**GO-SHIP: An integrated physical, biogeochemical and biological ocean observing platform**

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**Text :**

Heat, water and carbon are the fundamental elements of the climate system and the ocean is the dominant reservoir for both. To understand the oceanic branch of the system, we must observe on a global basis the storage and transport of heat, freshwater, and carbon in the ocean, and their exchange across the air-sea interface.  In addition, the exchange of momentum across this interface drives much of the ocean’s circulation and must also be observed.

GO-SHIP provides approximately decadal resolution of the changes in inventories of heat, freshwater, carbon, oxygen, nutrients and transient tracers, covering the ocean basins from coast to coast and full depth (top to bottom), with global measurements of the highest required accuracy to detect these changes. The GO-SHIP principal scientific objectives are: (1) understanding and documenting the large-scale ocean water property distributions, their changes, and drivers of those changes, and (2) addressing questions of how a future ocean that will increase in dissolved inorganic carbon, become more acidic and more stratified, and experience changes in circulation and ventilation processes due to global warming and altered water cycle. This talk will provide an overview of the present GO-SHIP network of sustained hydrographic sections and future directions of the program.