

# Arabian Sea Expedition

**Understanding the Biogeochemical System: Ecosystem Dynamics.** From estimates of stocks and fluxes we can construct models of plankton ecosystems. Trying to reconcile the various rate processes provides one test of our measurement capability as well as our conceptual understanding of the ecosystem.



*U.S. JGOFS Arabian Sea Process Cruise #5. Summer monsoon, 1995. Recovering double MOCNESS in 15-20 foot seas & 25-30 knot winds.*



*Otis Brown, Former Chairman of U.S. JGOFS*

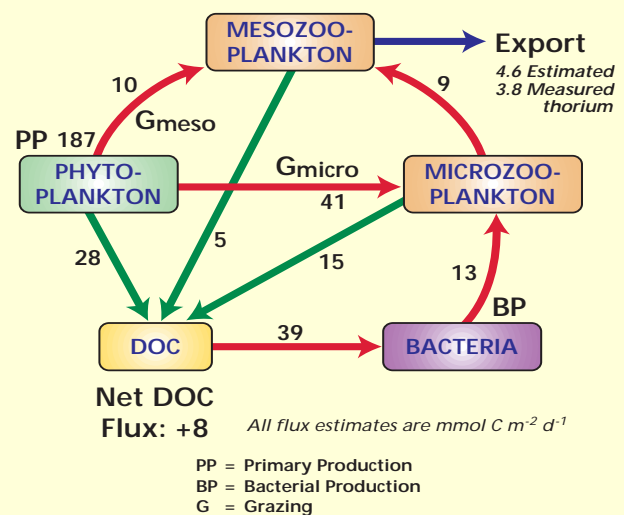


*Sharon Smith, coordinator of U.S. JGOFS Arabian Sea Expedition*

*The two cartoons show plankton foodweb structure at an offshore station in the Northwest Arabian Sea during the Northeast and Southwest monsoons (January and July, 1995). Although the primary productivity was comparable in the two periods, changes in foodweb structure resulted in a dramatic difference in the amount of particle export and the dynamics of the DOC pool. Total consumption by larger mesozooplankton was 67 mmol C m<sup>-2</sup> d<sup>-1</sup> in July, but just 19 in January. Bacteria were depleting the DOC pool in July but their activity was not sufficient to control DOC accumulation in January. These ecosystem flux maps illustrate the important influence of biological community structure on biogeochemical fluxes. Predictive understanding of carbon flux requires insight into biological processes.*

## Arabian Sea Carbon Fluxes

Station: S4  
Season: NW Monsoon TN43/P1



## Arabian Sea Carbon Fluxes

Station: S4  
Season: SW Monsoon P4/P5

