

## Woods Hole Sea Grant: Chemistry

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The Cycling of Labile Organic Compounds: Sterols in the North Atlantic Ocean

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Sterols, a class of biochemicals, are among the most important hormone regulators of growth, respiration, and reproduction in organisms. Cholesterol and related steroid alcohols are not only the immediate biosynthetic precursors for all steroidal hormones, but they also have hormonal activity themselves. These steroidal alcohols, the sterols, are of special interest from a geochemical point of view. Their chemical stability and structural diversity, along with their inherent optical activity, allow them to be used as indicators of biological activity in the oceans. This paper documents the results of three oceanographic cruises concerned with the sterol concentrations and individual sterol distributions in the North Atlantic Ocean. From the vertical profiles of these compounds, along with particulate organic carbon (POC), hydrographic and total particulate matter data, an attempt to understand sterol distributions in the ocean and the transport mechanisms governing their movement into the deep sea was undertaken.

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