

क्रुज़ रिपोर्ट / SAGAR KANYA (SK309) CRUISE REPORT

डाटा बोया / ओमनी बोया / सुनामी बोया तैनाती और पुनर्प्राप्ति बंगाल की खाड़ी में
DATA BUOY / OMNI BUOY / TSUNAMI BUOY DEPLOYMENT AND
RETRIEVAL IN BAY OF BENGAL

(06th फरवरी February 2014 to 05th मार्च March 2014)



समुद्र प्रेक्षण प्रणाली / Ocean Observation Systems
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मार्च / March 2014

षवती / ACKNOWLEDGEMENT

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We express our sincere gratitude to our beloved Director Dr.M.Atmanand, NIOT for providing us both the opportunity and the necessary facilities in carrying out our expedition.

Our sincere thanks to Captain, Ship officers and crew of ORV Sagar Kanya for their effective cooperation throughout the cruise and for the help and support extended us to complete the task.

We express our sincere thanks to our Group Head Dr. R.Venkatesan, Ocean Observation Systems, NIOT for his constant guidance, encouragement and support he gave us during the course of this cruise.

We are also thankful to OOS team for helping us at various stages for successful completion of the cruise.

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अध्ययन / CHAPTER 1

क्रुज लक्ष्य / OBJECTIVES OF THE CRUISE

क्रुज लक्ष्य / OBJECTIVES OF THE CRUISE:

- Retrieval and Deployment of Seven OMNI buoys
(BD11, BD13, BD10, BD08, BD09, BD12 & BD14)
- Retrieval and Deployment of Four Tsunami buoys (TB09, TB06, TB05, TB03)

अध्ययन / CHAPTER 2

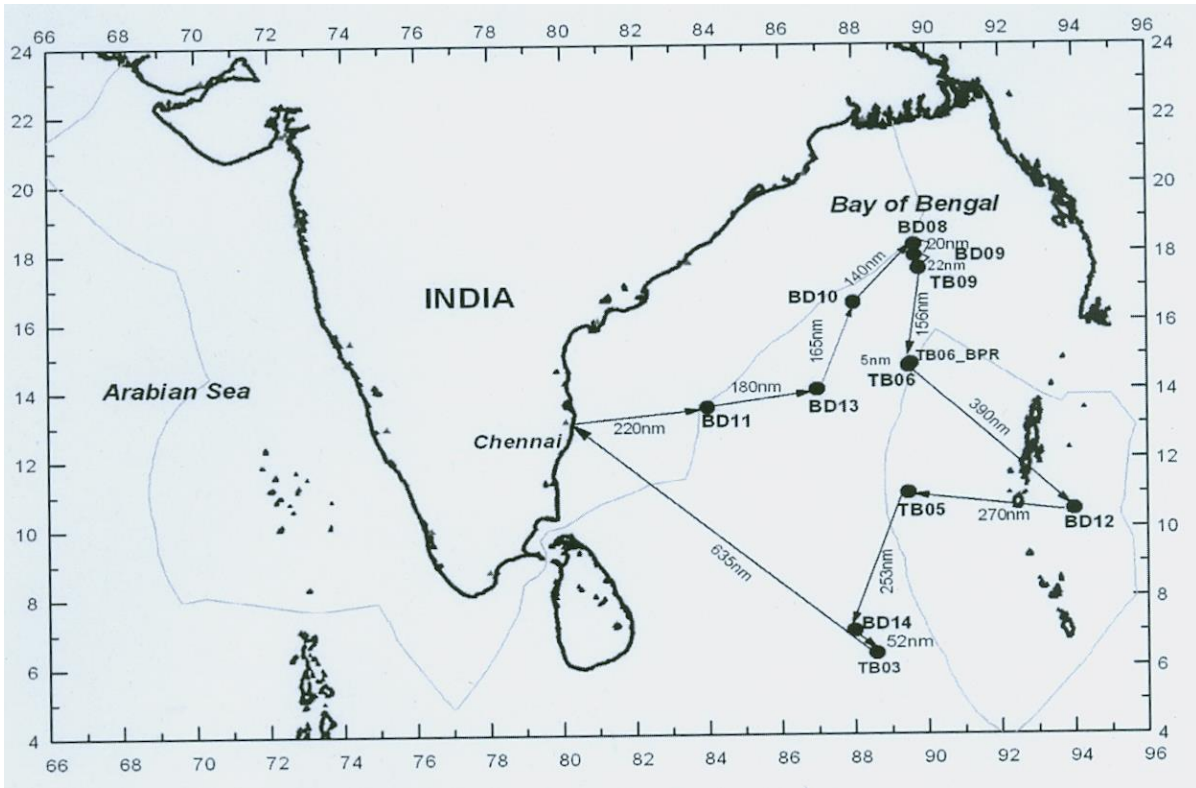
क्रुज टीम / CRUISE TEAM

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6.	Mr.C.K.Kalaivanan	NIOT,Chennai	Project Scientific Assistant
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9.	Mr.V.Babu	M/s Norinco (P) Ltd,Chennai	Field Engineer
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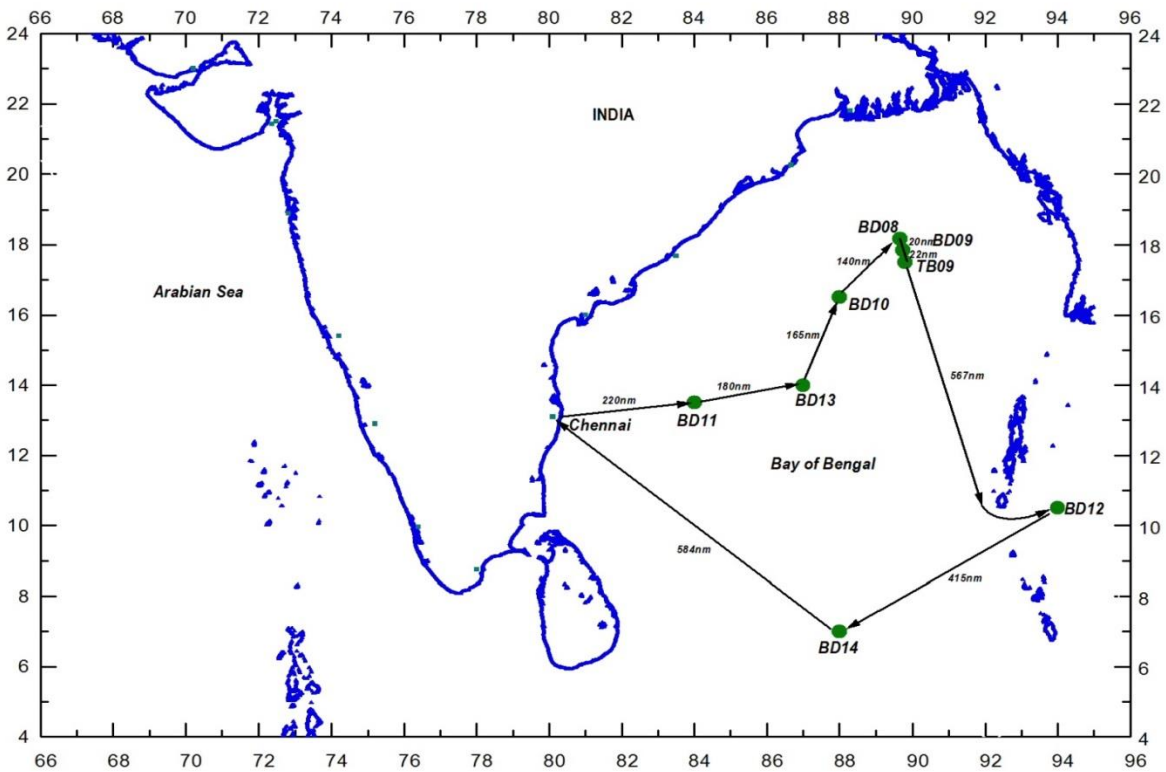
अध्ययन / CHAPTER 3

क्रुज़ ट्रैक / CRUISE TRACK

3.1 Proposed Cruise Track:



3.2 Actual Cruise Track:



3.3 Cruise summary:

With the objectives of deployment and retrieval of four Tsunami Buoys, servicing of seven OMNI buoys we started the SK – 309 cruise from Chennai on 06th February 2014, on board ORV SAGAR KANYA.

Problems faced before sailing:

Oil leak found in National Oilwell crane

Problem in Azimuth thruster.

Reasons for skipping the deployment, retrieval and swapping of Tsunami Buoys

Due to problem in Azimuth thrusters, maintaining the position of ship at exact location for operation (BPR deployment, retrieval and swapping of tsunami buoy) is not possible. Since the scope of tsunami buoy is nearly 1 and the mooring almost crossed 8months, the operations were called off considering the safety of deployment assistants.

Rectification of problems:

Oil leak in National oilwell crane was rectified before sailing. AT is repaired after finishing the cruise.

अध्ययन / CHAPTER 4

दैनिक गतिविधियों का विवरण / DETAILS OF DAY BY DAY ACTIVITIES

Dairy of Events:

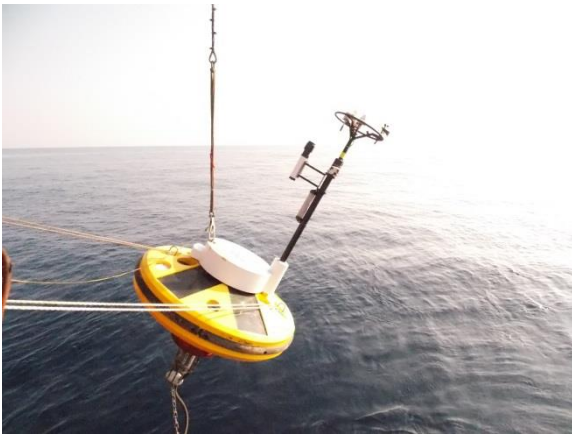
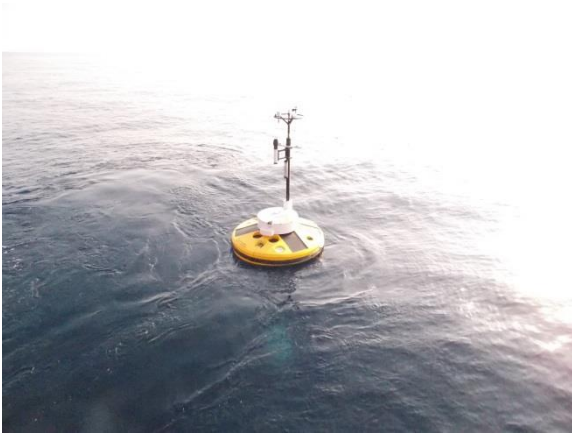
Date & Day (DD/MM/YYYY)	Time (XXXX hrs)	Events Description
06/02/2014 Thursday	1630hrs	Sign on process was completed for all scientists.
	1730hrs- 1930pm	Material segregation and lashing was done. FRP boat boxes were shifted to Balloon deck. Due to Problem in Azimuth thruster's propeller, DP cannot be worked.
07/02/2014 Friday	1230hrs	Capstan winch base welding was completed.
	1830hrs	12T crane oil leaking and ball valve damaged. The spare part which is not available in ship.
	1845hrs	BD11 buoy testing started.
08/02/2014 Saturday	1630hrs- 2030hrs	NIOT Scientists came to vessel to rectify the problem of AT for DP. Finally it was concluded that the problem can be rectified by OEM only.
09/02/2014 Sunday	1645pm- 1820hrs	Capstan winch electrical connection was given. Boat flooring was done with rubber sheet. Mini-m installation was done.
10/02/2014 Monday	0930hrs	Field team met with Captain and Chief Officer regarding operational procedures.
	1430hrs- 1500hrs	CTD operation was carried out.
	1514hrs	Boat lowered on water for the retrieval of BD11 buoy
	1600hrs	Boat on deck
	1605hrs	BD11 Buoy on deck
	1825hrs	Total BD11 mooring was retrieved and operation was completed. New BD11 buoy assembling work was carried out. Bathymetry survey also completed till 0100hrs.
11/02/2014 Tuesday	1517hrs	Buoy was deployed.
	1745hrs	Anchor was deployed.
	1912hrs	CTD on water.
	1956hrs	CTD on deck.
	2100hrs	Vessel started sailing towards BD13 location.
12/02/2014 Wednesday	1755hrs	Vessel was sailing towards BD13 buoy location.
	1800hrs	BD13 buoy was sighted. Since sunset and safety reasons, retrieval operation was planned to execute in next day. CTD was also completed.
13/02/2014 Thursday	0735hrs	Boat lowered on water for the retrieval of BD13 buoy
	0802hrs	Boat on deck
	0815hrs	BD13 Buoy on deck
	1045hrs	Total BD13 mooring was retrieved and operation was completed. New BD13 buoy assembling work was carried out.
	1400hrs- 1700hrs	Bathymetry survey was completed.
14/02/2014 Friday	1500hrs	Buoy was deployed in BD13 location.
	1702hrs	Anchor was deployed.
	1727hrs	Anchor was settled.
	1755hrs	CTD on water
	1830hrs	CTD on deck and vessel started sailing towards BD10 location. Old BD13 buoy servicing was carried out.
15/02/2014 Saturday	1030hrs- 2030hrs	BD10 retrieval operation was started. Buoy release was not released. Buoy and ADCP was retrieved successfully. NIOT spare buoy was attached with the mooring at 2030hrs.

Date & Day (DD/MM/YYYY)	Time (XXXX hrs)	Events Description
16/02/2014 Sunday	0600hrs- 1402hrs	Releasing operation was started at 0600hrs. At various nearby locations (1nm, 0.5nm etc) the release range was checked. From the range values, it was found that the yellow floats surfacing very slowly. Nylon rope and PP rope twisting was found out during retrieval. We took two lines in that main line was taken in capstan and other line in vessel capstan. Due to twist in nylon rope, subsurface floats surfaced after a very long time. Our spare buoy was also retrieved safely. NIOT spare buoy on deck at 1355hrs.
17/02/2014 Monday	1235hrs	BD10 buoy was deployed.
	1355hrs	Anchor was deployed.
	1437hrs	CTD in water
	1522hrs	CTD on deck
18/02/2014 Tuesday	0954hrs	BD8 buoy was sighted at 18 ⁰⁰ 7.932'N, 089 ⁰⁰ 39.331'E. Since the wind speed is 22knots and high swell, the two (BD08 and BD09) retrieval operations were done in critical situation.
	1028hrs	Boat laws lowered in water.
	1047hrs	Buoy was retrieved with ADCP and put on deck.
	1100hrs	Boat on deck.
	1245hrs	Retrieval operation was completed.
	1532hrs	Boat was lowered to retrieve the BD09 buoy.
	1629hrs	BD09 buoy was retrieved with ADCP and put on deck.
	1633hrs	Boat on deck.
	1810hrs	Retrieval operation was completed.
	2018hrs	Bathymetry survey was started for BD09 location.
2335hrs	Bathymetry survey was ended.	
19/02/2014 Wednesday	1330-1410hrs	TB09 buoy's BPR battery status was checked and it was put off.
	1415hrs	Vessel sailed towards BD08 location for bathymetry survey.
	2030- 2342 hrs	Bathymetry survey was done.
20/02/2014 Thursday	1546hrs	BD08 buoy was deployed.
	1658hrs	Anchor was deployed.
	1715hrs	Buoy was settled.
21/02/2014 Friday		Testing of BD09 buoy was going on. Data Waiting for the deployment.
22/02/2014 Saturday		Testing of BD09 buoy was going on. Data Waiting for the deployment.
23/02/2014 Sunday	0715hrs	BD09 Buoy was deployed.
	0805hrs	Anchor was deployed.
	0828hrs	Buoy was settled.
	0932hrs	CTD in water
	1015hrs	CTD on deck and vessel started sailing towards BD12.
24/02/2014 Monday		Sailing towards BD12 location.
25/02/2014 Tuesday		Sailing towards BD12 location.
26/02/2014 Wednesday	0720hrs	Boat was lowered to retrieve the BD12 buoy.
	0815hrs	Buoy was on deck
	0825hrs	Boat on deck
	1050hrs	BD12 mooring Retrieval operation was completed.
	1100hrs	CTD on water. Battery changing operation was done. Servicing of buoy also was started.
	1140hrs	CTD on deck
	1400hrs	Bathymetry survey was started.
	1730hrs	Bathymetry survey was ended.
27/02/2014	1655hrs	BD12 buoy was deployed.

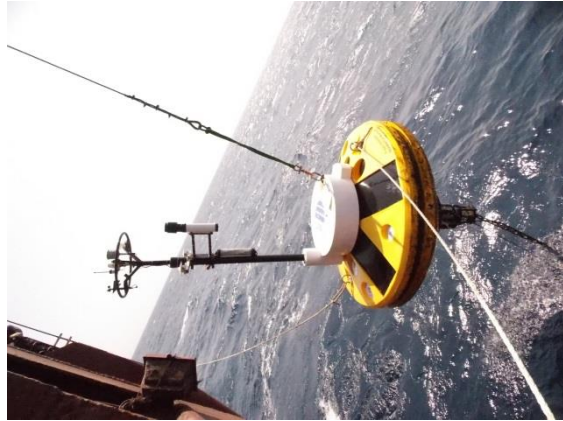
Date & Day (DD/MM/YYYY)	Time (XXXX hrs)	Events Description
Thursday	1822hrs	Anchor was deployed.
	1855hrs	Buoy was settled.
28/02/2014 Friday		Sailing towards BD14 location.
01/03/2014 Saturday	1544hrs	Boat in water.
	1617hrs	Buoy on deck
	1624hrs	Boat on deck
	1845hrs	BD14 Retrieval Operation completed
	1920hrs- 1955hrs	CTD operation and.
	2000hrs- 2330hrs	Bathymetry survey was done
02/03/2014 Sunday	1435hrs	BD14 Buoy was deployed.
	1605hrs	Anchor was dropped.
	1639hrs	Buoy was settled.
	1647-1717hrs	CTD operation was carried out.
	1800hrs	Vessel started sailing towards Chennai.
03/03/2014 Monday		Sailing towards Chennai.
04/03/2014 Tuesday		Sailing towards Chennai.
05/03/2014 Wednesday	1100hrs	Vessel reached Chennai port.
	1600hrs	Sign – off of all participants were completed.

DEPLOYMENT & RETRIEVAL PHOTOS

BD11 - Retrieval



BD 08 Retrieval



BD09 Deployment

