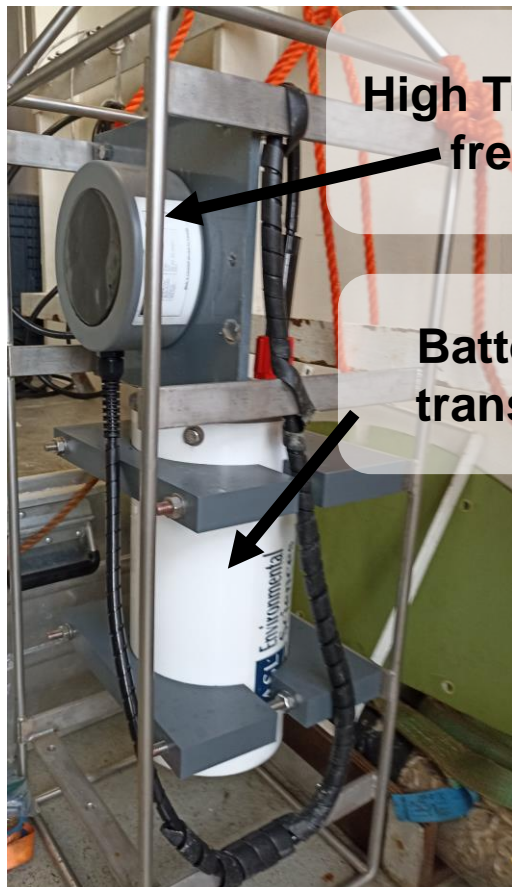


Underwater



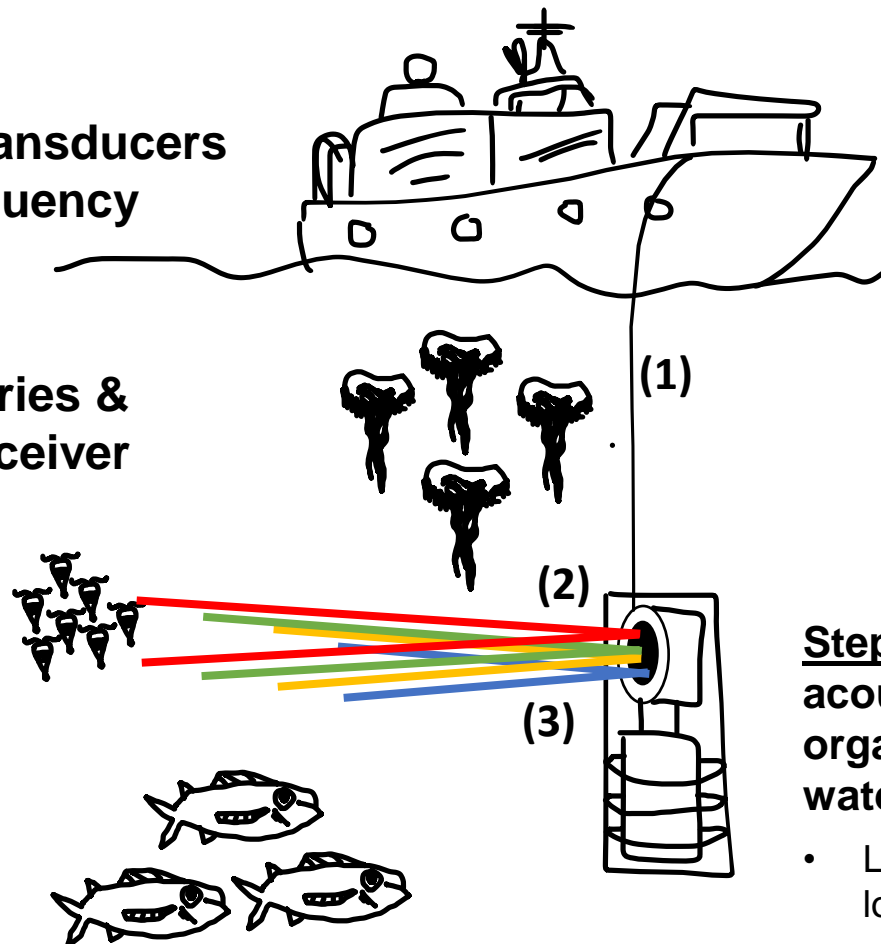
50 000 €

Professional overview



High Transducers frequency

Batteries & transceiver



Step 1: Deployment at station from a research vessel

Step 2: Emission at high frequencies (200; 455; 769 and 2000 kHz)

- Low frequencies go further than high frequencies

Step 3: Measurement of the acoustic backscatter from organisms and particles in the water.

- Larger organisms detected using the lower frequencies.
- Smaller organisms detected using the higher frequencies.

AZFP before its deployment
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Education

- 1980s : Tracor Acoustic Profiling System (TAPS) with a max of 200m depth.
- 2010 AZFP replace TAPS and is used to sample until 600m depth
- 2022 : association with ice profiling sonar

Skills highlights

- Detection, quantification characterization of organisms in the water column
- Non invasive instrument
- Equipped with pressure and temperature captors

Interests & curiosities

Can be used to analyse oil concentration and oil drop size distribution

Horizontal but also upward or downward looking

Deployed on mooring or on autonomous devices (gliders)

Can get information on the nature of the substrat