

IEEE Journal of Oceanic Engineering

Call for papers

Special Issue on Seabed Characterization Experiment

Deadline for submission: **01 June 2018**

Target date for publication: July **2019**

A multi-disciplinary, multi-institutional at-sea experiment occurred during March and April of 2017 in an 11 km by 30 km area known as the “New England Mudpatch” about 60 miles south of Martha’s Vineyard, MA, USA. A diverse set of acoustic measurements were made for the purpose of extracting information about the physical characteristics of the seabed, such as the compressional and shear sound speeds and their attenuation as a function of frequency. The upper-most layer of the seabed in the area is characterized by a mixture of silt, clay and sand that overlies acoustically-harder sand sediments. In addition, two survey experiments in 2015 and 2016 took sediment cores along with multi-beam sonar and CHIRP sonar measurements. Of interest are papers on forward modeling of acoustic propagation in this area, and inversion and statistical inference methods that infer from the measured data the acoustical properties of the seabed. Manuscripts on direct measurements of the physical properties of the seabed are strongly encouraged. Also of interest are papers on the predictions made by seabed physics models of the sound speeds and attenuations from the more basic/microscopic properties of the sediments, including comparisons of these predictions to the directly measured and inferred properties. Finally, papers using advanced propagation models that take into account the measured horizontal variability of the seabed over a large scale of wavenumbers are of interest to model the statistics of the propagation and scattering.

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Papers:

The special issue covers all aspects of seabed characterization in the SBCEXP experimental area.

Submissions are requested on the validation and verification of models describing the interaction of sound with the seabed from measured data taken during the Seabed Characterization Experiment off the New England Coast during March – April 2017. The scope of the special issue includes:

- Frequency dependence of compressional and shear sound speeds and attenuations of the fine-grained sand-silt-clay surface layer and the sand transition layers that lie below the fine-grained surface layer
- Inversion and statistical inference methods employed to infer sound speed and attenuation parameter values of the sediment
- Direct measurements and inference of sound speeds and attenuations
- Comparisons of different physical models of the seabed
- Propagation and scattering models that take into account the horizontal variability of the seabed over a large band of spatial wavenumbers
- Effect of uncertain oceanography on seabed statistical inference
- Nature of oceanography during SBCEXP

Deadline for submission of papers: 01 June 2018. Manuscripts submitted before this date will be considered for publication in the special collection. All manuscripts must be submitted through the Journal's website: <http://joe.msubmit.net>. Authors should include a cover letter when submitting their manuscript indicating that the contribution is intended for the special issue on **Seabed Characterization Experiment**.

Individual papers will be posted on IEEE Xplore immediately on approval of the final galley proof, thus becoming downloadable and citable in advance of publication in the regular issue of the Journal.