

Update on POGO capacity building

Visiting Professorship in Sri Lanka

The following article was provided by Iossif Lozovatsky (University of Notre Dame, USA).

The 2012 visiting professorship was successfully completed in April 2012. Prof. Iossif Lozovatsky visited Dr. Kanapathipillai Arulanathan (National Aquatic Resources Research and Development Agency [NARA], Sri Lanka), to conduct a training course on "Coastal Dynamics: Observation and analysis of currents, internal waves and turbulence on shelves".

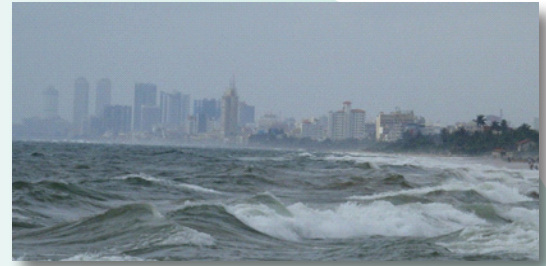
NARA is a leading oceanographic center of Sri Lanka. It is located at Crow Island in the northern part of Sri Lanka's capital Colombo. It has established an around-the-clock Ocean Observation and Early Response Centre. However, lack of ocean observation capacity as well as trained personnel to conduct research and predictions have limited NARA's ability to cater for the needs of the nation with regard to utilization of physical, biological, geological and chemical marine resources.

Oceanic processes around Sri Lanka exert profound impacts on coastal communities, and hence understanding of coastal processes is imperative to develop techniques to minimize risks and impacts of ocean based natural disasters such as monsoon rainfalls, storm surges and tsunamis. Some of these disasters as well as fishery and hydrological resources are predicted to be influenced by perceived climate change. Such oceanic features as boundary currents around Sri Lanka, coastal upwelling and primary productivity, and flow separation off the southern tip of Sri Lanka are related to monsoon dynamics and reversing wind patterns. All these processes are poorly understood.

The course was designed to give students a basic knowledge of small-scale processes in the ocean and introduce the state-of-the-art instrumentation, data analysis, and modern research concepts. A series of lectures (20 hours of classes during 8 training days) has been focused on turbulence, mesoscale (eddy) dynamics and internal waves, including theoretical background, examples of numerical modeling results, description of various instruments (ADCP, ADV, CTR7, CTD and microstructure profilers Turbomap and MSS), methodology of measurements on shallow shelves and in the deep-ocean, and data processing. A special two-hour practical was also given to introduce the students to simple graphic and data processing packages (Grapher and Surfer) provided by Golden Software Inc. Field work on CTD profiling measurements started after the completion of the theoretical course.

The training was favorably received by the students. Most of the students did not have a solid background in physical oceanography, being trained as marine biologists and geologists. However, they were able to digest the main part of the course understanding the close relationships between mixing in the water interior and bio-chemical exchange and near bottom turbulence and sediment transport problems.

NARA perfectly organized the training process, offering an air conditioned auditorium, tea breaks, and transportation to the hotel at the end of the working day. People there were very kind and supportive. Special thanks to Mr. Priyantha Jinadasa, who took exceptional care with the educational process. Close research collaboration has been initiated between NARA and University of Notre Dame (UND). Priyantha Jinadasa started working on his PhD dissertation focusing on the study of internal waves in shallow waters. He is planning to visit UND in the beginning of 2013. UND expects to invite two NARA students for 2-3 months of training in the US.



Upcoming storm (Colombo suburb).



Prof. Lozovatsky and the group of students who attended the training course.

News from the POGO members

News from National Institute of Oceanography, Goa *This article was provided by Loka Bharathi, NIO Goa, India*

I. Proteomics facility: LCMS QToF (Liquid Chromatography Mass Spectrometer Quadrupole Time of Flight), 2-D gel electrophoresis unit, Off-gel electrophoresis unit and BioAnalyzer is capable of analyzing multiple types of ionized molecules in 30 minutes.

II 'Open Ocean Time Series Stations' in the North Indian Ocean: Under the Sustained Indian Ocean Bio-

geochemical and Ecological Research (SIBER)-INDIA programme, time-series sites have been established for long term observations of water column since April 2010. In the Arabian Sea, the site is positioned at 17°N 68°E (Arabian Sea Time Series, ASTS) and in the Bay of Bengal at 18°N 89°E (Bay of Bengal Time Series, BoBTS). Two sediment trap moorings have also been deployed at these sites to understand the export of particle flux.