

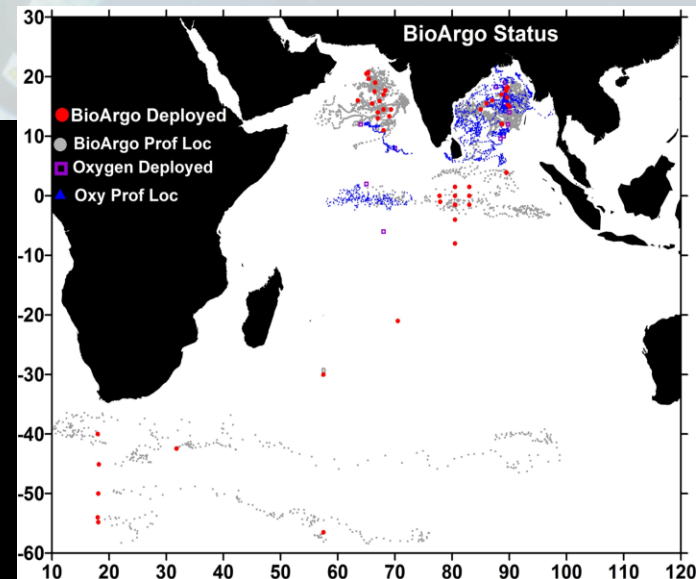
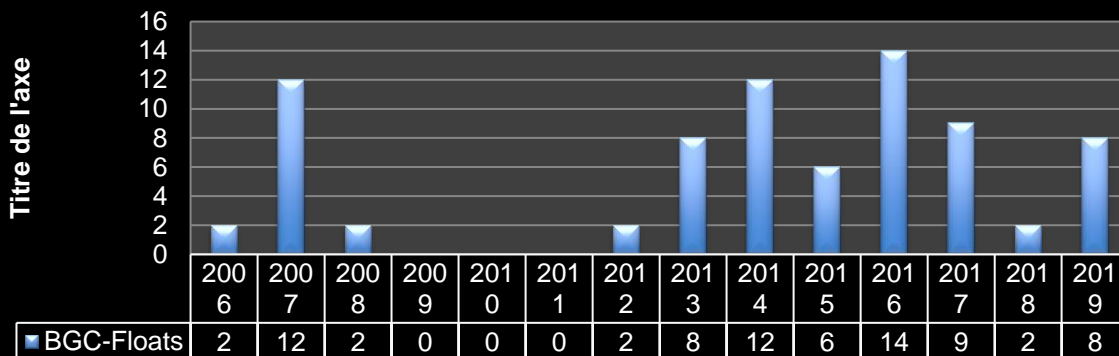


# BGC-Argo Data Management INCOIS/India

TVS Udaya Bhaskar  
INCOIS, India  
20 March, 2023

- 16 Oxygen alone (13 with SBE-IDO and 3 with Aanderra Optode) deployed during 2006 to 2008, with none active.
- From 2012 Bio-Argo floats deployment commenced and in total deployed 67 floats in Indian Ocean (both NKE-Provors and APEX). 18 BioArgo are active currently.
- 4 Bio-Argo APEX floats are deployed in collaboration with NIO-Goa.

### Yearly deployment of BGC-Floats



# Indian Biogeochemical Argo Program: Status and Planning

**BGC Status:** No new floats were deployed last AST. In total 18 of 67 BGC floats are active.

**Implementation of QC of Doxy:** QC proposed by ADMT is implemented for RTQC. SAGE is used for DMQC.

## **Adjusted fields populating:**

DOXY: The audit shared by Josh is being used for adjusting gain factor and populating the adjusted fields.

Chla: Jayaram and Udaya Bhaskar (2021), DSR-II is being used to populate the adjusted fields of Chla. Sample data for few dead floats are generated and submitted to GDAC.

**BBP:** Tested the python code provided by Giorgio. Not implemented yet in real time.

**Nitrate:** No RTQC is implemented yet for BBP and Nitrate.

**Future:** Tender for 50 floats placed. Plan to deploy as and when ships are available.

# Out-reach activities of BGC data

- Enhanced the out-reach activities about BGC Argo data.
- This increased the usage of data from the Bio-Argo floats.
  - In situ data analysis.
  - Assimilation into Model/validation.
- Monitoring all the paper published by various users/universities/scholars.
- Needed in situ data along with BGC-Argo profiles to address comments by potential reviewers (Not sure if any others are facing similar issues).



# On anomalously high sub-surface dissolved oxygen in the Indian sector of the Southern Ocean

Prince Prakash , Satya Prakash, M. Ravichandran, N. Anil Kumar & T. V. S. Udaya Bhaskar

*Journal of Oceanography* **78**, 369–380 (2022) | [Cite this article](#)

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## Abstract

The Southern Ocean (SO) plays a critical role in global ocean productivity and carbon cycling. Bio-Argo floats deployed in the Indian sector of the Southern Ocean provides new insights into the biogeochemical processes. Here we report significantly higher dissolved oxygen(DO) (~ 310 μmol/kg) in summer of 2014–2015 for one float (F1) and winter of 2014 in other float (F2) at sub-surface layer in the subantarctic region of the SO. The summer DO peak in F1 was 10% higher than those during the summer of succeeding year,

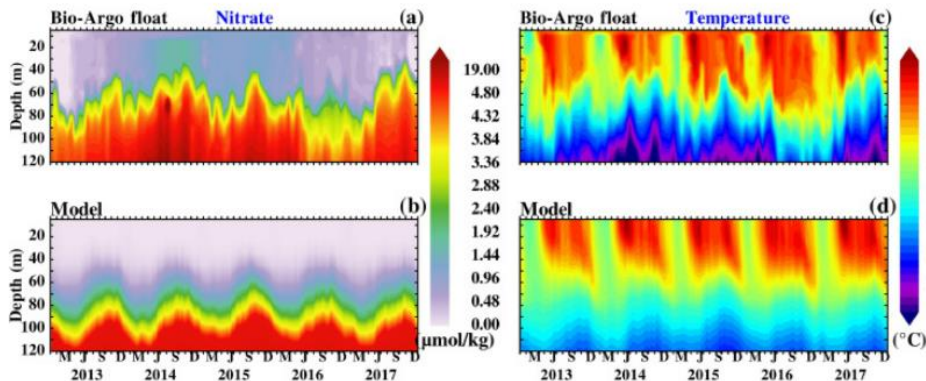
# Surface chlorophyll blooms in the Southern Bay of Bengal during the extreme positive Indian Ocean dipole

M. S. Girishkumar 

*Climate Dynamics* **59**, 1505–1519 (2022) | [Cite this article](#)

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## Outline

- Highlights
- Abstract
- Keywords
- 1. Introduction
- 2. Methods
- 3. Results and discussion
- 4. Discussion and conclusions
- Declaration of competing interest
- Acknowledgments
- Availability of data and material
- Appendix. Supplementary materials
- References
- Show full outline 



## Oceanologia

Volume 64, Issue 4, October–December 2022, Pages 595-614



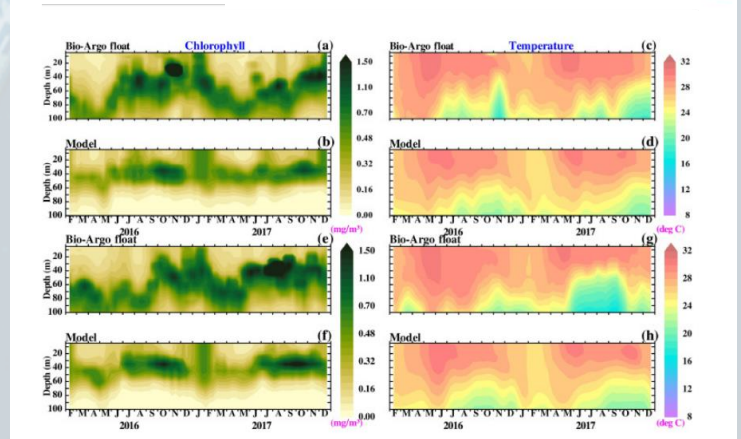
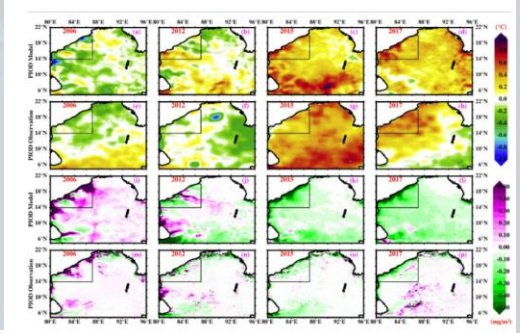
ORIGINAL RESEARCH ARTICLE

# Inconsistent response of biophysical characteristics in the western Bay of Bengal associated with positive Indian Ocean dipole

Vivek Seelanki <sup>a</sup>, Tanuja Nigam <sup>a,b</sup>, Vimlesh Pant <sup>a</sup>  

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# Publications

- Prakash, Prince, Prakash, Satya, Ravichandran, M., Kumar, N. Anil, Bhaskar, T. V. S. Udaya (2022). On anomalously high sub-surface dissolved oxygen in the Indian sector of the Southern Ocean. *Journal of Oceanography* | DOI: 10.1007/s10872-022-00644-7.
- Seelanki, V., Nigam, T., Pant, V. (2022). Inconsistent response of biophysical characteristics in the western Bay of Bengal associated with positive Indian Ocean Dipole. *Oceanologia* | DOI: <https://doi.org/10.1016/j.oceano.2022.04.003>
- Chauhan, A., Singh, R. P., Dash, P., Kumar, R. (2021). Impact of tropical cyclone “Fani” on land, ocean, atmospheric and meteorological parameters. *Marine Pollution Bulletin* 162: 111844 | DOI: [10.1016/j.marpolbul.2020.111844](https://doi.org/10.1016/j.marpolbul.2020.111844)
- Girishkumar, M. S. (2021). Surface chlorophyll blooms in the Southern Bay of Bengal during the extreme positive Indian Ocean dipole. *Climate Dynamics* | DOI: [10.1007/s00382-021-06050-x](https://doi.org/10.1007/s00382-021-06050-x)

# Future

- National Science Workshop on “**Indian Ocean Biogeochemistry**” to bring together all researchers from various institutes onto one platform.
- To procure and deploy possible number of Core & BGC floats in the Northern Indian Ocean.
- To work on the recommendation of ADMT
  - Intercomparison exercise about gain and offset values with Catherine and Raphaelle.
- Continue with QC testing of backscattering data.
- Improve efforts to archive ship-based Chla, Doxy data for DMQC of BGC Argo profiles.



Thank You

