Department of Civil & Environmental Engineering
Missouri Water Center (MWC)

Seminar in Environmental Engineering

Time:	Friday, November 14, 2025 2:00 – 3:00 P.M.
Location:	Zoom Only

Dr. Liz Weidner is an acoustical oceanographer who uses broadband acoustic systems to study high-latitude oceans. Liz is an Assistant Professor of Marine Sciences at the University of Connecticut. Prior to joining the faculty at University of Connecticut, Liz was a postdoctoral fellow at Scripps Institution of Oceanography at the University of California San Diego and received her PhD in oceanography from a joint program between the University of New Hampshire and Stockholm University. She also has her MSc in Ocean Mapping from the University of New Hampshire (2018), her BS in Oceanography from University of Washington (2012), and worked as a geophysicist for C&C Technologies Survey Services Inc and Oceaneering International Inc.

Characterizing the submerged morphology of a tidewater glacier

Dr. Elizabeth Weidner

Department of Marine Sciences
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https://umsystem.zoom.us/j/91084660904?pwd=60ae8GfryXpOU4oMzzJYGayt8ExrBy.1
Meeting ID: 910 8466 0904
Passcode: 447046

The submerged termini of tidewater glaciers are a critical, yet poorly characterized component of high latitude regions. While traditional oceanographic measurement techniques are limited by iceberg calving dangers, remote measurements made by active acoustic systems represent a useful, if underutilized, tool. Here we will investigate the potential connections between ice face geometry, internal ice properties, and acoustic backscattering response of the ice face. Broadband (170–250kHz) split-beam echosounder observations were collected at Hans glacier in Svalbard. The ice face position and local slope were derived from split-aperture processing methods. Spectral trends in backscattering over a frequency band of 80kHz were measured at grazing angles between 48 and 74 . Overall, backscattering showed a weak frequency dependence across grazing angles and could be attributed to several scattering mechanisms associated with the ice–ocean interface (e.g., surface roughness, gas bubbles, thermohaline structure). Results will be discussed, along with the need for the collection of additional observational datasets, including in situ measurements of submerged termini properties.