

Abstract Submitted
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Analysis of Passive Acoustic Data at Station ALOHA Cabled Observatory¹ YULIYA KORNIKOVA, Reed College, JAMES POTE MRA, BRUCE HOWE, University of Hawai'i-Manoa, ALOHA CABLED OBSERVATORY TEAM, NSF TEAM — The Station ALOHA Cabled Observatory (ACO) is located in the Central North Pacific Ocean and is an ocean-bottom observatory that monitors ocean processes, including sound, continuously in real-time. The ACO hydrophone records ocean acoustics over a broad scale. This allows for the study of certain elusive marine mammals like baleen whales, who tend to stay in deeper water. The ocean-bottom hydrophone at the ACO is used to record acoustic events such as glass balls shattering, ships passing by, and acoustic behavior of whales in a location that is difficult to study long-term due to its remoteness. We examined 12 months of 24kHz data from the ACO (January 2020- December 2020) and found a variety of sounds, some of which we identified as whale vocalizations. We created spectrograms of the audio files for visualization, analysis, and annotation. We identified sounds produced by minke, humpback, and sperm whales. We found seasonality in humpback and minke whale sounds as they gradually leave in May and return in October. This work is meant to provide an overview of sounds the ACO is recording, and the identified signals can be used as training for machine learning for the development of a sound identification program that would be able to run in real time on the hydrophone.

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Yuliya Kornikova
Reed College

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