



Supplement of

Predicting forecast errors with diffusion model for uncertainty quantification in wind speed nowcasting

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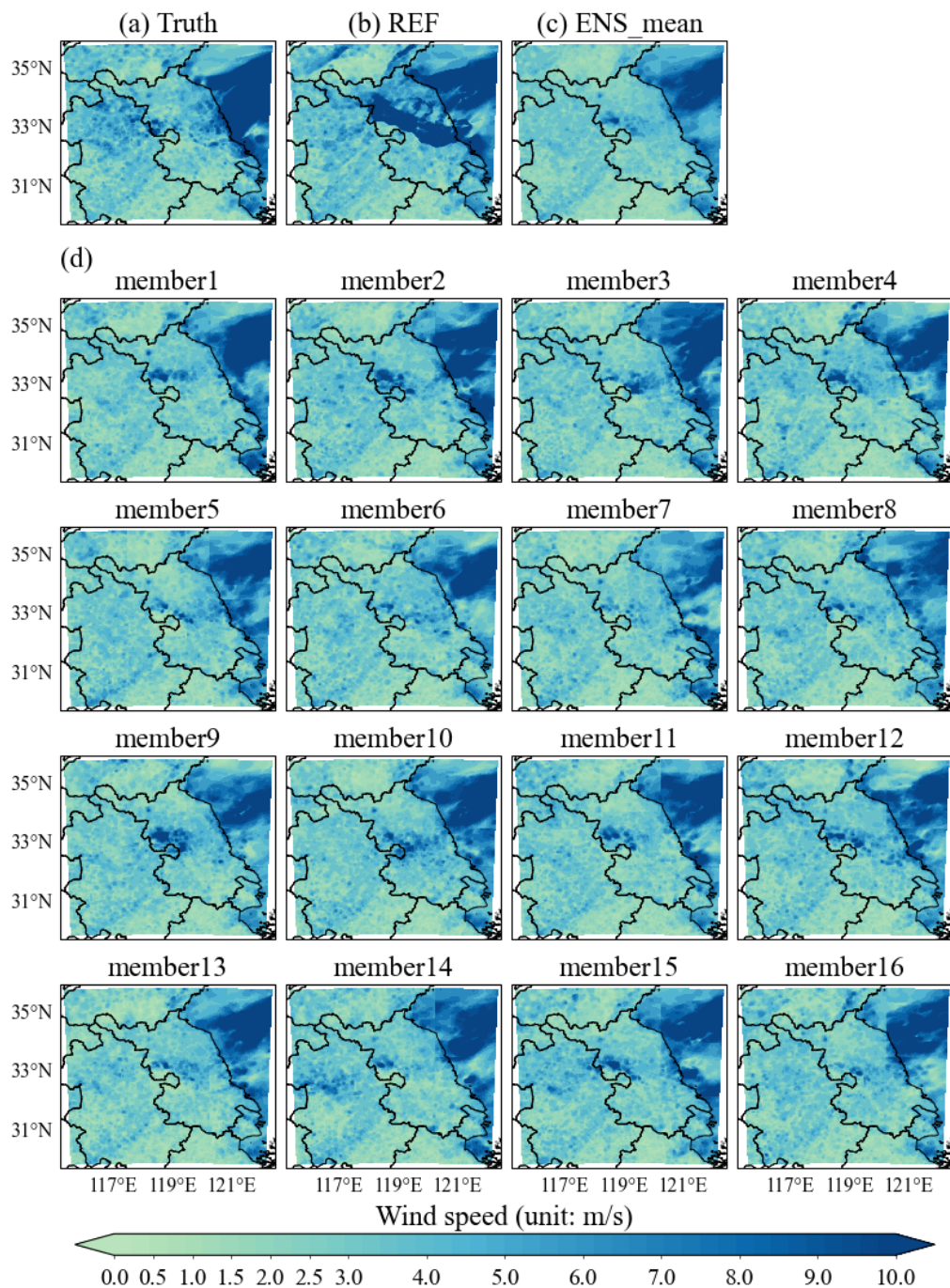


Fig. S1. Wind speed at 09:00 UTC on 10 June 2023 (Corresponding to the second column of Fig. 10). (a) ground truth, (b) 2-hour deterministic nowcast (REF), (c) 2-hour ensemble mean forecast from the DDPM with Cosine schedule (ENS_mean), and (d) maps of ensemble members.

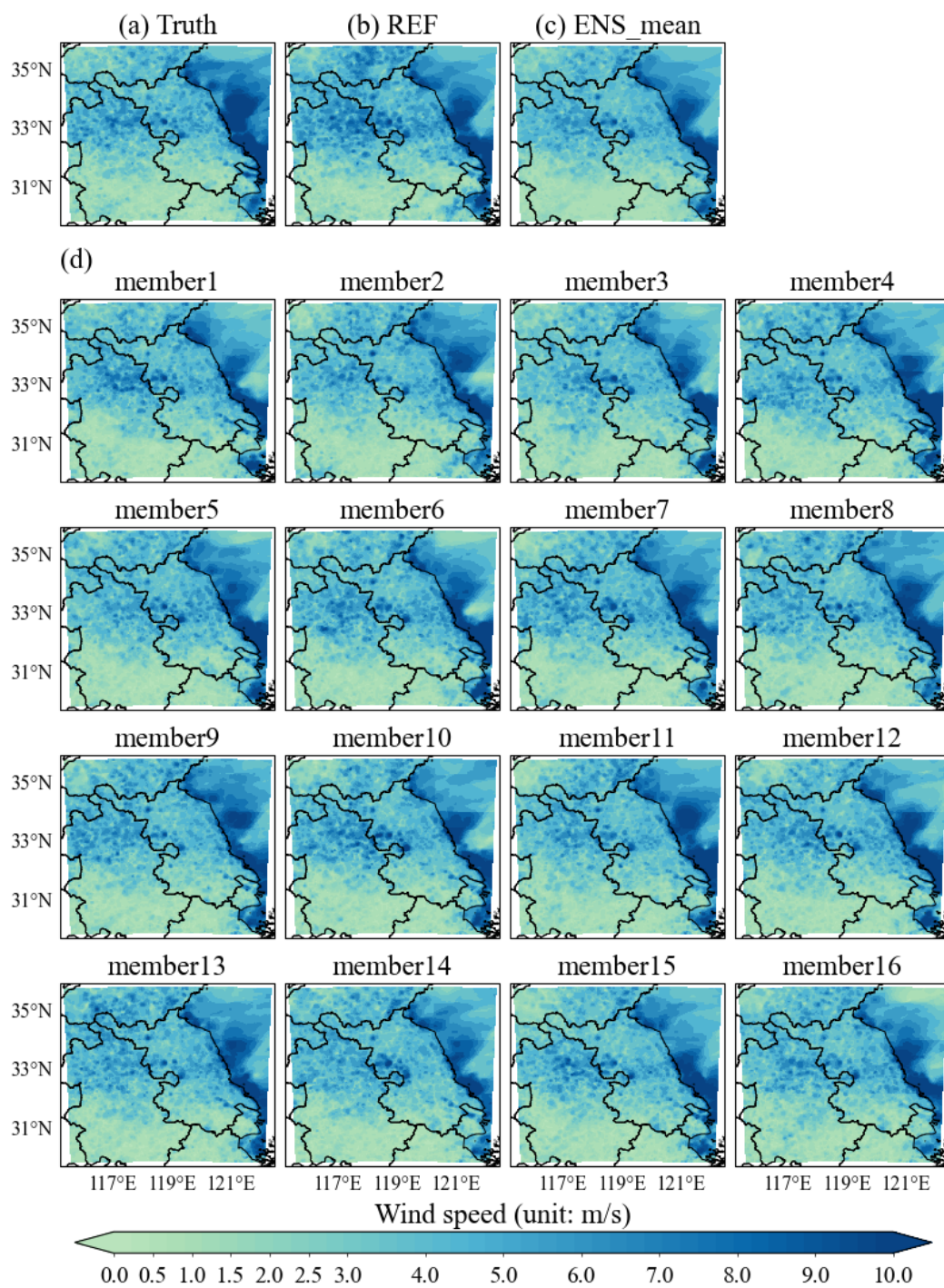


Fig. S2. The same as Fig. S1 but for 08:00 UTC on 24 June 2023.

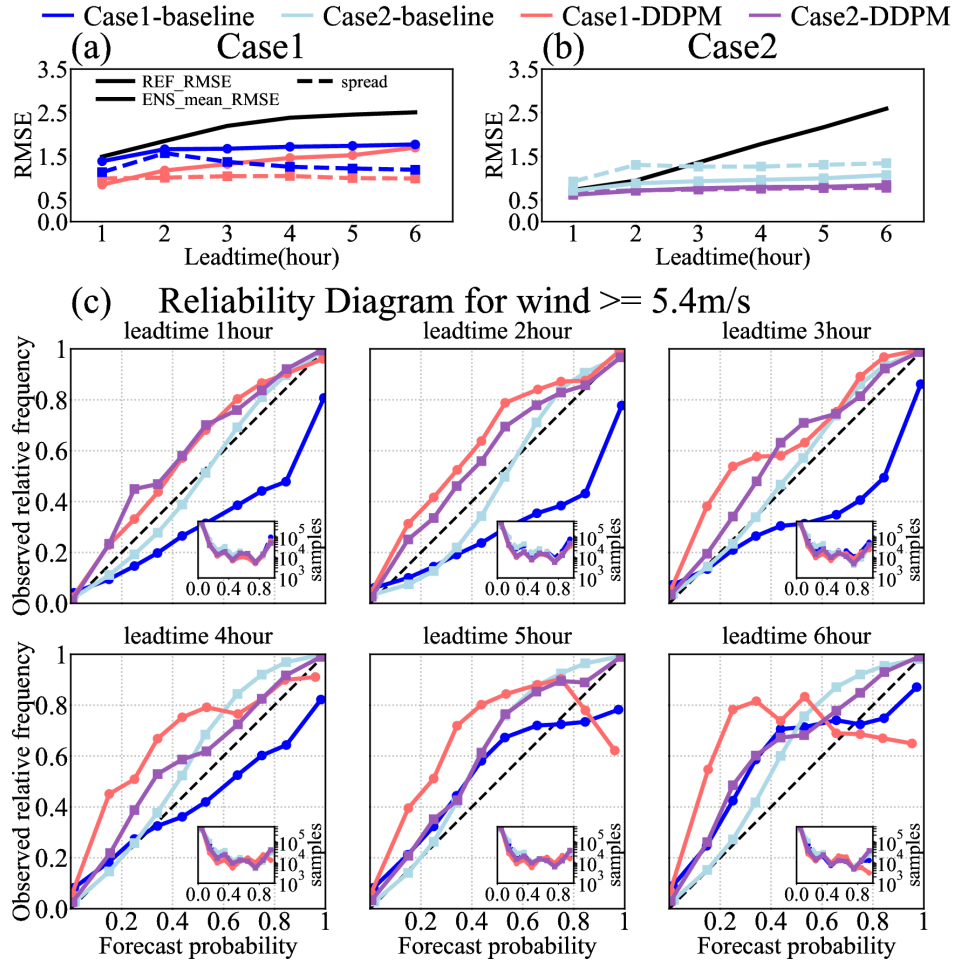


Fig. S3. RMSE and spread as a function of lead time for Case1 (a) and Case2 (b). Reliability diagram in different lead time with threshold 5.4 m s^{-1} (c). These results are based on forecasts with different lead times for 09:00 UTC on 10 June 2023 (in Case 1) and for 08:00 UTC on 24 June 2023 (in Case 2).