Photobiogeochemical Cycling of Dissolved Organic Matter in Coastal Waters

The cumbersome term “photobiogeochemistry” refers to the light absorbing and photochemically-reactive properties of dissolved organic matter (DOM)—e.g., UV-visible absorption and fluorescence. These properties can be measured to trace sources of the light-absorbing fractions of DOM we term “chromophoric” (CDOM), yet also underscore the fact that light absorption leads to numerous photochemical reactions that transform DOM. Mainly, this means organic matter oxidation (directly or via improved biological lability). In this talk, I will demonstrate the usage of such optical properties of DOM to study its photobiogeochemistry in a range of coastal waters, and investigate the implications for coastal C cycling.

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