Figure S1: Direct comparison between cruise underway pCO_2 data (Obs) and model result (Model), the spatial distribution over twelve months.
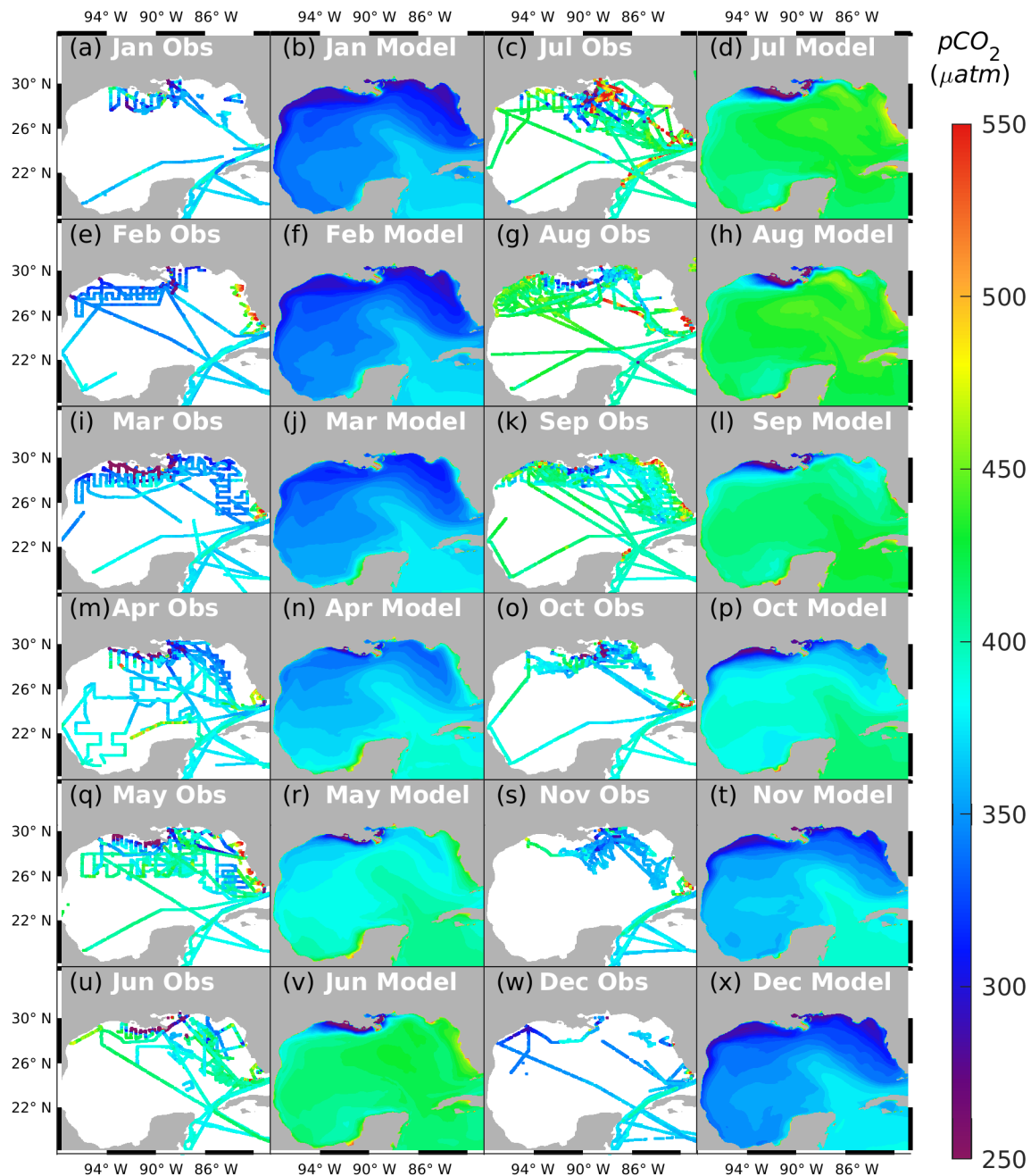
Figure S2: Direct comparison between cruise underway pCO_2 data (data downloaded from https://www.ncei.noaa.gov/access/oads/) and model-simulated spatial means (daily mean with 1 σ) over NGoM and Open GoM. Cruise data is monthly averaged, and its mean and one standard deviation are shown in the plot as black dots and grey bars, respectively.

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