
Woods Hole Oceanographic Institution
Biology Department Seminar

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Redfield Auditorium – 12:00 Noon



Oceanographic influences on benthic fjord communities in the high Arctic

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The Arctic is an area particularly vulnerable to climate change. The influence of Atlantic water advected into the Arctic is increasing, and with it comes a suite of environmental changes – higher temperatures, range expansions of boreal species, increasing ice-melt and glacial sedimentation. I outline two different studies aimed at understanding current and future changes in Arctic benthic communities, using Svalbard fjords as a model system. My results reveal that there is high spatial heterogeneity in fjord communities, with different environmental factors driving species distribution patterns on different spatial scales. Recruitment of benthic invertebrates was highest in warm, Atlantic-influenced fjords, but diversity and functional diversity of the benthic fauna was highest in a cold, Arctic-influenced fjord, where recruitment was much lower. With continued climate change, Arctic-influenced fjords may begin to resemble Atlantic-influenced fjords and experience a decline in biodiversity and functioning.