

Examining Zooplankton Population Variance in Response to Heat Waves in The Southern Salish Sea

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Climate change is causing more frequent and intense heat waves in the Pacific Northwest and globally. The sudden increase in temperature can affect marine animal populations. Here, we are monitoring how the population of zooplankton are being affected, specifically amphipods, ostracods, and cumaceans. Zooplankton are extremely important for the entire marine ecosystem. They provide energy through consuming primary production and serve as prey for a lot of marine life such as fish, birds, and mammals. Zooplankton are a crucial part of the food chain in oceans and even freshwater ecosystems. Previous research has shown that some cold water zooplankton communities change very quickly and persistently during heat waves. Using data from the Pacific Northwest Crab Research Group (PCRG) light trap at Point Defiance and Highline MaST Center, we looked at trends of zooplankton during heat waves. A light trap is used to attract and capture small marine life such as zooplankton and crab larvae at night. Data is collected from the light trap four days a week. Our findings indicate that there are higher population numbers of zooplankton during heat waves. More testing needs to be done as there were a lot of data gaps for specific species of Zooplankton such as Ostracod and Cumacean in 2021 MaST Center data. There were also some data points where the light on the trap did not turn on or some sample was lost. This research will help aid future research on the effects of global warming on our oceans primary consumers and if this will potentially trigger a bottom up trophic cascade.