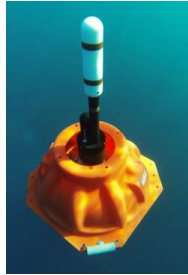


EAS 4801 - Planetary Sound

Lec #8: Recording devices

Dr. Zhigang Peng
01/22/2020
Spring 2020

Streckeisen STS-2 Broadband Sensor



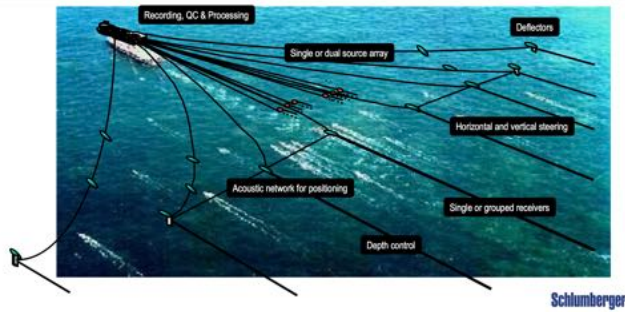
Acquisition Techniques

Vertical Cable
Dragged Array
Anchored Cable
Streamer
Ocean Bottom Cable

PGS J.W. Schoolmeesters

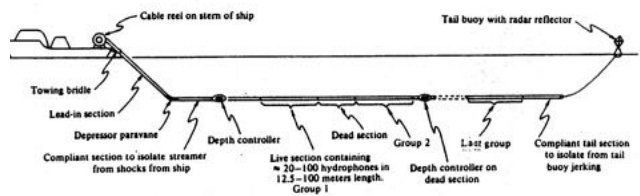
Marine Streamer

Towed streamers acquisition



From Nick Moldoveanu, SEG 2013 North America Honorary Lecture

Marine streamer



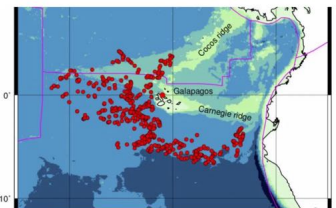
Sonobuoy



P-3 Orion parachuting a sonobuoy.

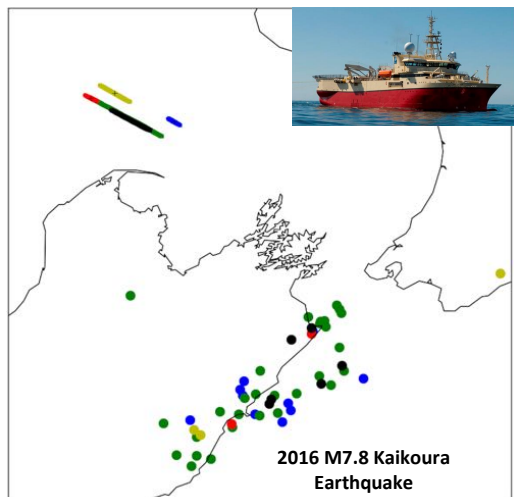
Sonobuoys are ejected from aircraft in canisters and deploy upon water impact. An inflatable surface float with a radio transmitter remains on the surface for communication with the aircraft, while one or more hydrophone sensors and stabilizing equipment descend below the surface to a selected depth that is variable, depending on environmental conditions and the search pattern. The buoy relays acoustic information from its hydrophone(s) via UHF/VHF radio to operators on board the aircraft.

MERMAIDs (mobile earthquake recorders in marine areas by independent divers)



MERMAID is a freely drifting diver that combines (1) a hydrophone, (2) GPS, (3) an on-board digitizing and processing unit that uses wavelet detection and discrimination algorithms, and (4) an Iridium unit for near real-time data transfer with two-way communication.

<http://geoweb.princeton.edu/people/simons/earthscopeoceans/>
<https://asa.scitation.org/doi/abs/10.1121/1.5137640>



Streamer Recording of active air-gun shots and aftershocks of the M7.8 earthquakes

