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Assessment of eDNA as a biomonitoring tool for vulnerable deep-sea habitats

High-throughput sequencing of targeted “barcode” loci in DNA extracted from marine environmental samples such as water and sediments has recently exploded in popularity due to the ability to generate a taxonomic community profile that usually surpasses what is obtainable from using traditional monitoring methods in terms of biodiversity and detection of rare taxa. Indeed, given the existing poor biodiversity inventory of many marine habitats coupled with their high cost and difficulty of access, environmental DNA (eDNA) biomonitoring of these remote ecosystems is attractive if reliable taxonomic inventories are obtained for a modest price and with little required sample material. As part of the DEEP SEARCH (DEEP Sea Exploration to Advance Research on Coral/Canyon/Cold seep Habitats) project, we collected water samples from eight JASON2 remotely operated vehicle dives at sites within canyon, cold-seep, and cold-water coral reef habitats along the U.S. Atlantic coast in April 2019. The implications of our findings for biomonitoring in the deep sea, as well as plans for expanding our analyses to include other barcode loci, water column eDNA samples collected via CTD, and reference database augmentation through genome skimming will be discussed during this seminar.

Registration for this webinar is required and space is limited. [Please RSVP here.](#)