9. Abstract in 300 words for possible publication on MoES Newsletter/Website).

Discovery of a Summer Monsoon Salt Pump in the Bay of Bengal during CTCZ field experiment

The Bay of Bengal receives a large influx of freshwater from precipitation and river discharge. Outflow of excess freshwater and inflow of saltier water is required to prevent the bay from freshening. Relatively fresh water flows out of the bay along its boundaries and inflow of saltier water occurs via the Summer Monsoon Current (SMC), which flows eastward from the Arabian Sea into the bay. This saltier water, however, slides under the lighter surface water of the bay. Maintaining the salt balance of the bay therefore demands upward mixing of this saltier, subsurface water. We have shown, using CTD observations measured during the CTCZ cruise on board ORV Sagar Nidhi during July - August, 2009, that an efficient mechanism for this mixing is provided by upward pumping of saltier water in several bursts during the summer monsoon along the meandering path of the SMC. Advection by currents can then take this saltier water into the rest of the basin, allowing the bay to stay salty despite a large net freshwater input. (For details see: *A summer monsoon pump to keep the Bay of Bengal salty* by P. N. Vinayachandran, D. Shankar, Siddharth Vernekar, K. K. Sandeep, P. Amol, C. P. Neema, and A. Chatterjee, Geophysical Research Letters (in press))