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Editorial Office  
Journal of Ocean Engineering

Dear Editors,

Please find our submitted manuscript on “Enhanced downscaled ocean wave conditions with Machine Learning and Wave Spectra”. This research builds on existing research combining machine learning with the use of 1D wave spectra to downscale wave conditions. This research is novel in its simultaneous bias correction, downscaling, and comparison of increasingly complex input data. Providing practitioners with a comprehensive understanding of broad performance depending on available datasets.

In this paper we have compared a range of different datasets and both traditional machine learning and deep learning techniques. In particular we demonstrate excellent performance of extremes values (up to 27% reduction in RMSE for Hs). We therefore believe that this paper will be of interest to the Journal of Ocean Engineering and the ocean engineering community as we provide guidance on machine learning techniques and datasets that will help achieve good results.

Key highlights of our research include:

* A thorough and iterative approach to developing machine learning tools for ocean wave condition downscaling.
* A detailed performance assessment over a range of typical ocean wave parameters
* Excellent downscaling performance including extreme values

This manuscript has not been published and is not under consideration for publication elsewhere. All authors have approved the manuscript and agree with its submission to the Journal of Ocean Engineering. We look forward to your positive response and would be happy to address any questions or provide further information as needed.

Thank you for considering our manuscript for publication.

Kind Regards,

Leo Peach  
PhD Candidate  
Griffith University School of Engineering and Built Environment &  
Coastal and Marine Research Centre