Geofizički odsjek,
Prirodoslovno-matematički fakultet,
Sveučilište u Zagrebu,
Horvatovac 95, 10000 Zagreb
Tel. (+385 1) 46 05 900, fax: (+385 1) 46 80 331

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OBAVIJEST

Dana **03.10.2016.** u **11:00 sati** održat će se na Geofizičkom odsjeku PMF-a sljedeće izlaganje:

Dr. Jeffrey Book

(Oceanography Division, US Naval Research Laboratory, USA):

Coastal Current Dynamics and Internal Tide Wave Packet Propagation on the Northwest Shelf of Australia

ABSTRACT: The ocean offshore of Northwestern Australia is an important area for global circulation as it contains the pathway for the Indonesian Throughflow connecting waters of the Pacific to the Indian Ocean and also the formation point for the Leeuwin Current, the only major Eastern Boundary Current that flows poleward. This area is also characterized by some of the strongest internal tide oscillations in the world's oceans. The relative remoteness of this region of Australia has hampered comprehensive study, but a series of collaborations between U.S. and Australian funded projects resulted in the deployment of moorings at 23 different sites on the shelf between November 2011 and August 2012 to capture both internal tide variability and connectivity of shelf currents with the Leeuwin Current. Observations from ADCP current meters over this austral summer showed a weak mean southwestward along-shore flow, but this mean was derived from generally stronger flows that reached 25 cm/s or more in either along-shore direction, reversing at weekly or longer periods. An EOF analysis of the currents, local winds, and bottom pressure values showed that southwestward wind anomalies and high bottom pressure anomalies toward the coast are associated with strengthening of the coastal current. The EOF analysis also showed that average northeastward winds as weak as 4 m/s reversed the coastal current at most stations along the shelf. Thus, e.g., the variable wind regime associated with tropical cyclones both greatly strengthened and then reversed the shelf coastal current. To better understand internal wave packet observations, an extended EOF technique was implemented that allowed the correlated variability, structure, and phasing of semidiurnal internal tide packets to be evaluated at multiple mooring sites. This technique preserved the non-linear character of the internal wave packets without requiring a large number of EOF modes. In many locations, only 3 extended EOF modes explained 70% or more of the wave packet variance. The dominant internal wave packet EOF mode at these sites was related to changes brought on by fluctuations in the coastal current circulation through the cross-shore pycnocline tilt. Overall this study shows that the Northwest Shelf wind dominantly controls the coastal current variability which in turn directly impacts internal tide propagation on the shelf.

Pozivaju se studenti, apsolventi i svi zainteresirani da prisustvuju predavanju, koje će se održati u predavaoni br. 2 Geofizičkog odsjeka PMF-a, Horvatovac 95, Zagreb.