

## Highlights

### **Machine Learning wave prediction using spectra**

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- Machine Learning
- Wave Prediction
- Spectra

# Machine Learning wave prediction using spectra

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## ARTICLE INFO

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## ABSTRACT

Here we describe a method for improving predicting using a 1D wave spectrum.

## 1. Introduction

The forecasting of wave heights is important for a range of maritime and coastal applications, from port operations through to beach management and surfing. One of the challenges is the ability to downscale predictions from oceanographic wave models to the coast. This is required as additional physical processes occur as the waves approach local features, such as depth induced wave breaking, refraction and defraction. Typically this involves the development of computationally expensive physics based models, which also require good quality input data, including bathymetry to perform well. Data-driven approaches have increasingly been applied in order to help overcome the computational cost and allow the rapid downscaling of wave forecasts and hindcasts. Most have utilised wave parameters ««REFS HERE»» , but this can have it's challenges as wave parameters are summaries of the wave spectrum (which is a more full description of wave conditions in the form of energy spread over a range of frequencies)«<REFS»».

## 2. Method

## 3. Discussion

## 4. Conclusion


## 5.


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