

## Supplemental Materials

### **Title: Effects of Wind-Driven Lateral Upwelling on Estuarine Carbonate Chemistry**

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Figures S1-S5.

## Wind effects on estuarine acidification

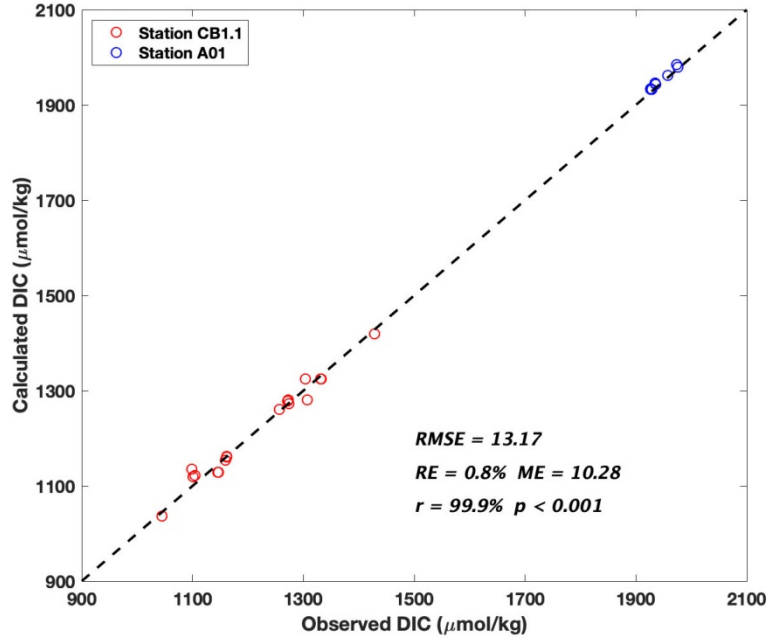


Figure S1. A comparison between the observed riverine DIC and the DIC calculated from TA, pH and CO2SYS. The direct DIC measurements were made during the field cruises in 2016.

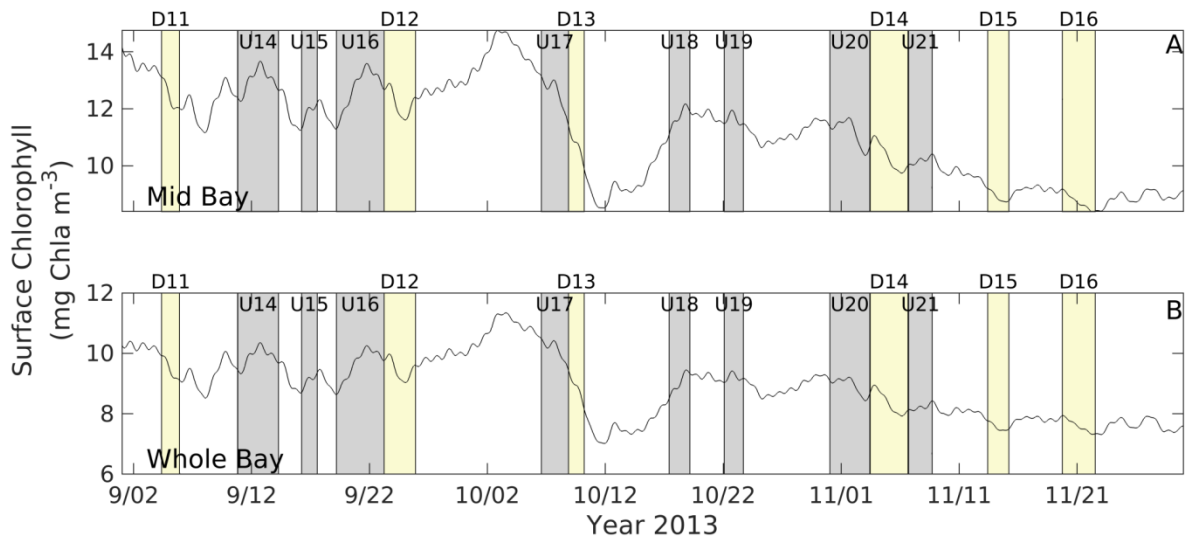


Figure S2. Changes in the surface Chlorophyll in the mid-Bay and entire estuary during wind events in fall of 2013.

## Wind effects on carbonate chemistry

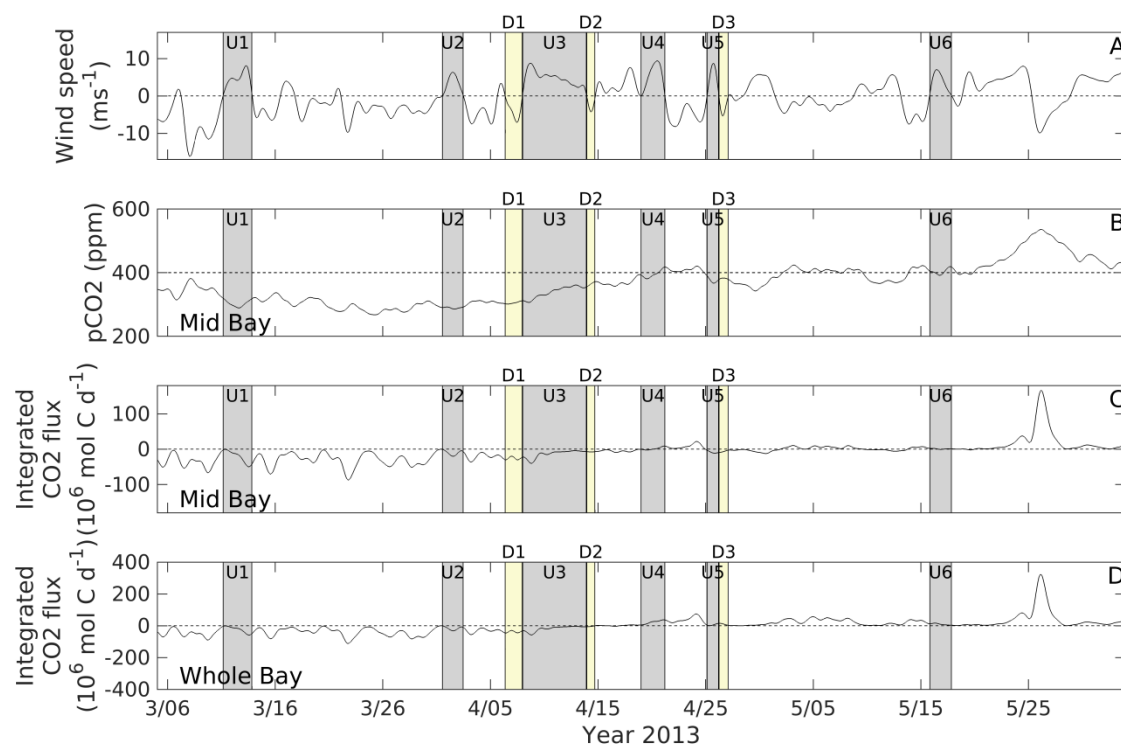


Figure S3. Time series of along-channel wind speed (A),  $p\text{CO}_2$  (B) and air-sea  $\text{CO}_2$  flux over mid-Bay (C) and over the entire Bay (D) during spring of 2013.

## Wind effects on estuarine acidification

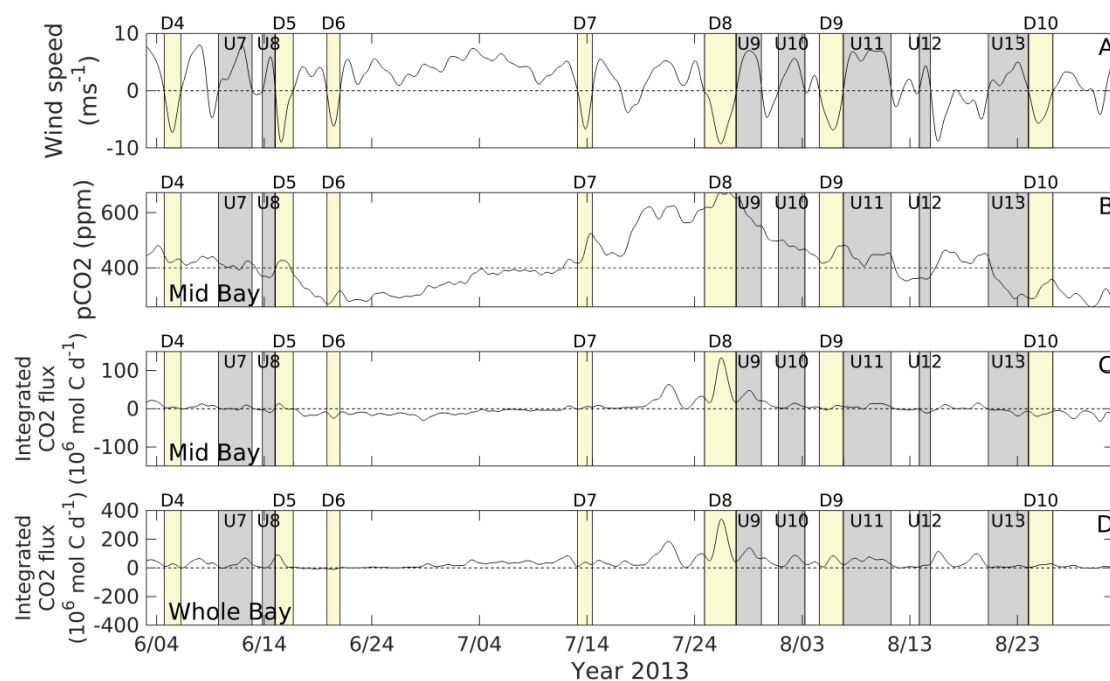


Figure S4. Time series of along-channel wind speed (A),  $p\text{CO}_2$  (B) and air-sea  $\text{CO}_2$  flux over mid-Bay (C) and over the entire Bay (D) during summer of 2013.

## Wind effects on carbonate chemistry

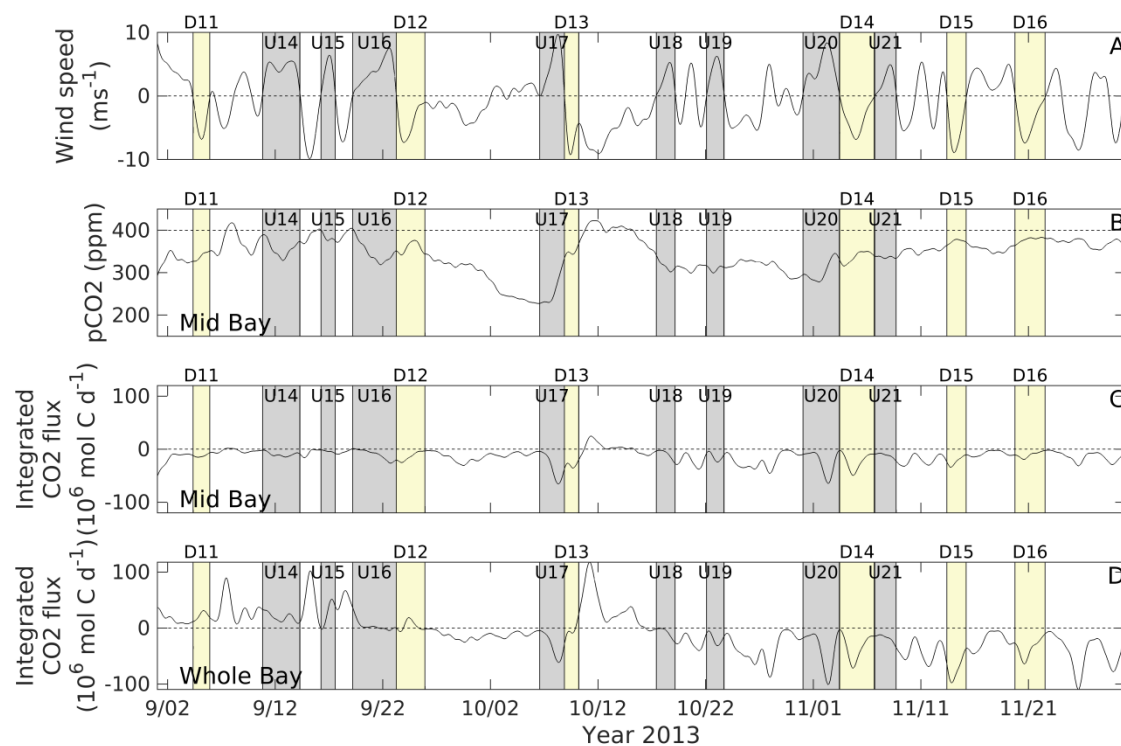


Figure S5. Time series of along-channel wind speed (A),  $p\text{CO}_2$  (B) and air-sea  $\text{CO}_2$  flux over mid-Bay (C) and over the entire Bay (D) during fall of 2013.