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**Department of Marine Sciences
Presents a Seminar by**

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New Insights into the Ocean as a Source of Atmospheric N in the North Atlantic Region

The impact of increased reactive nitrogen (N) deposition to terrestrial and coastal systems is well documented, but the implications of N deposition from the atmosphere to the open ocean remain uncertain. Current estimates suggest that anthropogenic emissions contribute up to 80% of N deposition to the oceans (e.g. nitrate, ammonium, and water-soluble organic nitrogen (WSO_N)), and this contribution represents new N to the ocean, stimulating production and affecting carbon cycling. Further, these estimates suggest that N deposition may now rival oceanic N-fixation in magnitude. However, an important underlying assumption to the global input of N to the ocean is that the ocean is a passive receptor of N from the atmosphere, adding to the ocean's nutrient budget. On the island of Bermuda, rainwater and aerosols were collected over 18-months and sampled for composition (isotopic and molecular) of N deposition. Using our analytical results, air mass transport modeling, and chemical box modeling, we find that the input of anthropogenic N to the global oceans (assuming results at Bermuda are widely applicable) would be revised down from ~80% to 32%. In this case, a significant percentage of deposition is not a new input of N; rather, the ocean plays an important role in determining the N content of the marine atmosphere.

Host: Julie Granger

Time & Date: 11:00 am, Friday, February 23, 2018

Place: Marine Sciences Building, Seminar Room 103

For cancelations and additional seminar information, please see <https://marinesciences.uconn.edu/seminar/seminar1183/>, email marinesciencesseminars@uconn.edu, or call 860-405-9152 or 860-405-9151