

## **GEOTRACES: Inspired by GEOSECS to investigate trace elements and their isotopes in the ocean**

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The Geochemical Ocean Section Study (GEOSECS), conducted in the 70s, developed comprehensive sampling and analytical methods to produce the first systematic global survey of ocean chemistry. Fundamental new insights about ocean circulation and carbon biogeochemistry emerged from GEOSECS, including many papers by Wally Broecker. Broecker's textbook, *Tracers in the Sea*, featuring a synthesis of GEOSECS results educated a generation of oceanographers.

Two decades later, inspired by the vision that produced the GEOSECS program, a group of marine geochemists from this later generation initiated the GEOTRACES program to investigate the marine biogeochemical cycles of trace elements and their isotopes, as well as the processes that regulate their distribution in the ocean. GEOTRACES has greatly expanded on the pioneering work initiated during GEOSECS, providing an unprecedented coverage of the global distributions of many elements and isotopes, and informing us about a wide range of oceanic processes bridging chemical, biological and physical disciplines. Examples from the synthesis of this emerging trove of information, which will shape our understanding of ocean biogeochemistry in the coming decades, will be presented as a fitting tribute to Broecker's legacy.

The authors of this abstract, listed in alphabetical order, constitute the group that led the initial planning effort that ultimately evolved into GEOTRACES <[www.geotraces.org](http://www.geotraces.org)>.