

[IIOE2-EP01] First scientific cruise under IIOE-2

Lead investigator and other key participant(s):

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Period of Project: 04 - 22 December, 2015

Brief description of the Project:

The first scientific cruise of IIOE-2 on board the Indian Research Vessel Sagar Nidhi was flagged off from the Mormugao (Goa) harbour on the evening of 4th December 2015. The expedition led by Prof. P. N. Vinayachandran of Indian Institute of Science (IISc), Bangalore and Dr. Satya Prakash of INCOIS, concluded at Mauritius on 22 December 2015 after 18 days of sustained observations and data collection in the western Indian Ocean enroute to Mauritius. Besides twelve scientists from six national research institutions and the Goa University, there were participants from Mauritius, Israel, Singapore, Australia and the UK.

The major goal of this multi-disciplinary scientific expedition was to understand the structure of the water masses in the western Indian Ocean along 67°E longitude and to assess the difference in their characteristics with respect to observations made in the past. Another goal was to understand the physical-biological coupling and biogeochemistry in the western Equatorial Indian Ocean.

The observations made/samples collected during this cruise are of two types: one, during which CTD profiles were made at every one degree latitude along 67°E together with underway ship-board ADCP, thermosalinograph and AWS measurements., and the other in which stations were occupied for making a variety of measurements. Underwater profiles of current, temperature, salinity, oxygen, light and chlorophyll were measured during the cruise. In addition, water samples were collected to a depth of 1000m for various chemical and biological analyses such as for determination of primary productivity, O₂, nutrients, isotopic composition etc. Samples of zooplankton were collected using nets towed behind the stern of the ship. Radiometer measurements, IOP profiling, acoustic and ambient noise measurements were also made along the transect. ADCP, multi-beam and AWS were deployed along the entire cruise track.

Region of study

Western Indian Ocean, along a 67°E longitude transect from 12°N to 5°S.