UCONN

UNIVERSITY OF CONNECTICUT

Department of Marine Sciences
Presents a Seminar by

Matthew Charette

Woods Hole Oceanographic Institution

The Transpolar Drift as a Source of Riverine and Shelf-Derived Trace Elements to the Central Arctic Ocean

A major feature of the Arctic Ocean circulation is the Transpolar Drift (TPD), a surface current that carries ice and continental shelf-derived materials from Siberia across the North Pole to the North Atlantic Ocean. In 2015, an international team of oceanographers conducted a survey of trace elements in the Arctic Ocean, traversing the TPD. Near the North Pole, they observed much higher concentrations of trace elements in surface waters than in regions on either side of the current. These trace elements originated from land and their journey across the Arctic Ocean is made possible by chemical reactions with dissolved organic matter that originates mainly in Arctic rivers. This study reveals the importance of rivers and shelf processes combined with strong ocean currents in supplying trace elements to the central Arctic Ocean and onwards to the Atlantic. These trace element inputs are expected to increase as a result of permafrost thawing and increased river runoff in the Arctic, which is warming at a rate much faster than anywhere else on Earth. Since many of the trace elements are essential building blocks for ocean life, these processes could lead to significant changes in the marine ecosystems and fisheries of the Arctic Ocean.

Host: Rob Mason
Time & Date: 11:00 am, Friday, January 31, 2020
Place: Marine Sciences Building, Seminar Room 103

If you are an individual with a disability and need accommodations, please contact 860-405-9152, 860-405-9087, or marinesciencesseminars@uconn.edu.
For cancelations and additional seminar information, please see https://marinesciences.uconn.edu/seminar/seminar1203/.