

# **ORV - SAGAR KANYA**

**Cruise No. SK-340  
(5 April – 8<sup>th</sup> April, 2017)**



## **CRUISE REPORT**

**Submitted by**

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## **Objectives:**

Cruise SK-340 was principally dedicated to seabed sediment collection in Arabian Sea for Bharathidasan University research scholars and training/acclimatization for M.Sc. (Ocean & Atmospheric Sciences) students of University of Hyderabad.

The major scientific and educational operations conducted as a part of cruise SK-340 are;

1. Sediment core collection at four stations (Bharathidasan University)
2. Phytoplankton and zooplankton and sea surface water collection at various locations (Bharathidasan University)
3. Use and training of oceanographic equipment onboard SAGAR KANYA (University of Hyderabad)

## **Cruise Track:**

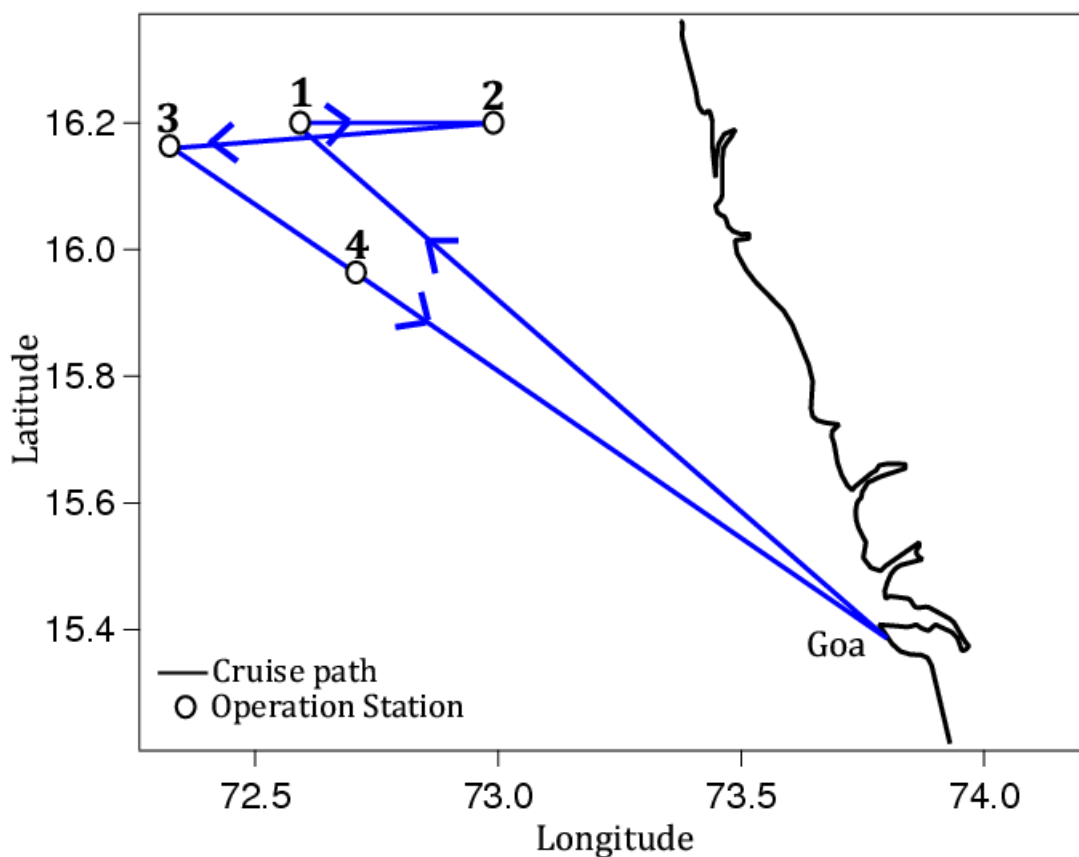


Figure: Map showing cruise SK-340 track and location of operation stations (open circles).

## **Cruise Operation Stations:**

Station 1: latitude 16 deg .12.00 min. N, longitude 072 deg .35.0 min. E, depth ~115 m

Station 2: latitude 16 deg. 12.00 min. N, longitude 073 deg. 00.0 min. E, depth ~67 m

Station 3: latitude 16 deg. 10.00 min. N, longitude 072 deg. 20.5 min. E, depth ~700 m

Station 4: latitude 15 deg. 57.06 min. N, longitude 072 deg. 44.1 min. E, depth ~132 m

## **Participants of SK-340:**

### **Bharathidasan University:**

- |                            |                    |
|----------------------------|--------------------|
| 1. Mr. Siva Chandiran A.   | Researcher Scholar |
| 2. Mr. Santhanakrishnan T. | -do-               |
| 3. Ms. Bharatha Rathna P.  | -do-               |
| 4. Mr. Rameshkumar S.      | -do-               |

## University of Hyderabad:

- |                               |                     |
|-------------------------------|---------------------|
| 1. Dr. Kanawade Vijay Punjaji | Assistant Professor |
| 2. Mr. Kalita Bijit           | Student             |
| 3. Mr. K. Avijit              | -do-                |
| 4. Mr. K. Madan Mohan Rao     | -do-                |
| 5. Ms. Naha Rajshree          | -do-                |
| 6. Mr. Sebastian Mathew       | -do-                |
| 7. Mr. Upadhaya Pankaj        | -do-                |
| 8. Mr. Vikas Kumar            | -do-                |

## **Seabed sediment collection:**

Seabed sediment sample was collected using Gravity corer, Box corer and Peterson Crab at different Stations/depths in the Arabian Sea. Conductivity, Temperature, and Depth (CTD) casts and bucket thermometer were also operated simultaneously at respective and irrespective Stations/depths. Phyto-Plankton and Zoo-Plankton samples were collected using multi plankton net while sailing from station 2 to 3 and station 3 to 4 after sunset and before sunrise.



## Daily operations summary

**04 April 2017, Tuesday**

- ✓ University of Hyderabad participants boarded the Vessel at 14:30 hrs. after completion of all formalities of sign-on
- ✓ Vessel started sailing for anchoring at 17:00 hrs.
- ✓ Vessel anchor dropped at 18:00 hrs

- ✓ Chief Scientist and engineers/technicians discussed cruise operation plan for University of Hyderabad Students at 19:30 hrs.

### **05 April 2017, Wednesday**

- ✓ University of Hyderabad students visited bridge/navigation centre and various laboratories to explore their operation at 10:00 hrs.
- ✓ Vessel starting sailing to Berth at 11:30 hrs.
- ✓ Bharathidasan University research scholars boarded the Vessel at 14:30 hrs after completion of all formalities of sign-on.
- ✓ Chief Scientist, NCOAR team (Mr. M.M. Subramaniam and Mr. Pawan Shriodkar) and Bharathidasan University Research Scholars discussed cruise operations.
- ✓ Vessel started sailing for the stations 1 at 17:30 hrs.

### **06 April 2017, Thursday**

- ✓ Vessel reached Station-1 at 06:30 hrs.
- ✓ Seabed sediment sample collection by a Peterson Crab, Box Corer and Gravity Corer operations were initiated at 07:00 hrs. Seabed sediment sample collection by Gravity Corer was unsuccessful. These operations followed bucket thermometer water sample collection.
- ✓ Vessel then started sailing to Station-2 at 09:30 hrs. and reached at Station-2 at 14:30 hrs.
- ✓ At Station-2, seabed sediment sample collection was performed using a Peterson Crab and Gravity Corer, but Gravity Corer sediment sample collection was again unsuccessful.
- ✓ Captain conducted drilling at 16:15 hrs. Gravity Corer was again operated at this station at 16:30 hrs., and it was successful to collect about only 1 meter of sediment sample. These operation followed by CTD and multi plankton net for collection of water and biological samples.
- ✓ Since, Gravity Corer failed at Station-1, Bharathidasan University Research Scholars met with Chief Scientist and Master and request to add additional Station-3 was sent to NCOAR which was duly accepted.
- ✓ Vessel then started sailing to Station-3 at 18:00 hrs and while it is sailing, Phyto-Zoo Plankton net was operated until 19:00 hrs.

### **06 April 2017, Thursday**

- ✓ Vessel reached at Station-3 at 06:30 hrs.
- ✓ Before reached the station 3, the multi plankton net operation was carried out (5.30 to 6.30 hrs)
- ✓ At Station-3, seabed sediment sample collection using a Gravity Corer and Peterson Crab was initiated at 07:00 hrs. Bucket thermometer and CTD water samples were also collected at this Station.
- ✓ University of Hyderabad Students and Bharathidasan University Research Scholar visited Vessel Engine.
- ✓ Vessel then started sailing to Station-4 at 12:30 hrs which reached at Station-4 at 16:45 hrs.
- ✓ At Station-4 Piston Corer was to collect seabed sediment samples. During the retrieval of the piston corer, the bottom corer barrel was lost along the corer catcher at 18:30 hrs.
- ✓ Vessel stated sailing to Mormugao port at 19:00 hrs.
- ✓ Certificate of sailing was presented to University of Hyderabad students and Bharathidasan University research scholars by Captain at 19:15 hrs followed by 10 minutes presentation by each student of University of Hyderabad as a part of their coursework for the OA-456 (Practicals: Observational techniques in Oceanography).

- ✓ Phyto- and Zoo-Plankton collection was carried out by using multi plankton net at 20:00 hrs., while Vessel is sailing to Mormugao port.

### **Acknowledgment:**

I on behalf of participants of SK-340 cruise would like to thank Director, NCAOR for providing the research vessel "ORV Sagar Kanya" and all the facilities onboard for our operations. I am grateful to Mr. M. M. Subramaniam, NCAOR for all the administrative and logistic supports for successful cruise SK-340. I am truly grateful to Captain, Chief Officer, Chief Engineer and all Officers, CTO, Doctor, Engineers and Technician and Crew members onboard ORV-Sagar Kanya, for their excellent cooperation and support throughout the cruise in making this voyage a very successful. I am also grateful to M/s NORINCO Engineers onboard for their untiring work during repeatedly seabed sediment and CTD water sample collections. I would like extend our sincere gratitude to NCAOR team for allowing us to include additional Station to carry out seabed sediment collection by Gravity Corer as the sediment collection at one of planned station was failed due to shallower water depth. On a personal note, as a young Chief Scientist, I feel very proud and privileged to lead and become part of this successful cruise. I also would like to thank Atlantic Shipping Pvt. Ltd. team for making out all paper work smoothly and in time during Sign-On and Sign-Off process and logistical matters.

Finally, I would like to thank all the members of cruise SK-340 for their support to make this a successful and pleasant cruise.

Date: 22/04/2017

**(Vijay P. Kanawade)**  
**Chief Scientist, SK-340**