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B.S., Ocean University of Qingdao (Marine Biology); M.Sc., Ocean University of Qingdao (Marine Science); M.Sc., University of Georgia (Computer Science); Ph.D., University of Georgia (Marine Science).

Assistant Scientist, 2005.8-present; Woods Hole Oceanographic Institution. Postdoctoral scholar, 2004–2005; Woods Hole Oceanographic Institution. Research Associate, 2004; University of Massachusetts Dartmouth. Research Assistant, 1999-2003; University of Georgia. Research Associate Scientist, 1994–1998; First Institute of Oceanography, China.

Publications Pertinent to this Proposal

Ji, R., C. Davis, C. Chen, and R. Beardsley, 2008. Life history traits and spatio-temporal distribution of copepods in the Gulf of Maine-Georges Bank region. *Marine Ecology Progress Series*, submitted.

Ji, R. C. Davis, C. Chen, D. Townsend, D. Mountain, R. Beardsley, 2008. Modeling the influence of low-salinity water inflow on winter-spring phytoplankton dynamics in the Nova Scotian Shelf – Gulf of Maine region. *Journal of Plankton Research*, 30(12): 1399-1416.

Ji, R., C. Davis, C. Chen, and R. Beardsley, 2008. Influence of local and external processes on the annual nitrogen cycle and primary productivity on Georges Bank: A 3-D biological-physical modeling study. *Journal of Marine Systems*, 73:31-47.

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Chen, C., L. Wang, **R. Ji**, J. Budd, D. Schwab, D. Beletsky, G. Fahnenstiel, H. Vanderploeg, B. Eadie, J. Cotner, 2003. Impacts of the Suspended Sediment on the Ecosystem in Lake Michigan: A Comparison between the 1998 and 1999 Plume Events. *Journal of Geophysical Research*, **109**, C10S05, doi:10.1029/2002JC001687, 2004.

Chen,C., **R. Ji**, L. Zheng, M. Zhu and M. Rawson, 1999. Influences of physical processes on the ecosystem in Jiaozhou Bay: A coupled physical and biological model experiment. *Journal of Geophysical Research* **104** (C12): 29925-29949

Hu, S., D. Townsend, C. Chen, G. Cowles, R. Beardsley, **R. Ji**, R. Houghton, 2008. Tidal pumping and nutrient fluxes on Georges Bank: A process-oriented modeling study. *Journal of Marine Systems*, in press.

Synergistic Activities: Ji's research has focused on understanding biological-physical interactions in coastal oceans using numerical modeling approaches, including advection-diffusion-reaction models and individual-based zooplankton and larval fish population dynamics models. Ji has been involved in the development and testing of coupled biological/physical models (FVCOM + food web model) for GLOBEC/Georges Bank project to examine the impact of physical process (e.g. mixing, stratification, front formation, advection) on production and succession of plankton and structure of the food web. An important component of this effort is to examine how the large scale forcings, such as climate change and ocean oscillations, interact with the local forcings, and influence the biological productivity and plankton population dynamics in the coastal ocean. Ji has also been involved in coupling a lower trophic level food web model with Princeton Ocean Model in Lake Michigan for NOAA and NSF funded EEGLE (Episodic Events–Great Lakes Experiment) project. Ji is currently a fellow of NOAA CICOR (Cooperative Institute for Climate and Ocean Research) and an ICES working group member on Modeling Biological-Physical Interactions.

Associates and Collaborators in the Last Five Years: C. Chen (UMass-Dartmouth), R. Beardsley (WHOI), C. Davis (WHOI), C. Ashjian (WHOI), D. Townsend (UMaine), E. Durbin (URI), R. Lough (NMFS), R. Houghton (Columbia U.), B. Campbell (URI), J. Runge (UMaine), G. Cowles (UMass-Dartmouth)

Graduate Advisors: C. Chen (UMass-Dartmouth), B. Binder (UGA)

Post-doctoral Advisors: C. Davis (WHOI), R. Beardsley (WHOI)