CALL FOR PAPERS

Announcing a Special Issue of the IEEE Journal of Oceanic Engineering on

Capturing Environmental Uncertainty in Sonar Performance

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The January 2005 issue of IEEE JOE will focus on environmental uncertainty and its effect on sonar performance predictions. The spatial and temporal variability of the ocean environment often cannot be sampled and modeled at scales adequate to accurately represent the acoustic propagation environment. We solicit papers which address the problems of characterizing, quantifying, and transferring uncertainty in the ocean environment to the calculation of acoustic fields, and to the subsequent use of the acoustic fields in sonar performance predictions and acoustic signal processing applications. The primary focus is on acoustic frequencies of approximately 100 to 5,000 Hz in shallow-water environments. Manuscripts that emphasize interdisciplinary scientific approaches to these problems are strongly encouraged. Papers will be welcome in a wide variety of areas, including:

- spatial and temporal scales of variability in environmental properties and processes (both oceanographic- and bottom-related)
- transferring uncertainty to the acoustic field, including the effect of limited environmental information on acoustic prediction
- characterizing acoustic uncertainty
- data assimilation methods to reduce uncertainty
- uncertainty in measurements and models
- uncertainty effects in sonar performance predictions and acoustic signal processing applications
- acoustic uncertainties associated with time dependence and 3-D variation of the propagation medium parameters

Papers are due by March 1, 2004. Please submit papers (by primary discipline) to:

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