

सागर / SAGAR KANYA- SK 339 CRUISE REPORT
अरबसागरमजामनाबायात

**BUOY DEPLOYMENT AND RETRIEVAL IN ARABIAN SEA
(07th MARCH 2017 to 31st MARCH 2017)**



समुद्रप्रक्षणप्रणा / Ocean Observation Systems
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APRIL 2017

पावती/ ACKNOWLEDGEMENT

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We are very grateful to Mr. M Subramanian, NCAOR for providing ORV Sagar Kanya vessel at the required time for the successful completion of cruise.

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

।वष। / TABLE OF CONTENTS

अध्दु। Chapter No.	/ Description	पृथुस. / Page No.
1	कुऑलर /Objective of the Cruise	01
2	कुऑलर / Cruise Team	02
3	कुऑलर / Cruise Track	03
4	कुऑलर / Cruise summary	04
5	दलनकर / Details of Day to day Activities	05
7	Deployment / Retrieval Photos	07

आ / CHAPTER 1
कुज़लद / OBJECTIVES OF THE CRUISE

कुज़लद / OBJECTIVES OF THE CRUISE:

- Retrieval of OMNI drifted buoy (AD06)
- Retrieval of OMNI drifted buoy mooring (AD06)
- Deployment of OMNI buoy(AD06)
- Retrieval of Data buoy (CALVAL)
- Deployment of Data buoy(CALVAL)
- Retrieval of OMNI drifted buoy mooring (AD10)
- Retrieval of OMNI buoy (AD09)
- Deployment of OMNI buoy (AD09)
- CHATUR Deployment & Retrieval test at sea

ଅଂ / CHAPTER 2
କ୍ରୁଜ୍ ଟୀ / CRUISE TEAM

SI.No	Name	Organization	Rank
1.	Mr.S.Elango	NIOT,Chennai	Chief Scientist
2.	Mr.Biswajithaldar	NIOT,Chennai	Deputy Chief Scientist
3.	Mr.R.Sridharan	NIOT,Chennai	Scientific Assistant
4.	Mr.Jayshankarupadhyay	NIOT,Chennai	Project Scientist I
5.	Mr.T.Raghu	NIOT,Chennai	Project Scientist I
6.	Mr.M.Athiaman	NIOT,Chennai	Project Technician
7.	Mr.T.Balaji	NIOT,Chennai	Graduate Trainee
8.	Mr.K.Aravinth	M/s Elektroniklab,Chennai	Field Engineer
9.	Mr.V.Sivaraj	M/s Elektroniklab,Chennai	Field Engineer
10.	Mr.S.Thivakar	M/s Elektroniklab,Chennai	Supernumerary-Helper
11.	Mr.R.Narayanan	M/s Elektroniklab,Chennai	Supernumerary-Helper
12.	Mr.M.Ravindran	M/s Elektroniklab,Chennai	Supernumerary-Helper
13.	Mr.S,Sridhar	M/s Elektroniklab,Chennai	Supernumerary-Helper
14.	Mr.N.Boopalan	M/s Elektroniklab,Chennai	Supernumerary-Helper
15.	Mr.S.Pushpalingam	M/s Elektroniklab,Chennai	Supernumerary-Helper

अ३ / CHAPTER 3
कृत्रक/ CRUISE TRACK

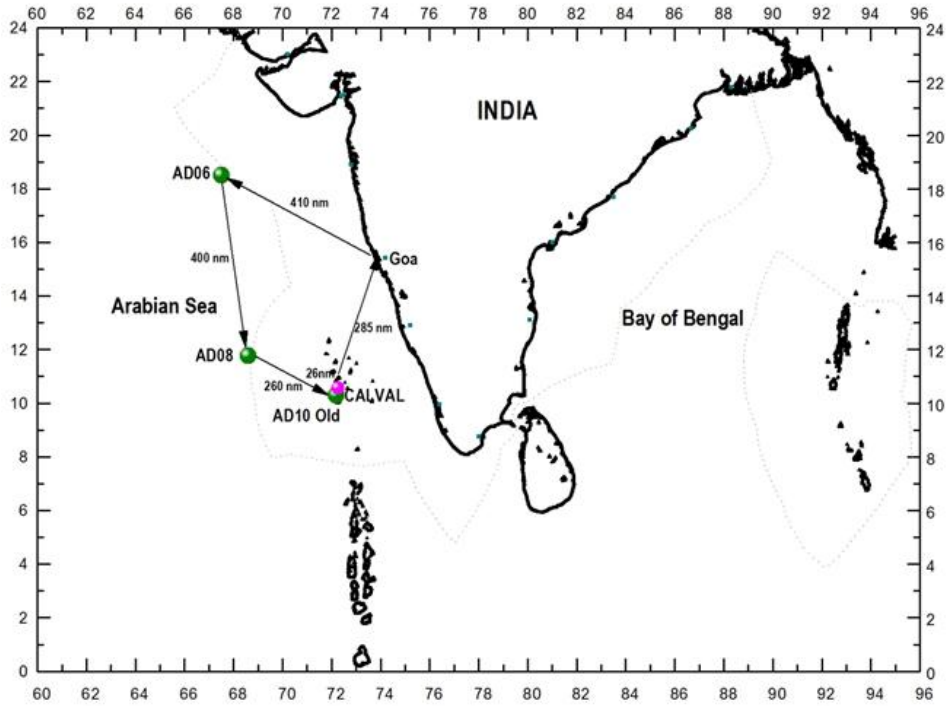


Fig.1 Proposed Cruise Track SK339

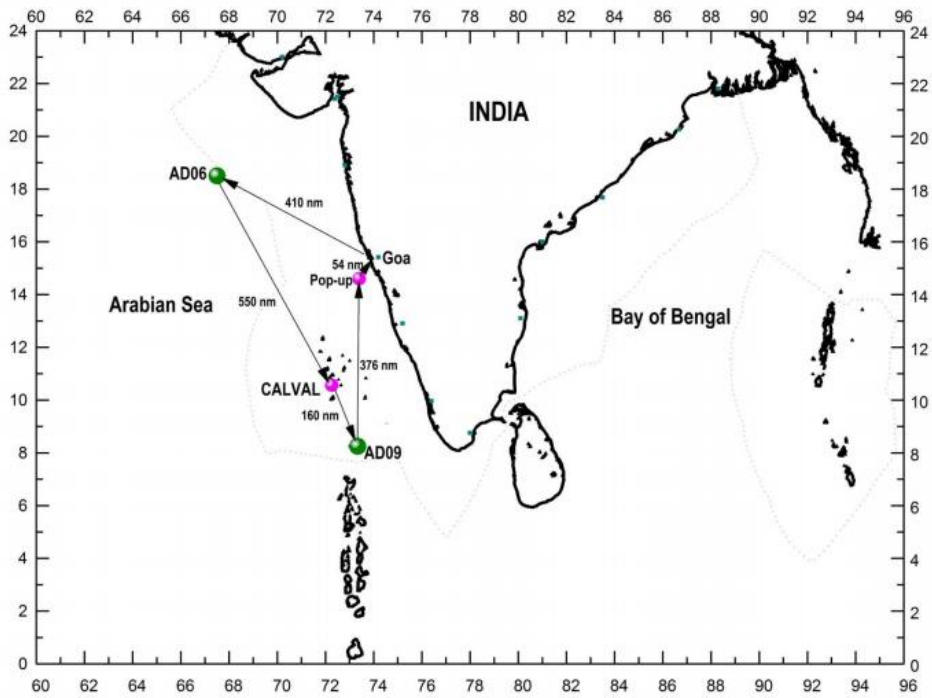


Fig.2 Revised Cruise Track

अ१ / CHAPTER 4
कूजसाराश / CRUISE SUMMARY

With the objectives of deployment of Data Buoy and OMNI buoys. Cruise operation was arranged by OOS, NIOT during March 2017 to retrieve this Data and OMNI buoys. Scientist team, NIOT sailed from Goa on 07th March 2017 onboard ORV Sagar Kanya. Team reached each buoy location 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.

SI. No	DATE	STATION ID	OPERATION	LOCATION		STATION DEPTH(m)
				Latitude	Longitude	
1.	18.03.17	AD06	Buoy Retrieval	19 ⁰ 41.3' N	067 ⁰ 39.1' E	3300
2.	19.03.17	AD06	Mooring Retrieval	18 ⁰ 49.01' N	067 ⁰ 05.00' E	3300
3.	20.03.17	AD06	Buoy Deployment	18 ⁰ 29.44' N	067 ⁰ 27.87' E	3338
4.	24.03.17	CALVAL	Buoy Deployment	10 ⁰ 35.8' N	072 ⁰ 13.61' E	2010
5.	24.03.17	CALVAL	Buoy Retrieval	10 ⁰ 37.03' N	072 ⁰ 17.92' E	2047
6.	25.03.17	AD10	Mooring Retrieval	10 ⁰ 19.06' N	072 ⁰ 11.30' E	2000
7.	26.03.17	AD09	Buoy Retrieval	08 ⁰ 15.43' N	073 ⁰ 21.30' E	1980
8.	27.03.17	AD09	Buoy Deployment	08 ⁰ 14.23' N	073 ⁰ 21.72' E	2015

31 / CHAPTER 5

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/ DETAILS OF DAY BY DAY ACTIVITIES

Day	Time (Hrs)	Events
March 7, 2017 (Tuesday)	--	All the participants signed on and boarded the ship. Capstan winch base welding was completed
To March 14, 2017 (Tuesday)	--	Leak test of POP-UP Buoy antenna casing has been carried out in 30m water depth.
March 15, 2017 (Wednesday)	16:30	Vessel sailed from GOA Port.
March 16, 2017 (Thursday)	07:35	Gravity coring started (for NCAOR) Location: 16 ⁰ 02.2' N, 072 ⁰ 11.35' E
	08:30	Gravity coring finished
	09:00	Deck area cleared
	10:00	Vessel position 16 ⁰ 6.44' N, 072 ⁰ 11.35'E
	11:35	POP-UP Buoy antenna casing assembled and fixed.
	15:23	Jacked wire tested
March 17, 2017 (Friday)	--	AD06 Buoy assembly completed
March 18, 2017 (Saturday)	08:20	Drifted Buoy AD06 sighted.
	09:50	Boat in water
	10:45	Buoy retrieved Location: 19 ⁰ 41.3' N, 067 ⁰ 39.1' E
	10:55	Boat on deck
	11:00	Vessel sailed for AD06 anchor drop location
	15:00	Transmission failure analysis of AD06 completed
	22:00	Vessel reached to AD06 anchor drop location
March 19, 2017 (Sunday)	06:00	Field team reached to main deck.
	07:00	FT was trying to communicate with acoustic release by surface acoustic modem.
	12:20	Yellow float sighted
	12:27	Boat in water
	13:30	AD06 mooring retrieval started
	13:50	Boat on deck
	17:06	AD06 mooring retrieval completed
	17:47	Bathymetry survey (by single beam echo sounder) started
	18:45	Bathymetry survey completed
March 20, 2017 (Monday)	06:00	FT reached to main deck for AD06 deployment
	06:00	Buoy preparation for deployment started
	11:00	Buoy prepared for deployment
	11:18	Buoy dropped in water Location: 18 ⁰ 29.58' N, 067 ⁰ 28.75' E
	13:27	Anchor dropped in water Location: 18 ⁰ 29.44' N, 067 ⁰ 27.87' E
	14:51	CTD survey started
	15:30	CTD survey completed
	06:00	Vessel sailed for the CALVAL Buoy location
March 21, 2017 (Tuesday)	10:00	Vessel position 16 ⁰ 40.5' N, 068 ⁰ 31.7' E
March 22, 2017 (Wednesday)	--	CALVAL Buoy assembly was going on
	10:00	Vessel position 14 ⁰ 05.1' N, 070 ⁰ 05.2' E
March 23, 2017 (Thursday)	--	CALVAL Buoy assembly was going on
	10:00	Vessel position 11 ⁰ 32.8' N, 071 ⁰ 35.8' E
	--	CALVAL Buoy assembly was going on
	20:00	Vessel reached to CALVAL Buoy location

March 24, 2017 (Friday)	06:00	FT reached to the main deck for CALVAL Buoy operation
	07:00	Buoy sighted
	07:25	Boat in water
	08:00	Buoy retrieved (Location: 10 ⁰ 35.8' N, 072 ⁰ 13.61' E)
	08:35	Boat on board
	08:55	Bathymetry survey started
	11:00	Bathymetry survey finished
	12:00	Vessel reached to Buoy drop location.
	12:42	Buoy dropped (Location: 10 ⁰ 35.8' N, 072 ⁰ 17.9' E)
	14:18	Anchor dropped (Location: 10 ⁰ 37.03' N, 072 ⁰ 17.92' E)
	15:52	CTD survey started
	16:20	CTD survey completed
	18:00	Vessel sailed for AD10 location
	22:00	Vessel reached to AD10 location
March 25, 2017 (Saturday)	06:00	FT reached to the main deck for retrieval AD10 acoustic release
	07:00	Communication established with acoustic release and got slant range around 2068m.
	07:05	Release command given but no ACK received
	07:05-17:00	Tried to release from different location by using two Deck Unit but it's not released.
	20:00	Vessel sailed for the next station AD09
March 26, 2017 (Sunday)	06:00-16:00	AD09 Buoy assembly was going on
	16:09	Vessel reached to AD09 Buoy location
	16:25	Release command given from the Deck unit
	16:26	Mooring released
	16:35	Boat in water
	17:20	Buoy retrieved (Location: 08 ⁰ 16.06' N, 073 ⁰ 21.43' E)
	18:12	Boat on deck
	19:15	Mooring retrieval completed
	19:30	CTD in water
	20:10	CTD on deck
	21:20	Bathymetry survey started
22:30	Bathymetry completed	
March 27, 2017 (Monday)	06:00	FT reached to main deck for the deployment of AD09
	06:00-17:00	Final Buoy assembly and data confirmation was going on
	17:10	Data quality checked and got confirmation for deployment
	17:25	Buoy dropped in water (Location: 08 ⁰ 14.15' N, 073 ⁰ 22.61'E)
	19:12	Anchor dropped (Location: 08 ⁰ 14.23'N/073 ⁰ 21.72'E)
	20:10	CTD survey started
	20:55	CTD survey completed
	22:00	Vessel sailed for the location of POP-UP Buoy
March 28, 2017 (Tuesday)	07:00	POP-UP Buoy assembly started
	10:00	Vessel position 09 ⁰ 42.3'N/073 ⁰ 16.9'E
March 29, 2017 (Wednesday)	10:00	Vessel position 12 ⁰ 29.0'N/073 ⁰ 07.7'E
	--	POP-UP Buoy assembly was going on
March 30, 2017 (Thursday)	06:30	Vessel reached to POP-UP Buoy location
	11:30	POP-UP Buoy Deployed (Location: 14 ⁰ 26.53'N/072 ⁰ 53.25'E)
	12:00	Anchor dropped (Location: 14 ⁰ 26.43'N/072 ⁰ 53.03'E)
	13:35	BPR lowered (Location: 14 ⁰ 26.12'N/072 ⁰ 53.01'E)
	13:55	POP-UP buoy was released
	15:35	Buoy on deck
	16:32	Releaser on deck
19:00	Heading towards Goa.	
March 31, 2017 (Friday)	09:00	Vessel reached to GOA port

BUOY DEPLOYMENT & RETRIEVAL PHOTOS

