Special Issue

Advances in Ocean Models: Uncertainties, Predictive Skills, and Physical-Biological-Biogeochemical Interactions

Message from the Guest Editor

The development of ocean circulation models has proceeded rapidly over the last 25 years, with progress being made in three key areas. First, the number and spatial extent of models for predicting transport at estuarine, shelf, basin, and global scales has increased. Second, the horizontal resolution of models has increased sufficiently to resolve eddy mixing. Third, the vertical resolution of models has increased to allow better understanding of vertical exchanges. Curiously, despite these advances, uncertainties in ocean models are rarely quantified, uncertainties are not often compared, and the limits of prediction skills in 4D (space × time) are not always investigated. In this Special Issue, we would like to focus on established and new implementations of ocean models, with particular attention to the more recent ones, the gains made by increasing the resolution of the models, the predictive skill of alternative models, the mechanistic cause of differences in predictive skill, and efforts to understand physical, biological, and biogeochemical variability with ocean models.

Guest Editor

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Message from the Editor-in-Chief

The *Journal of Marine Science and Engineering* (*JMSE*; ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

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