Abstract:
The Salish Sea is bordered by port cities and is home to an abundance of species that rely on its waters for food and sanctuary. Environmental conditions should be monitored to help determine the anthropogenic effects on the ecosystems. Sediments from Puget Sound can be analyzed to assess changes in environmental, biological, and chemical properties within the bays of this region. During the summer of 2023, benthic sediment samples were provided by research partners from the Puget Sound Ecosystem Monitoring group from Elliott Bay. Total organic carbon (TOC) and particle size were analyzed to ascertain sediment characteristics and the energy at deposition of several sites within Elliott Bay. TOC was determined via mass differences calculated from sediment samples burnt using a loss-on-ignition technique and particle size was analyzed using an LS1310 Laser Diffraction – Particle Size Analyzer. Percent of carbon for wet sediment ranged from 1.4% to 3.8%, while percent carbon for dry sediment ranged from 1.9% to 9.8%. Particle size analysis resulted in three samples being classified as clayey silt, three as silty sand, one as sandy silt, and one as sand-silt-clay. Results do indicate a strong negative correlation between organic carbon and a larger median grain size, which is consistent with data from previous years. Particle size and total organic content of sediment within Elliott Bay will be important to continue studying to assess long-term trends and effects on this area of the Puget Sound Ecosystem.