

ABSTRACT

DISSERTATION: Isolation and Physiochemical Characterization of Dissolved Organic Matter
Across Limnic and Oceanic Systems

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PAGES: 73

The included studies compare and contrast dissolved organic matter (DOM) from different limnic and oceanic systems in the United States, as well as a sample from Pony Lake, Antarctica. Twenty-seven samples of DOM were isolated via coupled reverse osmosis/ electro dialysis from both the Altamaha and Satilla rivers in Southeastern Georgia, United States. These samples, as well as the Pony Lake samples were analyzed via high-resolution mass spectrometry and compared to international standards from the International Humic Substance Society. Two pre-published works are also included in this dissertation. The first creates an acid-base titration methodology utilizing an autotitrator. The second utilizes this methodology and applies it to newly collected DOM samples from the Suwannee River, Georgia, USA.