

Oceanography Seminar

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Imaging Internal Wave Structures

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Spanagel Hall, Room 316

Linear structures, sometimes hundreds of meters in length, have recently been observed in seafloor imagery and bathymetry collected with both synthetic aperture sonar (SAS) and multibeam echosounder systems (MBES). This phenomenon is not due to the true morphology of the seafloor, but is caused by water column features related to the breaking of internal waves on a seafloor slope. Changes observed in acoustic intensity and bathymetry estimates are caused by the focusing of sound through structures with lower sound speed. In terms of seafloor mapping, these topography-mimicking features will impact the interpretation of imagery, may complicate the production of mosaics, and have the potential to cause bathymetric uncertainties exceeding International Hydrographic Organization standards. In terms of object detection, shadow zones may obscure targets of interest. In this talk it will be shown that these features may not be uncommon using examples of data collected with several different SAS and MBES systems in a variety of locations.