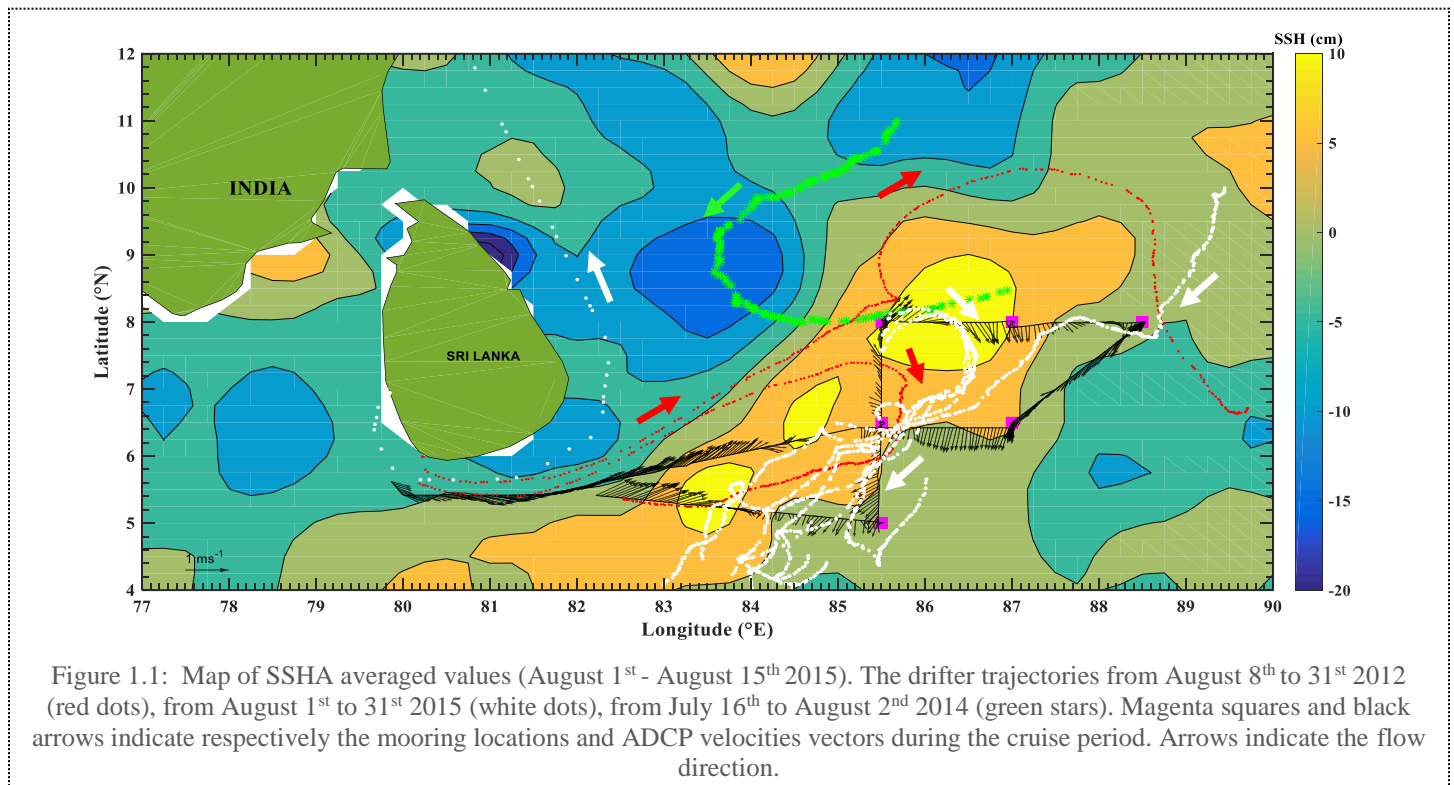


## Dynamics of Waves and Currents in The Bay Of Bengal During Monsoons

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**Project Overview:** Detailed observations of oceanic circulation structure of the Bay of Bengal (BoB) are rare, yet BoB is a critical region where air-sea interactions play a critical role in regional monsoon dynamics. ASIRI-EBOB initiative was conceived realizing this need, under which several cruises and mooring programs were conducted. In addition to this, the upper ocean circulation during the Summer Monsoons season was investigated using drifters observations and AVISO Sea Surface Height (SSH) satellite data. A better understanding of ocean circulation in the BoB, could help improve monsoon forecasts.

**Use of the Indiana View Scholarship:** to promote student development in remote sensing and other geospatial technologies, the scholarship was used to:

- Support laboratory experiments used to simulate in the lab the observed Rossby waves, and to study the formation mechanism of the anticyclonic eddy southeast of Sri Lanka
- Support the attendance to the Ocean Science Meeting in Portland, 2018

### Results:

- The ADCP velocity vectors (black arrows) for August 2015 show the presence of an anticyclonic eddy in the area 82.5°E-87°E, 5°N-8°N.
- Drifters trajectories (red and white dots) for 2012 and 2015 along with SSH map (orange patch southeast of Sri Lanka), confirm the presence of the anticyclonic eddy in the study area
- Hovmöller diagrams and spectral analysis based on SSH data suggest that the anticyclonic eddy is part of Rossby waves propagating northwestward in the Bay.

**Future work:** Analysis of COAMPS model output in order to compare the observed data with the predicted one.

### FOR FURTHER READING:

The results of this research will be submitted to Deep-Sea Research Journal and purposed to be presented at the Ocean Science Meeting 2018