

**सागरकन्या/ SAGAR KANYA SK-334 CRUISE REPORT
BUOY DEPLOYMENT AND RETRIEVAL IN BAY OF BENGAL
(10 OCTOBER TO 01 NOVEMBER 2016)**



समुद्रप्रेक्षणप्रणाली / Ocean Observation Systems
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NOVEMBER 2016

पावती / ACKNOWLEDGEMENT

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अध्ययन1 / CHAPTER 1

क्रुजलक्ष्य / OBJECTIVES OF THE CRUISE

क्रुजलक्ष्य / OBJECTIVES OF THE CRUISE:

The objective of the cruise is listed below.

Buoy ID /Type	Latitude(N)	Longitude(E)	Depth(m)	Remarks
BD11	13°29'07"	84°00'05"	3260	Retrieval & Deployment
BD10	16°30'00"	87°58'48"	2620	Retrieval (Mooring) & Deployment
TB09	17°18'50"	89°47'02"	2300	Retrieval & Deployment
TB05	10°59'36"	89°34'48"	3227	Retrieval
TB03	06°19'22"	88°36'18"	3860	Retrieval

अध्ययन2 / CHAPTER 2

कृजटीम / CRUISE TEAM

क्रमसं. / S. No.	नाम / Name	संगठन/ Organization	Rank
1.	Mr.D.Gowthaman	NIOT, Chennai	Chief Scientist
2.	Mr. AnandKishor	NIOT, Chennai	Deputy Chief Scientist
3.	Mr.S.Elango	NIOT, Chennai	Project Scientist – I
4.	Mr.T.Raghu	NIOT, Chennai	Project Scientist – I
5.	Mr.C.K.Kalaivanan	NIOT, Chennai	Project Scientific Assistant
6.	Mr.P.Ramesh	NIOT, Chennai	Project Technician
7.	Mr.K.V.HariKrishnan	M/s UKFS, Chennai	Field Engineer
8.	Mr.K.Aravinth	M/s Elektronik lab, Chennai	Field Engineer
9.	Mr..Sivaraj	M/s Elektronik lab, Chennai	Technician
10.	Mr.B.Suresh	M/s Elektronik lab, Chennai	Technician
11.	Mr.S.Venkatesan	M/s Elektronik lab, Chennai	Supernumerary –Helper
12.	MrN. Subramanian	M/s Elektronik lab, Chennai	Supernumerary –Helper
13.	MrN.Nivas	M/s Elektronik lab, Chennai	Supernumerary –Helper
14.	MrU.Karthik	M/s Elektronik lab, Chennai	Supernumerary –Helper
15.	Mr.R.Udhayakumar	M/s Elektronik lab, Chennai	Supernumerary –Helper
16.	Mr.Vijay Mani	M/s Elektronik lab, Chennai	Supernumerary –Helper

अध्ययन3 / CHAPTER 3

क्रुज़ट्रैक/ CRUISE TRACK

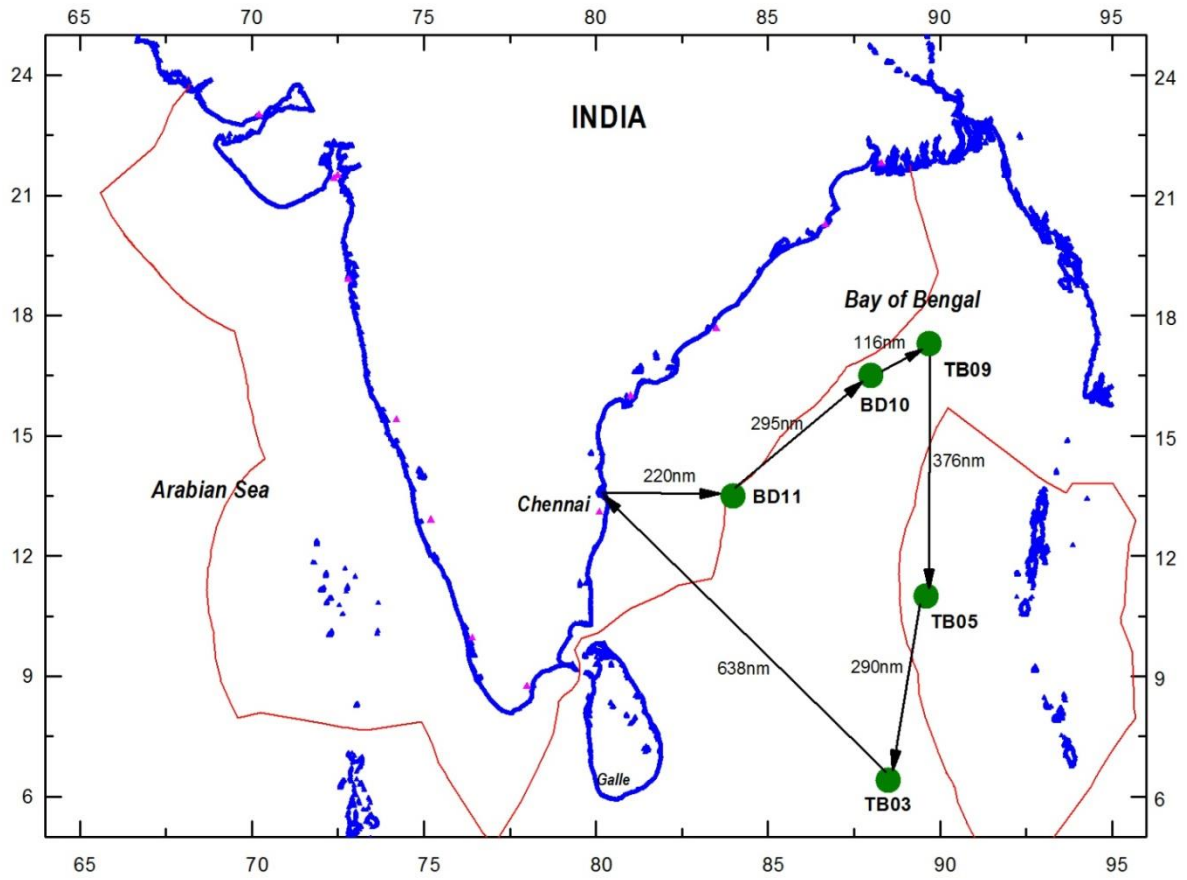


Fig.1. Cruise Track –SK334

अध्ययन 4 / CHAPTER 4

कुज़सारांश/ CRUISE SUMMARY

With the objectives of deployment and retrieval of Tsunami Buoy and OMNI buoy Systems, SK-334 cruise was arranged by OOS, NIOT during October 2016. Scientist team, NIOT sailed from Chennai on 10th October 2016 onboard ORV SagarKanya. Team reached the buoy locations on the respective dates (given in the table) and both buoy deployment and retrieval was successfully carried out. The observations on each buoy retrieval & deployment are listed below.

Sl. No	DATE	STATION ID	OPERATION	LOCATION		STATION DEPTH(m)
				Latitude	Longitude	
1.	13/10/2016	BD11	Buoy Retrieval	13 ⁰ 29.0349'N	083 ⁰ 58.856'E	3260m
2.	14/10/2016	BD11	Buoy Deployment	13 ⁰ 29.8991'N	084 ⁰ 10.0139'E	3310m
3.	17/10/2016	BD10	Buoy Retrieval	16 ⁰ 30.011'N	087 ⁰ 58.924'E	2620m
4.	18/10/2016	BD10	Buoy Deployment	16 ⁰ 29.8565'N	087 ⁰ 58.7316'E	2622m
5.	19/10/2016	ITB09	BPR Retrieval (Buoy was not found at the location only BPR was retrieved)	17 ⁰ 18.610'N	089 ⁰ 47.161'E	2300m
6.	20/10/2016	ITB09	Buoy Deployment	17 ⁰ 13.7191'N	090 ⁰ 00.8920'E	2325m
	20/10/2016		BPR Deployment	17 ⁰ 13.7600'N	090 ⁰ 00.8716'E	2349m
7.	24/10/2016	ITB05	BPR switched off	10 ⁰ 58.386'N	089 ⁰ 36.912'E	3230m
8.	27/10/2016	ITB03	BPR Retrieval	06 ⁰ 19.3'N	088 ⁰ 36.3'E	3860m
	27/10/2016		Buoy Retrieval	06 ⁰ 19.843'N	088 ⁰ 36.293'E	3860m

अध्ययन / CHAPTER 5
दैनिकगतिविधियोंकाविवरण / DETAILS OF DAY BY DAY ACTIVITIES
SK-334 DAILY LOG BOOK

Date	Time (Hrs)	Events
10/10/2016	1130	Sign-on process started.
	1345	Team boarded the ship after completion of all the formalities.
	1600	BD11 testing initiated.
	1535	A meeting with Captain and team was organised.
	1700	Capstan winch wiring for power supply was done with the help of Electrical Officer.
	1930	Vessel started sailing for the BD11 location.
11/10/2016	-	Heading towards BD11 location
12/10/2016	1030	BD11 Buoy sighted.
	1050	Reached the buoy location
	1106	Dunker lowered.
	1106 to 1645	Tried establishing communication with the BD11 acoustic release.
13/10/2016	0615 to 1530	Tried establishing communication with the BD11 acoustic release.
	1600	V/L approached the buoy.
	1605	Boat lowered. 16:20 Hrs - 16:35 Hrs 16:40 Hrs - 16:45 Hrs - 16:55 Hrs - 18:10 Hrs - 18:55 Hrs -
	1620	BD 11 Buoy retrieval started.
	1635	Boat on-board.
	1640	Buoy on-board
	1645	Buoy and ADCP disconnected from the mooring line.
	1655	Retrieval of CT sensors commenced.
	1810	CT sensors (up to 200m) retrieved.
	1855	Dummy buoy connected to the mooring line.
14/10/2016	2030 to 2148	CTD was conducted at Lat. 13° 33.398' N; Long.083° 58.8560' E location.
	1110	BD 11 Buoy system deployment started at Lat.13 deg.27.6174'N Long.084 deg. 10.3352'E.
	1116	ADCP in water.
	1120	Buoy on water.
	1154	Green Floats in water @ 13°27.617'N,84°10.232'E
	1300	Anchor dropped @ 13029.8988'N,84°10.0138'E
	1355 to 1500	CTD was conducted at Lat. 13° 31.73' N; Long.084°12.13' E location.
1624	Vessel started sailing for next location BD10 after receiving data quality clearance from shore team.	
15/10/2016	-	Heading towards BD10 location.
16/10/2016	-	Heading towards BD10 location.

17/10/2016	0600	V/L positioned at BD10 Anchor drop point.
	0610	Benthos acoustic transducer lowered underwater.
	0611	Enable command executed.
	0715	Release command executed.
	0715	Acknowledgement received for release.
	0745	Glass floats (yellow) spotted (sub surface floats were not visible since the mooring was up-side down.
	0825	Boat lowered.
	0935	Heaving line connected to glass floats (Lat.: 16 deg. 30.130'N, Long.: 087 deg. 58.785'E).
	0936	Mooring retrieval started.
	0938	Glass floats on-board.
	0945	Boat on-board.
	1020	Subsurface floats on-board.
	1043	Induction cable heaving & Retrieval of CT sensors started.
	1137	ADCP on-board.
	1152 to 1257	CTD was conducted at Lat. 16°29.875' N; Long.087°58.535' E location.
1954 to 2155	Multi beam survey for bathymetry study was conducted.	
18/10/2016	0545	V/L positioned for buoy deployment.
	0600 to 0930	Waiting for data QC from shore station.
	0955	V/L positioned for buoy deployment.
	1007	Buoy deployment started.
	1009	Buoy on water @ 16°28.1160'N, 087°58.7396'E.
	1137	Anchor dropped @ 16°29.8525'N, 087°52.7315'E.
	1330 to 1420	CTD was conducted at Lat. 16° 31.8134' N, Long.088°03.1197' E location.
1540	Vessel started sailing for next location TB09 after receiving data quality clearance from shore team.	
19/10/2016	1420	V/L positioned near BPR drop point.
	1444	Dunker lowered in water using CTD Winch.
	1458	BPR arm & release command was executed.
	1508	Acknowledgement received from BPR.
	1533	BPR surfaced.
	1545	Boat in water.
	1604	Boat on-board.
	1600	BPR on-board.(Lat. 17°18.610'N, Long.:089°47.161'E)
	1610 to 1830	A search operation was conducted at a radius of 2nm from anchor drop location. Buoy was not sighted.
	2100 to 2212	Multi beam survey for bathymetry study was conducted.

20/10/2016	1020	V/L positioned for buoy deployment.
	1043	Buoy deployment started.
	1047	Buoy on water. (17deg. 12.2001'N 089deg. 59.2178'E)
	1115	Sub-surface floats in water.
	1202	Anchor dropped. (17deg. 13.7191'N 090deg. 00.8920'E)
	1535	BPR lowering started.
	1538	BPR in water.
	1600	BPR released at 1100m water depth. (17deg. 13.7600'N, 090deg. 00.8716'E)
	2230	Vessel started sailing for next location TB09 after receiving data quality clearance from shore team.
20/10/2016	-	Heading towards TB05 location.
21/10/2016	-	Heading towards TB05 location.
22/10/2016	-	Heading towards TB05 location.
23/10/2016	-	Heading towards TB05 location.
24/10/2016	0900	V/L reached buoy position @ 10 deg. 58.386'N, 089 deg. 36.912'E.
	0900 to 0930	Buoy photos taken.
	0930	V/L started sailing towards the BPR drop point.
	1053	V/L reached BPR drop position.
	1106	Dunker lowered using CTD Winch at 10 deg. 59.8565'N, 089 deg. 36.3896'E.
	1118	BPR switched OFF successfully.
	1122	Dunker on-board.
	1145	V/L moved 5 miles away from TB05 location and waited for fair weather.
	1600	As discussed with shore team vessel started sailing towards TB03 location since the weather continued to be bad.
25/10/2016	-	Heading towards TB03 location.
26/10/2016	-	Heading towards TB03 location.
27/10/2016	0653	V/L positioned exactly on BPR drop point.
	0658	Dunker lowered in water using CTD Winch.
	0702	BPR arm & release command was executed.
	0708	Acknowledgement received from BPR. 08:12 Hrs - BPR surfaced (06 deg. 19.3'N, 088 deg. 36.3'E).
	0816	Dunker on-board.
	0818	Boat in water
	0822	BPR on-board.
	0823	V/L approached the buoy.
	0856	Heaving line connected to buoy.
	0907	Buoy on-board (06 deg. 19.843'N, 088 deg. 36.293'E)
	0910	Buoy disconnected from mooring.
	0915	Boat on-board.
	0930	Vessel heading towards Chennai after the clearance from shore team, NIOT.

28/10/2016	-	Heading towards Chennai.
29/10/2016	-	Heading towards Chennai.
30/10/2016	-	Heading towards Chennai.
31/10/2016	-	Heading towards Chennai.
		Vessel reached Chennai port outer anchorage.
01/11/2016		Vessel reached Chennai port.