

MSEAS Seminar Series

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Bio-Physical Interactions, Ambient Noise, and Tropical Storm Observations at the New England Seamounts

Abstract: The New England Seamount Chain in the North Atlantic presents a combination of complex bathymetry and highly dynamic currents due to their location near the Gulf Stream. The Task Force Ocean Biological Soundscapes team have sampled simultaneous ambient noise, biological oceanography, and bio-physical oceanographic sections around the Kelvin Seamount to better understand the impacts of both the seamount bathymetry and Gulf Stream features on the structure of pelagic biology in the water column and physical oceanographic properties. During an October 2023 field campaign on the R/V Langseth, Tropical Storm Philippe interrupted a research cruise such that oceanographic sections were collected before and after the storm, and water column as well as bottom mounted ambient noise data were recorded before, during, and after the storm. While the storm and periodic ship traffic affect ambient noise levels as historically described by Piggott and Wenz, oceanographic mixing and bio-physical interactions are more complex with Gulf Stream front and eddy dynamics appearing to be more significant drivers than potential mixing associated with the tropical storm passage.

Friday, June 7, 2024

11:00 AM EDT; Rm. 5-314

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Host:
Pierre Lermusiaux
<http://mseas.mit.edu>

0.62
0.41
0.21
min 2

$$\frac{\partial \phi_i}{\partial t} + \mathbf{u} \cdot \nabla \phi_i$$

Chl.
Fcst.

25
20
15
Latitude (°N)

(dB)

Seivers
(A)

Loss

40

