

Supplementary material

This section contains the supplementary figures for the paper: *A tidally driven estuary close to an amphidromy.*

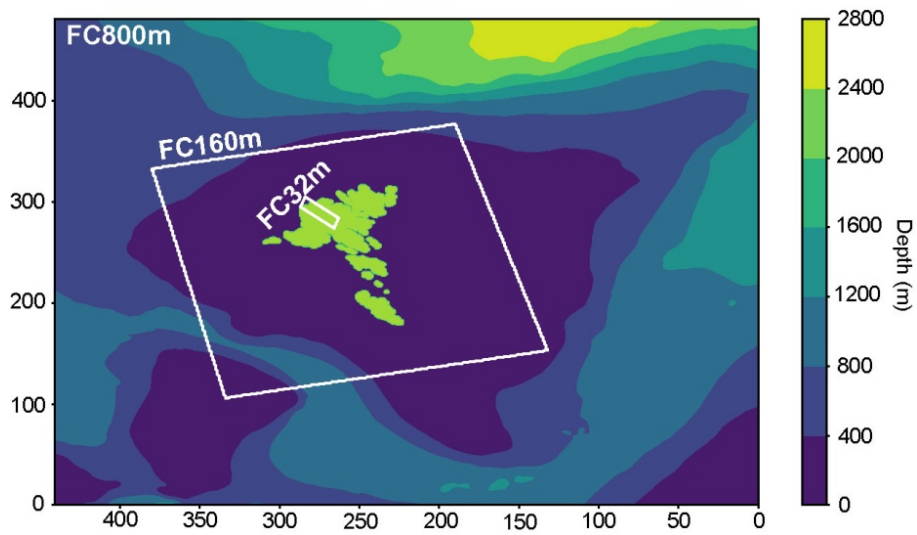


Figure S1. The model domain used in this study, FC32m, is nested within the FC160m model domain, which is nested within the FC800m model domain. The FC800m model domain is forced along its four open boundaries by the SVIM hindcast archive (4×4 km horizontal resolution, (Lien et al., 2013)).

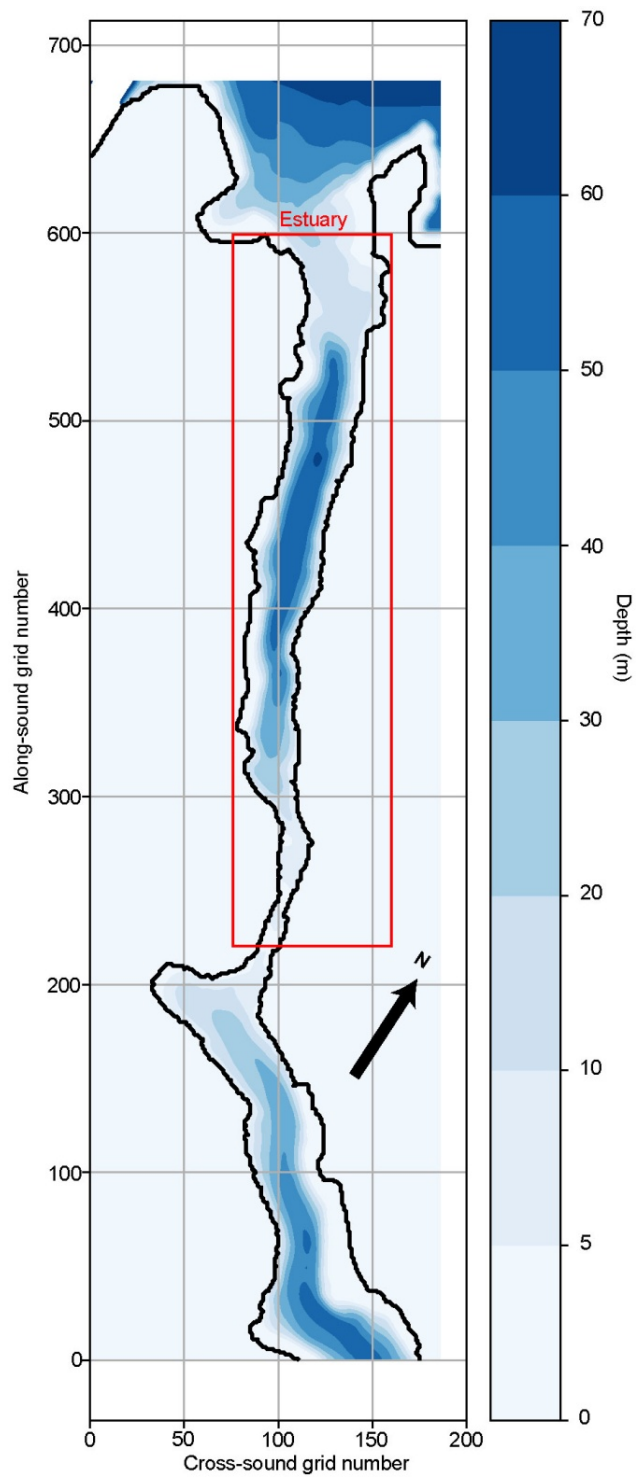


Figure S2. Model domain and bottom topography. The red rectangle labeled “Estuary” defines the part of the model domain that is discussed in this study.

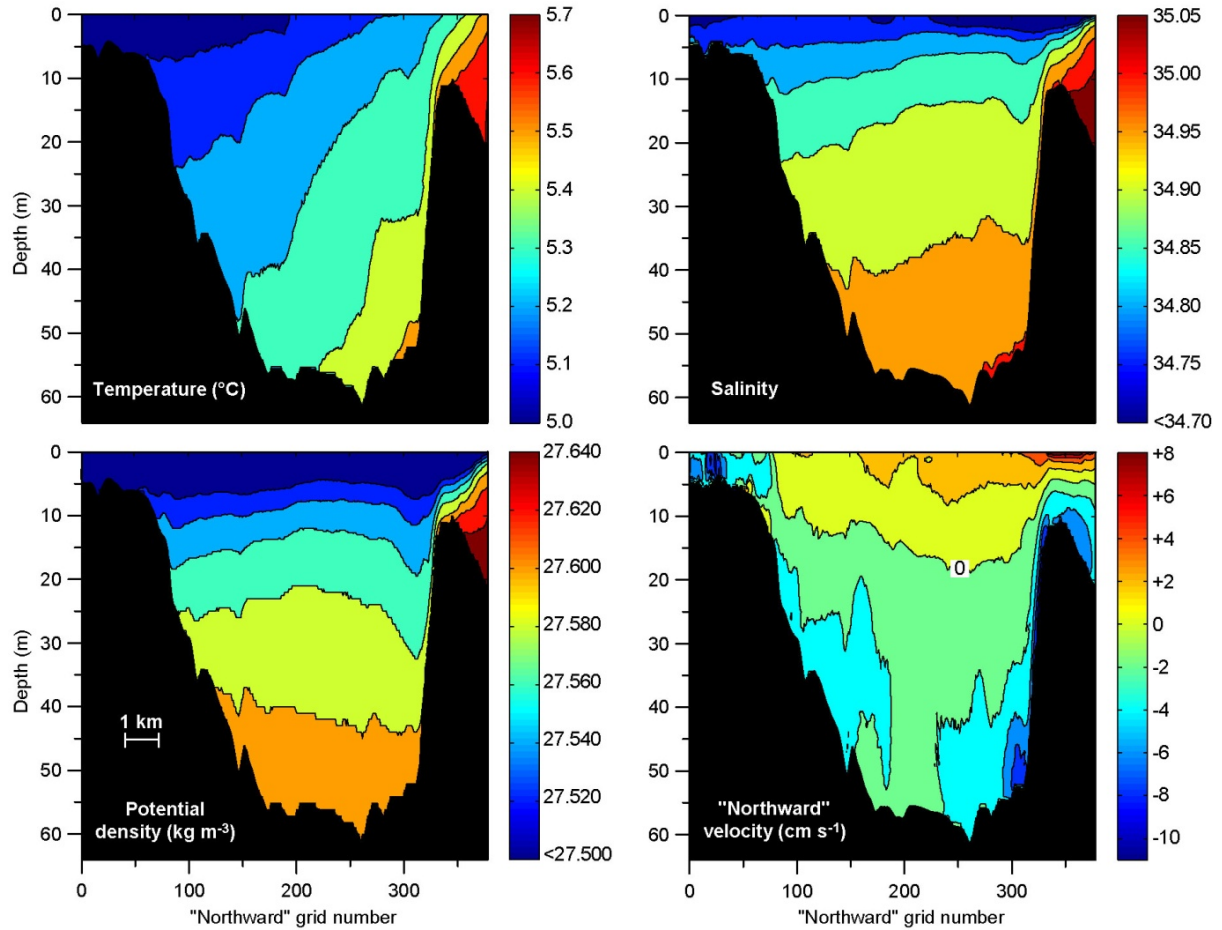


Figure S3. Cross-estuary averaged temperature, salinity, potential density, and northward velocity plotted against northward grid number averaged over the whole simulation period (except the first 25 hours). For salinity and potential density, the lowest values are grouped together. The bottom depth indicated by the black areas is the maximum depth along each section crossing the estuary.

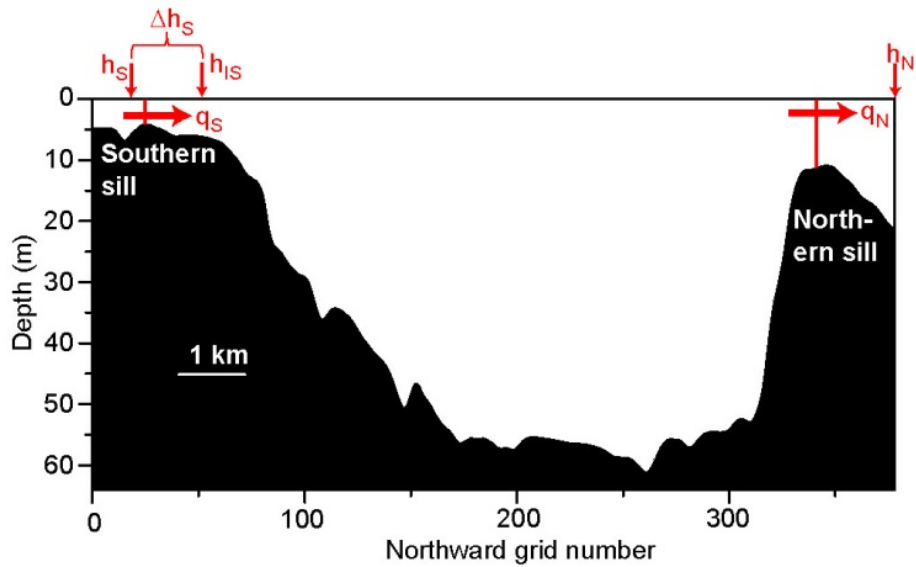


Figure S4. Locations for sampling the parameters discussed in Table 1 and elsewhere in the main manuscript.

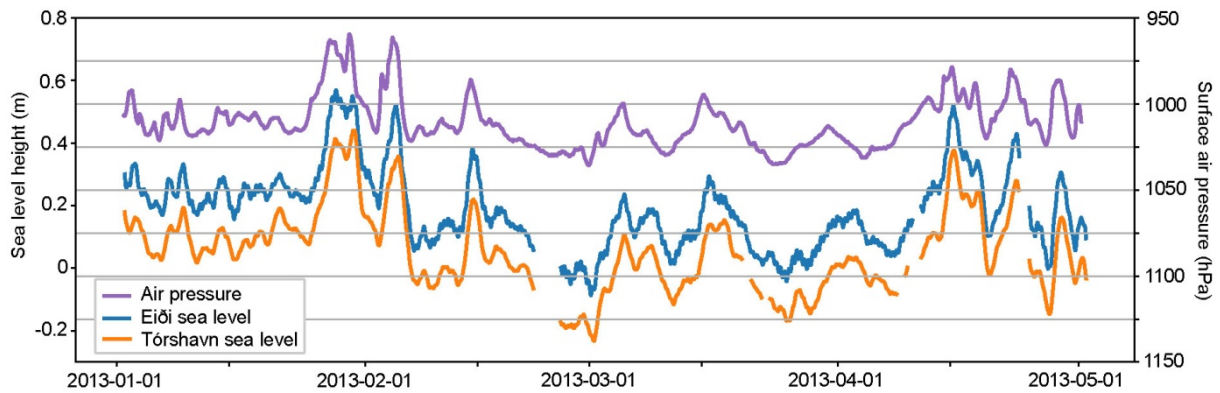


Figure S5. Variation of 25-hour averaged sea-level height from Landsverk data from the stations Tórshavn (orange line) and Eiði (blue line) plotted with the Tórshavn surface air pressure provided by the Danish Meteorological Institute (DMI) (purple line) with an inverted y-axis.

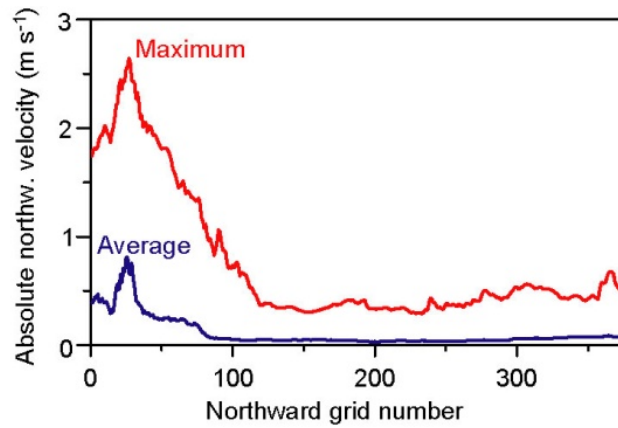


Figure S6. Average (blue) and maximum (red) absolute values for the northward barotropic velocity plotted against the northward grid number.

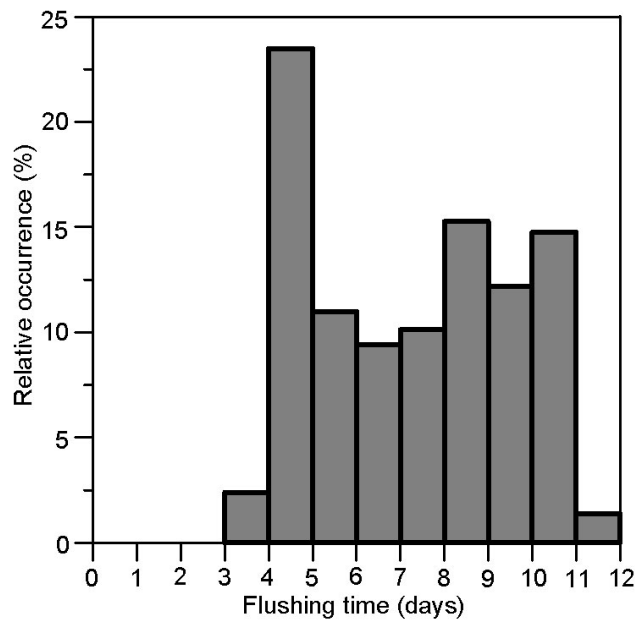


Figure S7. Relative occurrence of flushing times estimated as the number of hours with positive northward volume flux across the northern sill needed to flush out the total volume of the estuary. The histogram was generated by starting every hour of the simulation and from that point adding up the outflow for every hour with positive volume flux until the total outflow equaled the volume of the estuary.