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# Data overview from the 2015 and the 2018 Nansen Cruise in SIOFA

SIOFA Secretariat

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<b>Distribution</b>	Public <input checked="" type="checkbox"/> Restricted <sup>1</sup> <input type="checkbox"/> Closed session document <sup>2</sup> <input type="checkbox"/>
<b>Abstract</b>	
<p>After the request from the SIOFA Secretariat, the Nansen Programme/FAO provided data collected from 2 scientific research cruises that happened in the Indian Ocean high seas in 2015 and 2018. Data relevant to marine species is detailed, however the data regarding acoustic and oceanography works is not summarized.</p>	

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# Data overview from the 2015 and the 2018 Nansen Cruise in SIOFA

## 1. Introduction

In the past, several scientific research campaigns have been conducted by the EAF-Nansen Programme in the Indian Ocean. The SIOFA Scientific Committee recognised that the data collected during these cruises is of interest and requested FAO to provide the data relevant to the operations that took place in the high sea.

After the recommendation from the Meeting of the Parties in 2024 (ref. MoP11 report, paragraph 109), which tasked the SC to review the data from these cruises, the Secretariat liaised with FAO to obtain the relevant data. In 2025, FAO provided the SIOFA Secretariat with several datasets relevant to two cruises. One cruise took place in June-July 2015, and another cruise took place in June 2018.

This document gives an overview of the data collected during these cruises. The datasets sent by FAO contain oceanography, acoustics and biotic data. A diary file is also provided which summarizes the daily operations that have been undertaken during the trips.

## 2. Methods

The datasets consist in many files of various formats organized in different folders. The CSV formats files have been converted to Excel files and analysed.

This data overview focuses on the biotic data that are available in readable files that do not require too much processing works. Biotic data has been collected by fishing gears and specific nets. The gears collected plankton data and macroscopic marine species data.

Acoustics and Oceanography data are scattered in many specific-formatted files (txt and cnv extensions) that the Secretariat cannot easily process or summarize, therefore this data is not presented in this paper.

## 3. Results

The activity diary provides information regarding the operations and the gears that have been used during the cruises. 4 main gears have been used:

- HD (CTD, Conductivity-Temperature-Depth, rosette water sampler)
- PL (Plankton net) Mantatrawl
- PL (Plankton net) Multinet
- PT (Pelagic Trawl)

### 3.1 Marine species sampling

#### Stations' location for marine species sampling

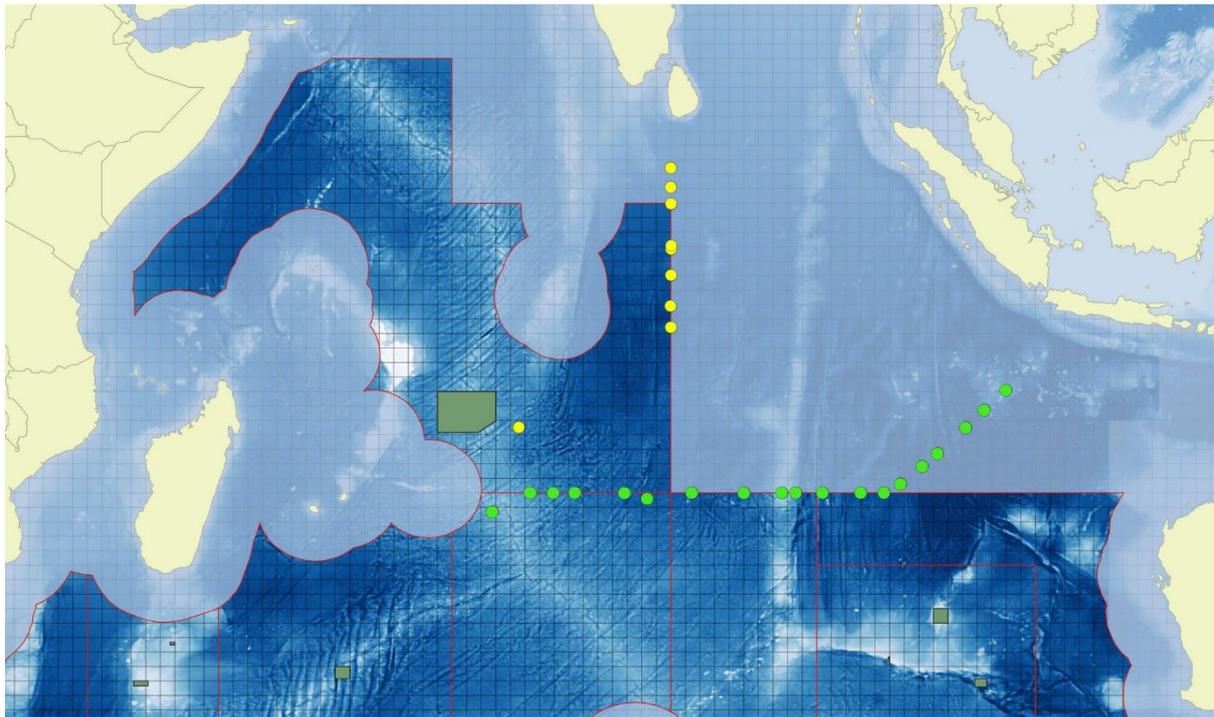


Figure 1: Locations of marine species sampling stations, yellow: 2018 cruise, green 2015 cruise.

The bottom depth of the stations ranges between 1800 m and 5600 m. No deep-sea fishing or sampling operations have been undertaken.

Table 1: Operations overview

Cruise	Stations	Gear	Number of operations	Operations Depth range (m)	Total duration (minute)
<b>2015</b>	19	PT	38	30 - 515	748
<b>2018</b>	9	PT	18	30 - 500	280

Note that the 2015 started with a few operations in the high sea that were not within the SIOFA area of competence (North-East Indian Ocean).

Table 2: Summary of species collected and sampled

Cruise	Number of different species code	Number of individuals collected	Total weight collected (kg)
<b>2015</b>	389	9083	17.4888
<b>2018</b>	198	50890	66.6968

Detailed data regarding the species, number and weight collected is in [Annex 1](#).

### 3.2. Plankton Data

Plankton data comprise phytoplankton and zooplankton and other materials collected.

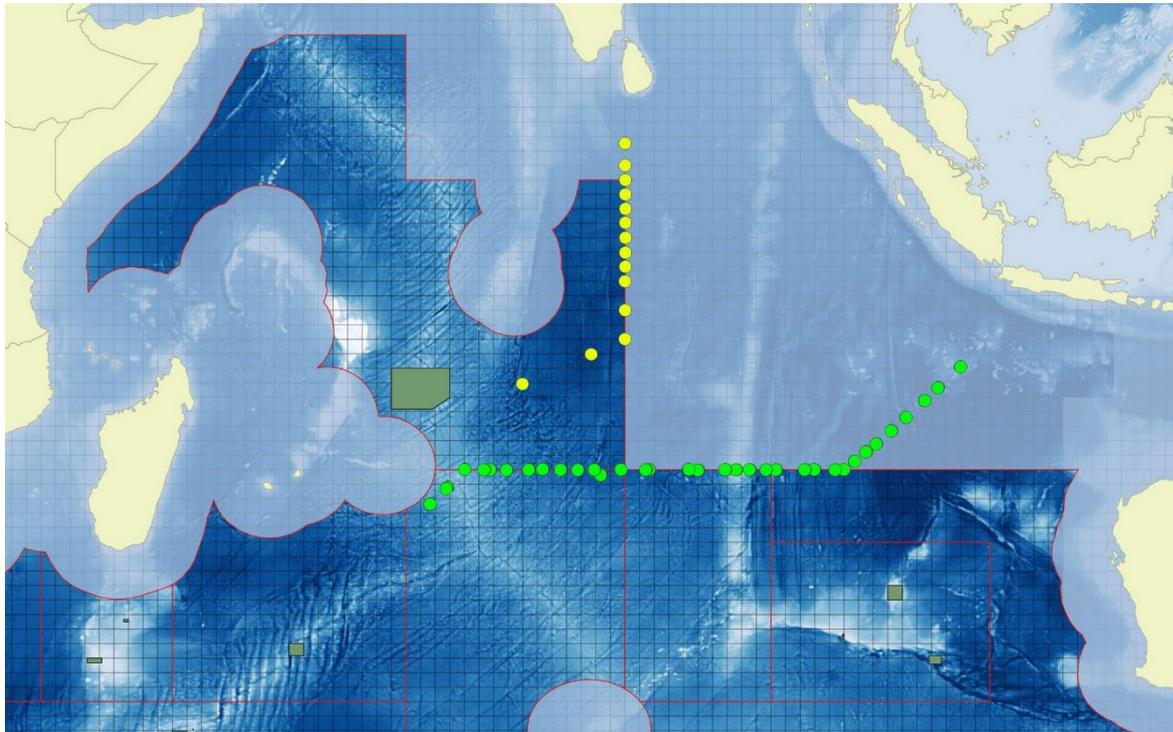


Figure 2: Locations of plankton sampling stations (manta trawl), yellow: 2018 cruise, green 2015 cruise.

Table 3: overview of plankton collection operations

Cruise	Gear	Stations	Operations Depth range	Metric
2015	Multi Plankton Sampler MPS (5 nets)	11	n/a	1 to 2 hours per station
	Mantatrawl	35	surface	1638 minutes
2018	Phytoplankton net	12	75 – 100m	
	Zooplankton net	15	30 m, 200 m	
	CTD	14	Top (5m), mid (50-100m), deep (2500m)	3 litres per sample, 126 litres
	Mantatrawl	15	surface	211 minutes
	Pump	18	n/a	388 litres

The Secretariat could not find information regarding the species of plankton collected by the cruise.

## Discussion

The marine species samples collected by these cruises consist in very small organisms. Detailed metrics data have been collected by the scientific team and are available in the biotic data subset, but this is not detailed in this paper.

A substantial work would be required to fully document the other data, acoustic and oceanography data, collected during the trips.

## Conclusions

The research and data collection undertaken during these campaigns were not aimed toward SIOFA objectives or targeted to its species of interest.

The objective of this summary is to inform the SIOFA scientific Committee about the content of the data collected by these cruises. If the data collected is of interest, it will need further processing and analysis to be used in future works.

## Acknowledgments

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EAF-Nansen Programme

Norway Institute of Marine Research

## ANNEX 1: Details of species collected during the Nansen campaigns

Species	2015 campaign		2018 campaign	
	number	total weight (kg)	number	Total weight (kg)
<i>Abraliopsis (Micrabraia) gilchristi</i>	3	0.047		
<i>Acanthephyra</i> sp.**	1020	0.282		
<b>ACROPOMATIDAE</b>			17	0.002
<i>Allothunnus fallai</i>			5	0.46
<b>Anguilliformes</b>			4	0.03
<i>Anoplogaster cornuta</i>			1	0.034
<i>Apogon</i> sp.	1	0.026		
<i>Argyroleucus aculeatus</i>	38	0.135	144	0.299
<i>Argyroleucus affinis</i>			19	0.066
<i>Argyroleucus gigas</i>			1	0.02
<i>Argyroleucus hemigymnus</i>	58	0.063		
<i>Argyroleucus sladeni</i>	15	0.013		
<i>Argyroleucus</i> sp.			233	1.066
<i>Ariomma</i> sp.	3	0.011		
<i>Astronesthes</i> cf. <i>indicus</i>	2	0.007		
<i>Astronesthes</i> cf. <i>indicus</i> **	7	0.1651		
<i>Astronesthes indicus</i>	6	0.03		
<i>Astronesthes</i> sp.	5	0.021	28	0.146
<i>Astronesthes</i> sp.**			3	0.03
<i>Astronesthes trifibulatus</i>	5	0.1249		
<b>ASTRONESTHINAE</b>			3	0.002
<i>Balistes</i> sp.	1	0.002		
<i>Benthoosema</i> sp.	89	0.052		
<i>Beryx splendens</i>	1	0.001		
<i>Bolanichthys indicus</i>	129	0.117		
<i>Bolanichthys</i> sp.	17	0.22		
<i>Bonapartia pedaliota</i>	1	0.001		
<i>Borostomias mononema</i>			1	0.197
<b>Bothidae</b>	5	0.014	15	0.034
<i>Brachioteuthis picta</i>	105	0.133		
<b>Brachyura</b>			85	0.115
<i>Brama orcini</i>			2	0.088
<i>Bregmaceros</i> sp.	24	0.011	58	0.091
<b>Carangidae</b>			19	0.009
<b>CARIDEA</b>	27	0.002		
<b>CEPHALOPODA</b>			178	1.96
<i>Ceratoscopelatus</i> cf. <i>maderensis</i>	51	0.021		
<i>Ceratoscopelus</i> sp.	31	0.008	529	0.86
<i>Ceratoscopelus warmingii</i>	2198	3.619		
<i>Chauliodus sloani</i>	3	0.017	52	1.249
<b>CHIASMODONTIDAE</b>			15	0.126
<i>Coccorella atlantica</i>			8	0.017
<i>Coccorella</i> sp.			22	0.14
<b>Crustaceans</b>	158	0.5612	261	0.091

Species	2015 campaign		2018 campaign	
	number	total weight (kg)	number	Total weight (kg)
<i>Decapterus</i> sp.	4	0.011	32	0.192
<i>Deosergestes seminudus</i>	361	0.272		
<i>Diplodus</i> sp.			7	0.015
<i>Diplophos</i> cf. <i>taenia</i>			3	0.033
<i>Diplophos</i> sp.	3	0.038		
<i>Diplophos taenia</i>	36	0.164	3	0.005
DIRETMIDAE			5	0.004
<i>Diretmoides parini</i> **			2	0.089
<i>Diretmus argenteus</i>			14	0.136
<i>Drepane</i> sp.	2	0.007		
<i>Eucleoteuthis luminosa</i>	16	0.759		
<i>Eustomias</i> sp.	6	0.005		
EVERMANNELLIDAE			2	0.017
<i>Gonostoma atlanticum</i>			2	0.002
<i>Gonostoma denudatum</i>			1	0.054
<i>Gonostoma</i> sp.	12	0.015	22	0.588
<i>Histioteuthis</i> sp.	2	0.012		
<i>Howella</i> sp.			21	0.093
<i>Ichthyococcus ovatus</i>	8	0.007		
<i>Idiacanthus</i> sp.	1	0.002		
<i>Illex coindetii</i>	29	0.0478		
JELLYFISH	33	0.09		
Jellyfish**	0	0.607	217	1.089
<i>Lactoria</i> sp.			6	0.013
<i>Lagocephalus lagocephalus</i>			9	0.26
<i>Lepidocybium flavobrunneum</i>			1	0.08
<i>Lepidopus</i> sp.			3	0.031
<i>Leptocephalus</i>	77	0.3439	90	0.371
<i>Lestrolepis intermedia</i>	27	0.0404		
<i>Lestrolepis</i> sp.			21	0.157
Lobster larvae	2	0.032		
<i>Loligo</i> (Genus)	635	1.159		
<i>Loligo vulgaris</i>	25	0.04		
<i>Lolliguncula mercatoris</i> **	1	0.042		
<i>Malacosteus niger</i>			6	0.086
<i>Malacosteus</i> sp.			8	0.008
<i>Margrethis</i> cf. <i>obtusirostra</i>	9	0.008		
<i>Maurolicus muelleri</i>	5	0.012		
<i>Maurolicus</i> sp.	3	0.002		
<i>Melanostomias</i> sp.	5	0.034		
MESFI	2656	5.3887	15544	26.8868
MICROSTOMATIDAE			1	0.007
MOLIDAE	5	0.013		
Monocanthidae			82	0.031
<i>Naso brevirostris</i>			103	0.04

Species	2015 campaign		2018 campaign	
	number	total weight (kg)	number	Total weight (kg)
<b>NOTOSUDIDAE</b>			5	0.045
Octopus sp.			20	0.018
<b>OPISTHOBRANCHIA**</b>			11	0.036
<b>OPISTHOPROCTIDAE</b>			1	0.005
Opisthoproctus grimaldii**	8	0.009		
Opisthoproctus sp.	3	0.015		
Oplophorus grimaldii	278	0.12		
<b>PARALEPIDIDAE</b>	7	0.031	1	0.031
<b>PENAEIDAE</b>			120	0.3
<b>PHOSICHTHYIDAE</b>			57	0.297
Phosichthys sp.	1	0.003		
Photonectes braueri			1	0.001
Plastic			1	0.002
<b>PLATYTROCTIDAE</b>			9	0.549
Pollichthys sp.			94	0.038
Polymetme corythaeola	41	0.094		
<b>POMACANTHIDAE</b>			21	0.01
Ranzania laevis	10	0.024		
Scombrobrax heterolepis	2	0.05	15	0.355
<b>SCOPELARCHIDAE</b>			13	0.083
Scopelosaurus ahlstromi	4	0.008		
Scopelosaurus sp.	1	0.001		
Sergestes sp.	357	0.276		
<b>SHRIMPS AND PRAWNS</b>			27718	10.477
Solenocera sp.	49	0.1182		
<b>SPARIDAE</b>			1	0.005
Squids	4	0.018		
<b>STERNOPTYCHIDAE</b>			801	1.431
Sternoptyx diaphana	4	0.012		
Sternoptyx pseudobscura	1	0.002		
Sternoptyx sp.			144	0.155
Stomias sp.			44	0.569
<b>STOMIIDAE</b>			7	0.075
Stylephorus chordatus			1	0.011
Symplectoteuthis oualaniensis**	7	0.604		
Synagrops japonicus			1	0.04
Tetragonurus pacificus			2	0.06
<b>TETRAODONTIDAE</b>			9	0.007
Thysanactis sp.			4	0.08
<b>TRACHIPTERIDAE</b>			1	0.001
Unidentified			6	0.014
Unidentified eggs			372	0.149
<b>UNIDENTIFIED FISH</b>			22	0.031
Unidentified juvenile fishes			101	0.02
Unidentified object			10	0.523

Species	2015 campaign		2018 campaign	
	number	total weight (kg)	number	Total weight (kg)
<b>Unidentified squid **</b>			2598	10.904
<b>Valenciennellus tripunctulatus</b>	32	0.009		
<b>Vinciguerria cf. attenuata</b>	47	0.043		
<b>Vinciguerria cf. nimbaria</b>	20	0.028		
<b>Vinciguerria nimbaria</b>	225	0.063		
<b>Vinciguerria sp.</b>	1	0.001	700	0.874
<b>Winteria telescopa</b>			1	0.04
<b>Xenolepidichthys dalgleishi</b>			9	0.032