

Figure S1. Non-metric multidimensional scaling ordinations for zooplankton taxonomic composition at Stations B and E during 2018-2019. The 2018-2019 data were fitted using three dimensions, and the first two axes are presented in Fig. 6b. Each point marks a sampling event. Vector direction represents the axis of maximal change for the environmental variable, and vector length indicates correlation strength with the environmental variable. Color of point indicates days since local sea-ice breakup.

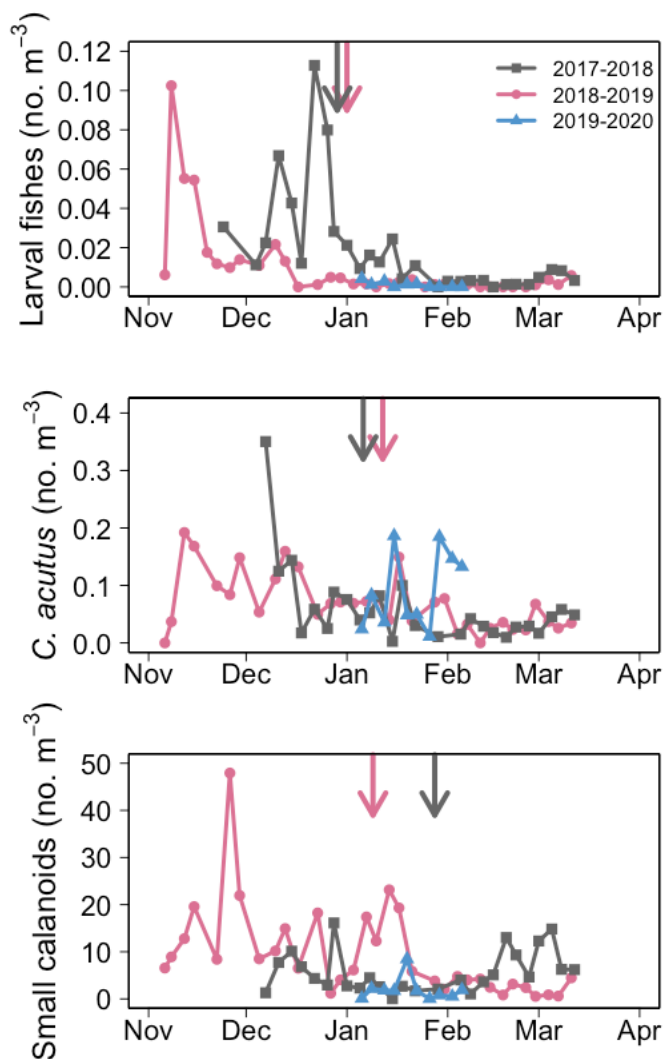


Figure S2. Time series of larval fishes, *Calanoides acutus*, and small calanoid copepods at Station B. Different colors and symbols indicate different field seasons. Abundance quantified from 700- μm net tows for fishes ($n = 1$, or typically daily mean of $n = 2$) and from 200- μm net tows for *C. acutus* and small calanoid copepods ($n = 1$ sample per day). Vertical arrows indicate the corresponding central abundance date for the 2017-2018 and 2018-2019 field seasons. Note different y-axis scales.

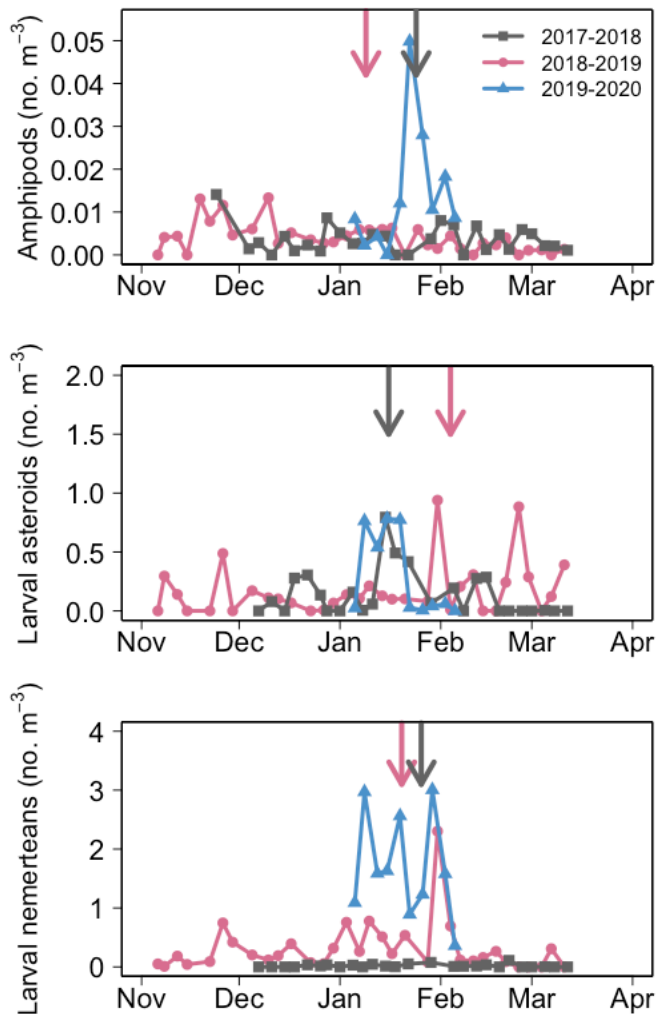


Figure S3. Time series of amphipods, larval asteroids, and larval nemerteans at Station B. Different colors and symbols indicate different field seasons. Abundance quantified from 700- μm net tows for amphipods ($n = 1$, or typically daily mean of $n = 2$) and from 200- μm net tows for larval asteroids and nemerteans ($n = 1$ sample per day). Vertical arrows indicate the corresponding central abundance date for the 2017-2018 and 2018-2019 field seasons. Note different y-axis scales.

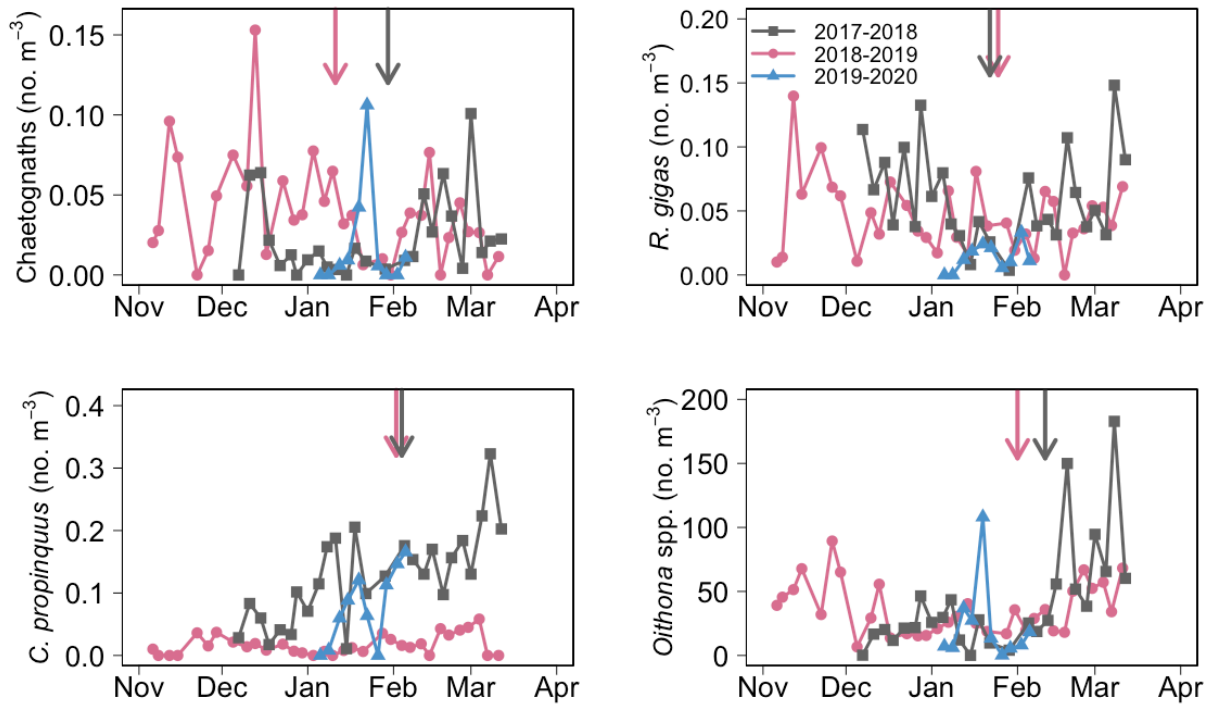


Figure S4. Time series of chaetognaths, *Rhincalanus gigas*, *Calanus propinquus*, and *Oithona* spp. copepods at Station B. Different colors and symbols indicate different field seasons. Abundance quantified from 200- μ m net tows ($n = 1$ sample per day). Vertical arrows indicate the corresponding central abundance date for the 2017-2018 and 2018-2019 field seasons. Note different y-axis scales.

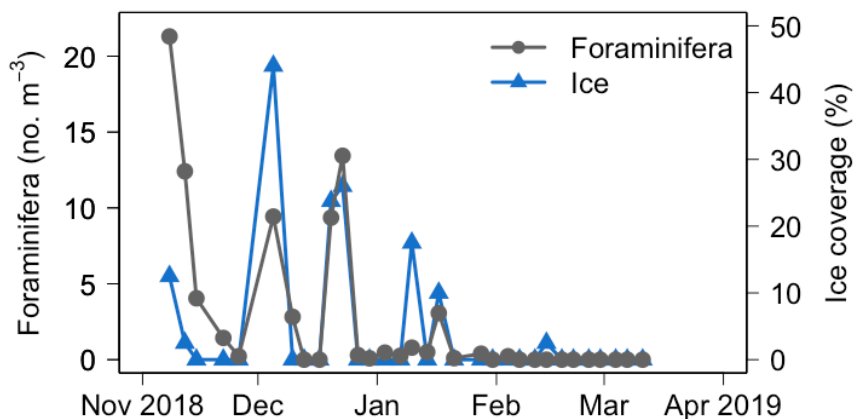


Figure S5. Time series of foraminifera abundance and daily mean ice coverage at Station E during the 2018-2019 field season. Foraminifera abundance quantified from 200- μm net tows ($n = 1$ sample per day). Ice coverage is from visual observations during net tows.