



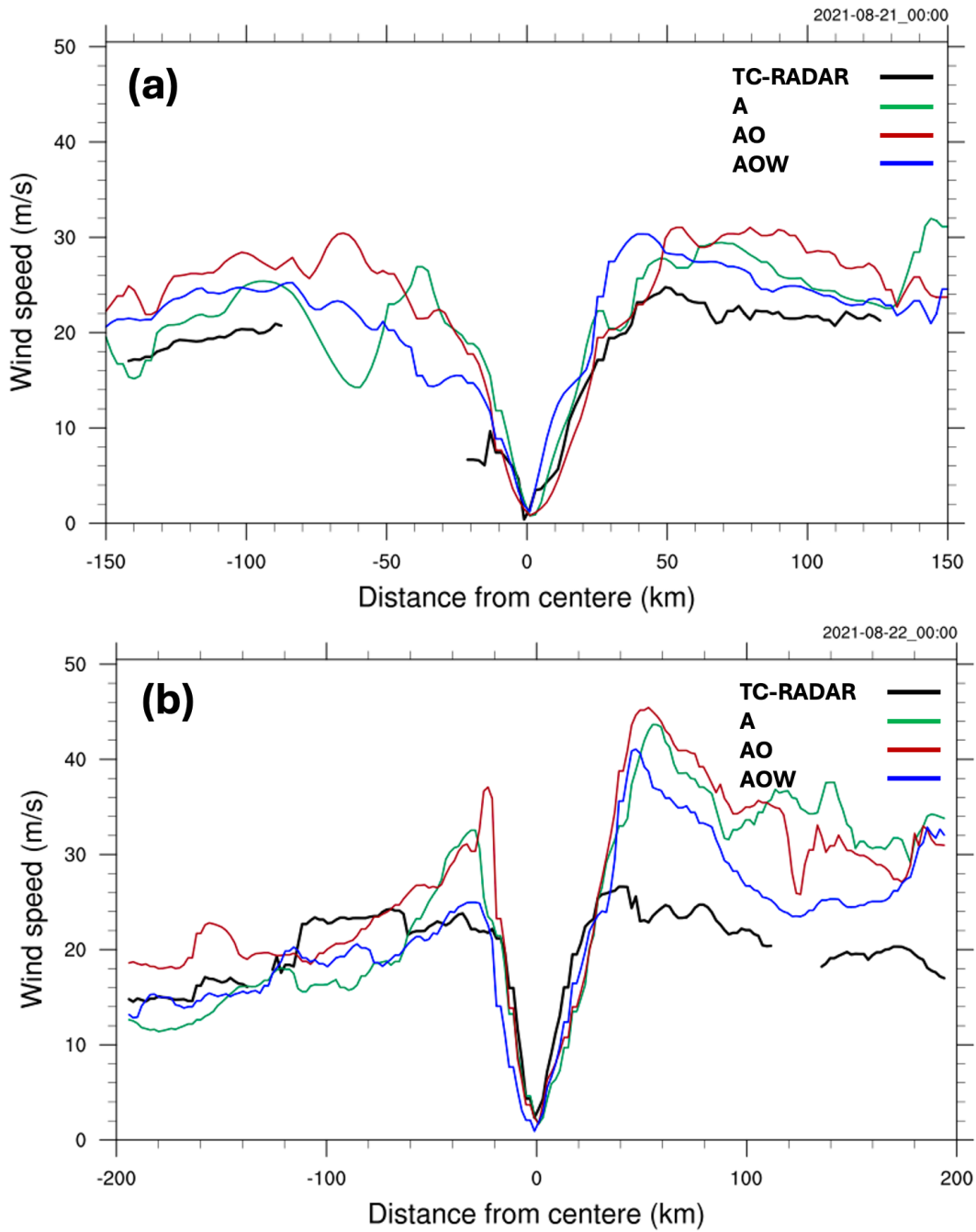
*Supplement of*

## **Fully coupled, high-resolution atmosphere–ocean–wave simulations of the offshore wind energy environment during Hurricane Henri (2021)**

**Chunyong Jung et al.**

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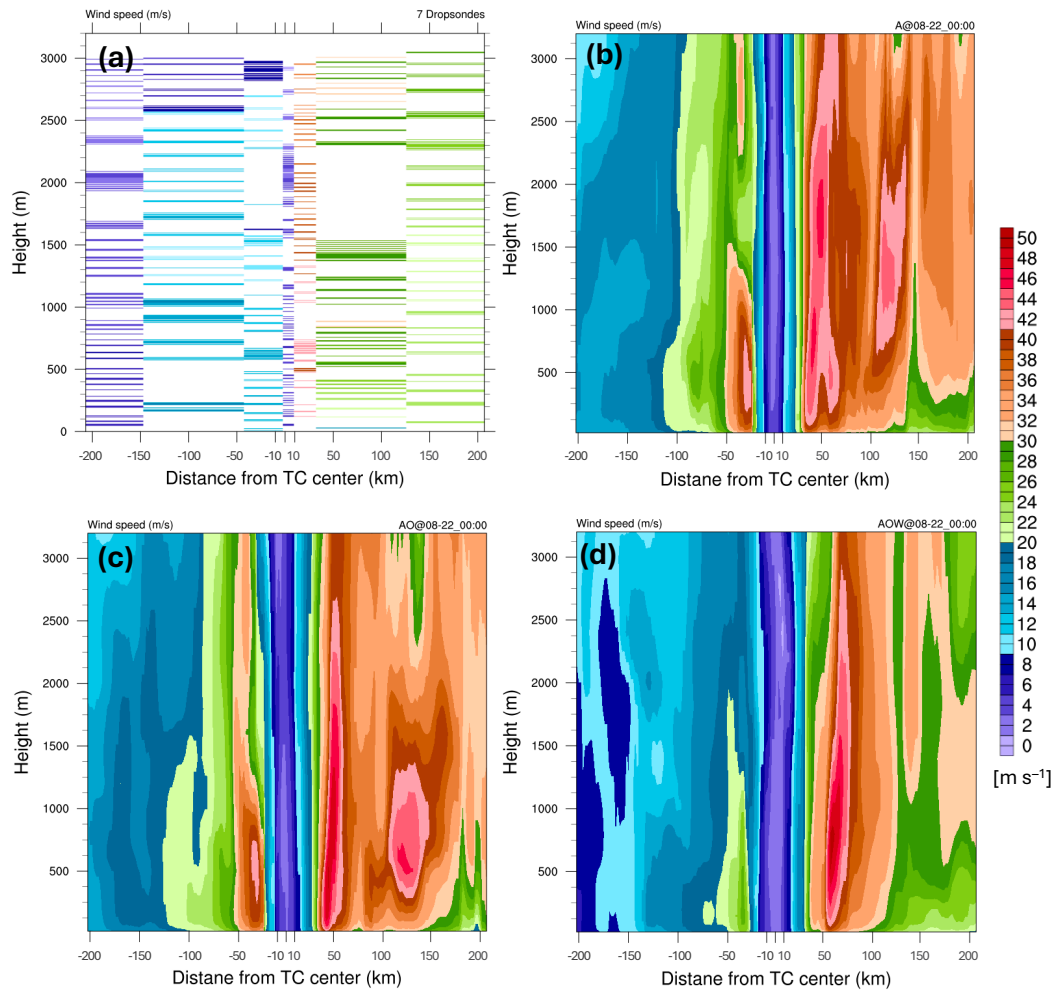


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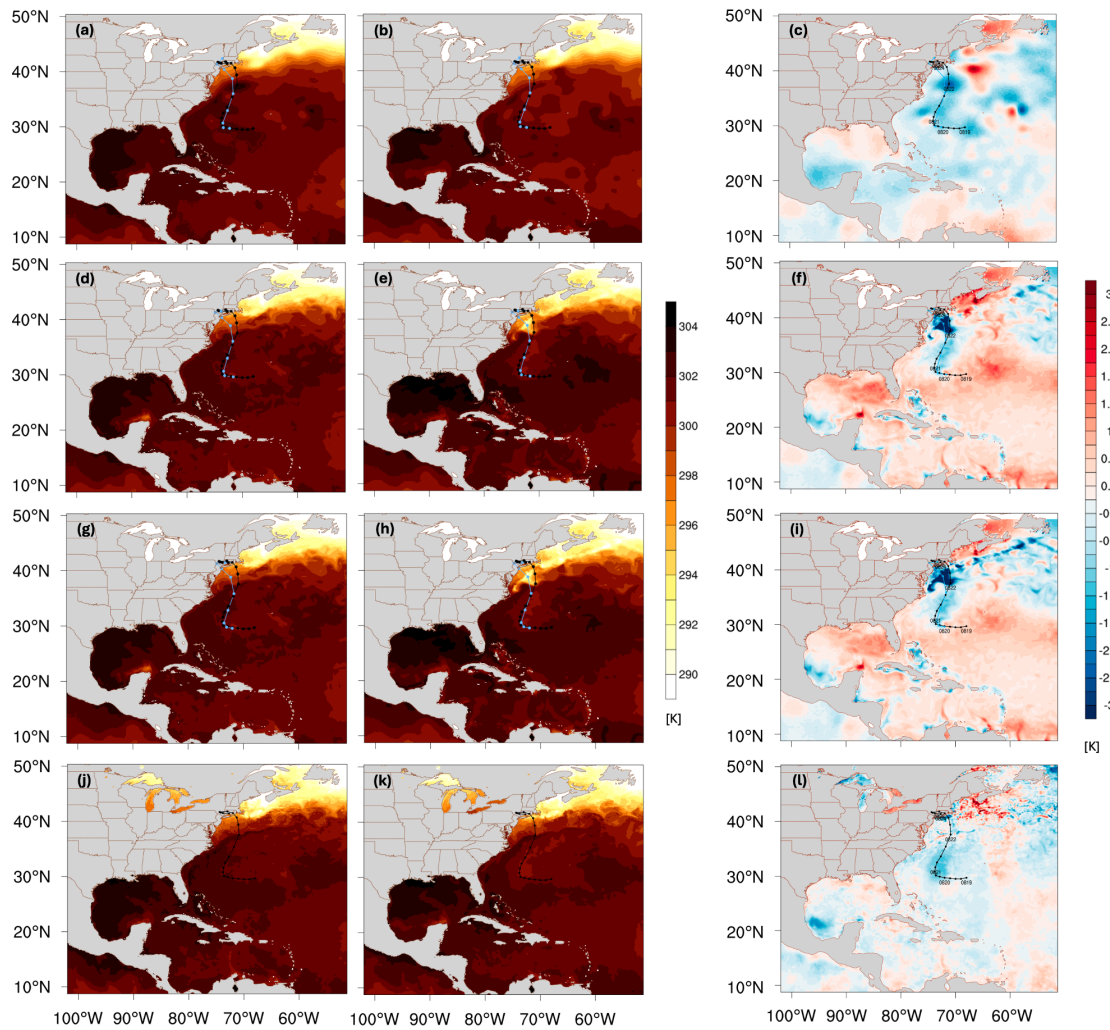
28 Figure S1. Radial profiles of wind speed from the airborne Doppler radar and the three model simulations  
 29 are shown in Figure 5 for (a) 00 UTC on 21 and (b) 22 August 2021. The profiles are presented at the 1-km  
 30 level along the line from A to B, as indicated in Figure 4.

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33 **Figure S2: Vertical cross-sections of (a) observed wind speed along the locations of the seven dropsondes,**  
 34 **shown as colored dots in Fig. 3(d). The times of the first and last dropsondes are 23:23 UTC on 21 August and**  
 35 **00:11 UTC on 22 August, respectively. Corresponding cross-sections from (b) experiment 'A', (c) experiment**  
 36 **'AO', and (d) experiment 'AOW' are shown.**



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38 **Figure S3. SST comparisons for various experiments: ‘A’ (SST updated by GFS at 6-hour intervals, first row),**  
 39 **‘AO’ (atmosphere-ocean model coupling, second row), ‘AOW’ (atmosphere-ocean-wave model coupling,**  
 40 **third row), and OSTIA SST observation (fourth row). The first column shows SST at 12 UTC on 20<sup>th</sup> August**  
 41 **(pre-storm), the second column displays SST at 12 UTC 23<sup>rd</sup> August (post-storm), the third column presents**  
 42 **change in SST between pre-storm and post-storm. The black dots and lines indicate the best track derived**  
 43 **from IBTrACS. The light blue dots and lines depict simulated storm locations and tracks.**

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