

Decreased Zooplankton in Narragansett Bay, RI (USA)

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The historically dominant copepod *Acartia* spp. was less abundant during the sampling period when compared to previous years. Weekly zooplankton samples were collected between February 19, 2018 and March 18, 2019 at Station 2 in Narragansett Bay in concurrence with the Long-Term Plankton Time Series. The sampling scheme involved 5-meter vertical tows using a 64-micron mesh net attached to a 30-centimeter diameter ring. Total zooplankton abundance and species composition were determined for the entire sampling period, and dry-weight calculations were performed between May 28, 2018 and March 18, 2019. Total zooplankton numbers and copepods in the current year were greater than 50 percent less than in 2002 to 2004. The maximum *Acartia* adult and copepodite abundance was 57,918/m³ on April 30, 2018 compared to 30,957.22/m³ on May 1, 2002, 26,185.63/m³ on April 4, 2003 and 62,118.13/m³ on June 4, 2004. Average summer zooplankton biomass was 113.9845g/m³ in 2018.

A relationship between barnacle larvae and the winter-spring bloom can be discerned for both the earlier years and the current year. Overall numbers of barnacle larvae had not changed during the sample years. A correspondence analysis will be done to determine the relationship between the seasonal evolution of zooplankton and environmental drivers.