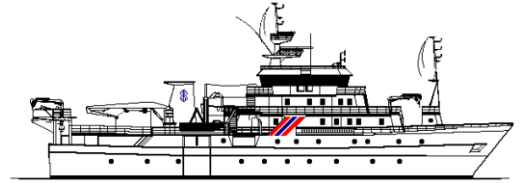


Country: Southern Indian Ocean				
Research vessel: R/V DR. FRIDTJOF NANSEN				
Survey number: 2015406				
Number of days: 20				
General objectives: Survey in the Southern Indian Ocean – Leg1 Sample data on oceanography, nutrient salts, plankton, micro-plastic and plastic waste, mesopelagic fish, set out drifters. Work along transects which covers expected gradients in the Southern Indian Ocean gyre.				
	Port	Date	Coverage	Specific objectives
Departure	Jakarta Indonesia	26 June	Southern Indian Ocean	<ul style="list-style-type: none"> The overall aim of the survey is to investigate ecological features in the survey area. Oceanographic data (temperature, density, oxygen and currents based on LADCP) will be monitored along transects, and nutrient salts and chlorophyll will be sampled and measured for to study biological productivity. The distribution and density of plankton and mesopelagic fish will also be recorded by acoustic methods combined with plankton nets and pelagic trawls at the main scatter layers at day- and nighttime. An additional goal for the survey is to sample plastic and micro-plastic particles. Diverse previous models have shown that litter and plastics could concentrate in the Southern Indian Ocean gyre. In order to verify/test these modeling results, the sampling of plastics has been performed across the whole transect using a Manta-trawl (details will be provided in the method section). Drifters were deployed in selected sections to determine broad scale currents and other oceanographic parameters.
Arrival	Port Louis, Mauritius	16 July		
Cruise leader: Jens-Otto Krakstad				
Participants: From				
<ul style="list-style-type: none"> •Commonwealth Scientific and Industrial Research Organization, Australia: Francois DUFOIS •University of Queensland, Australia: Melody Puckridge •Marine Survey and Technology, Indonesia : Indah Lutfiyati •Jakarta Fisheries University, Indonesia: Nasirin •Research Center for Fisheries Management and Conservation, Indonesia: Andria Ansri Utama •Pwani University, Kenya: Bernerd Fulanda •University of Dar es Salaam, Tanzania: Paz Simili •Seychelles National Park Authority, Seychelles: Patsy Theresine 				





NANSEN PROJECT



- Institut Halieutique et des Sciences Marines, Madagascar : Aina le Don
- University of Bergen, Norway: Kristine Nilsen Torkildson
- University of Western Cape: Riaan Cedras

Summary of the results:

Hydrography

This study area in the Southern Indian Ocean has almost been unvisited in the past. Thus the physical and biogeochemical data obtained would help gain a better understanding of the properties of the Indian Ocean subtropical gyre. Various sampling techniques combining the CTD hydrocasts, classical chemical analyses, Bio-Argo floats and surface drifters were attempted in this survey. This helped us to simultaneously study both spatial and temporal bio-physical features. This dataset is of key importance to indicate some of the processes responsible for primary productivity in this oligotrophic part of the ocean. In particular, our observations highlighted the importance of the mesoscale (50 to 200 km) variability which seems to modulate the productivity in the subtropical gyre.

Plankton

The preliminary results of the survey show that diatoms and dinoflagellates are the main groups of micro-phytoplankton community in the Southern Indian Ocean waters. In addition, zooplankton samples were collected to describe the calanoid copepod community of the southern Indian Ocean gyre and to estimate the effects of the gyre and environment on the species composition of the pelagic realm. Our activities will shed light on the mesozooplankton community of a poorly surveyed part of the Indian Ocean.

Fish

The survey covered a section through the high seas of the southern Indian Ocean. Altogether, 19 pelagic-trawl stations were carried out, mainly to identify species composition of mesopelagic fish in the main scattering layers of water column. The dominating species were of the family Myctophidae. The densities were generally low, but highest on both sides of the Ocean. The fish made diurnal migrations, to the upper water layers during night and to deeper waters during daytime.

Report: status: final References:

Report ready

Constraints/Comments:

