**IST 512: Annotated Bibliography 7**

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Miller, C. B., & Wheeler, P. (2012). *Biological Oceanography*. Hoboken, NJ: John Wiley & Sons.

Biological Oceanography focuses on ocean ecology and many important topics involved including advanced topics relevant to ocean biology, phytoplankton ecology and zoology, pelagic food webs and fisheries ecology. It also provides important information on production, respiration and elemental cycles like the carbon and nitrogen cycles. The book also covers primary production by autotrophs and heterotrophic consumers.

The book also looks at research in oceanography like upwelling, effects of light, mesoscale disturbances, nutrient cycling and energy. Another important focus of this book is discussing in detail methods used by important research done in the field. For instance, it describes an experiment to isolate the effects of grazers on primary producers by filtering seawater and setting up experiments under these conditions. By walking through research and its outcomes it helps to bridge the gap between more complex peer reviewed research and a more friendly to read undergraduate textbook. Some other important points that are in this book include information about genomic analysis, taxonomic classification and computer modeling.

I have already been using this textbook extensively and plan to continue to do so in my research. It has helped to clarify confusing concepts both in class, in reading research and in planning out my own thesis. Some potential areas of my research I may use this for would be looking to bridge the gap between identifying bacteria and phytoplankton visually and also through genomic methods by utilizing machine learning.