

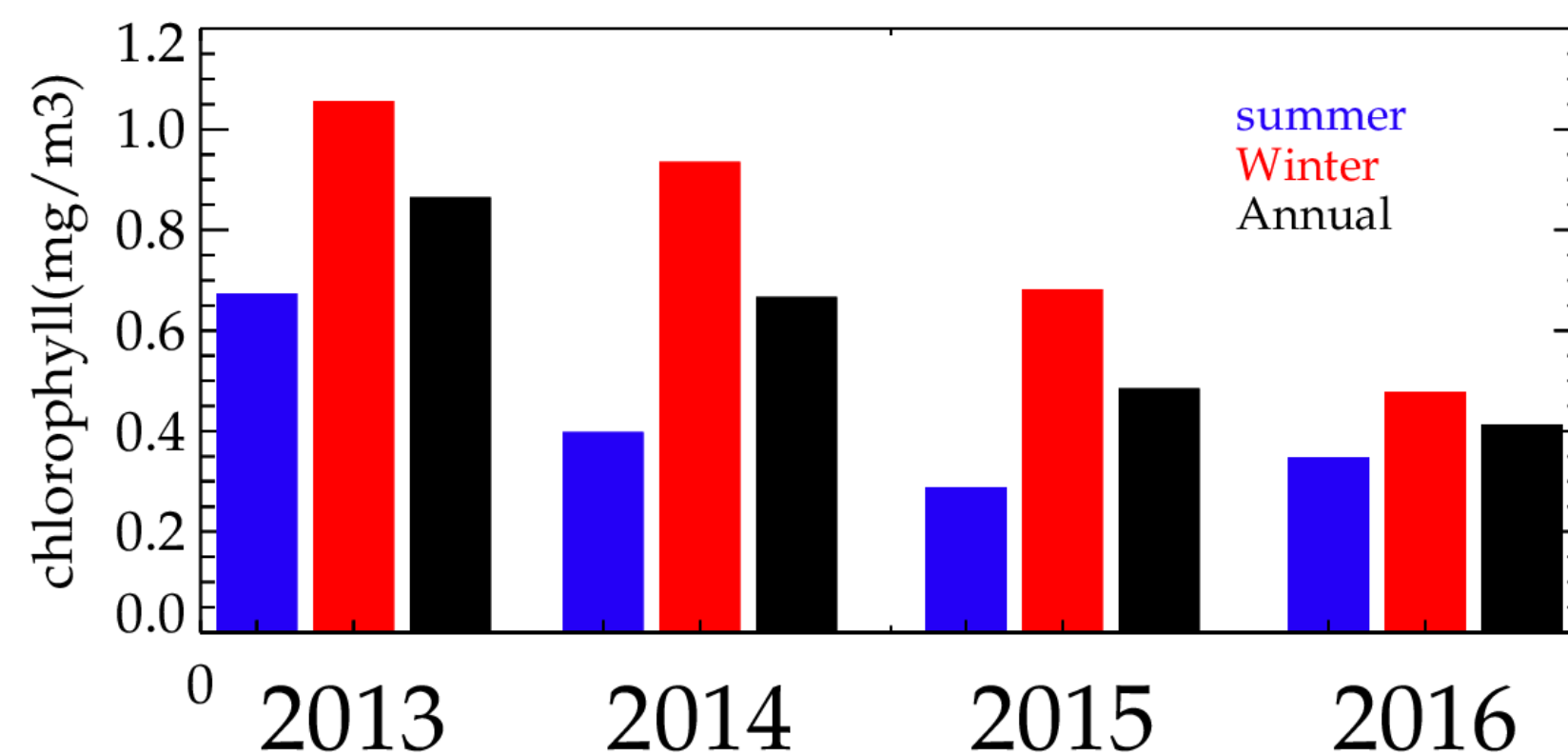
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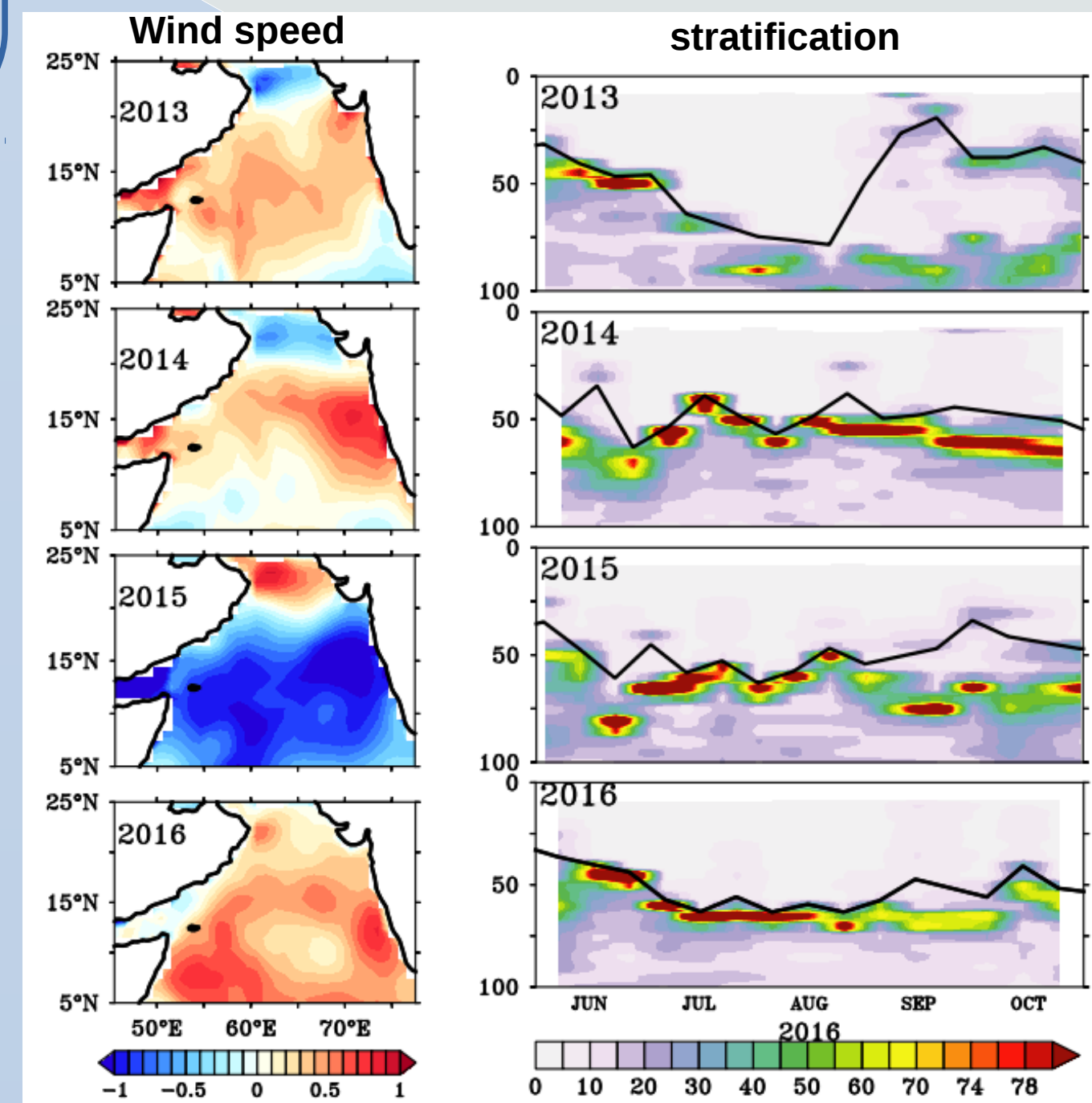
- Central Arabian Sea(CAS) is productive during Summer monsoon(SM) and winter monsoon(WM).
- It is the second most intense Oxygen Minimum Zone (OMZ).
- There have been contradicting reports of increase/decrease in productivity over the past few decades (Goes et al., 2005; Prakash et al., 2013; Roxy et al., 2016).

- Bio-Argo(2902093) Data deployed in central AS

3.1 Observed variability of chlorophyll



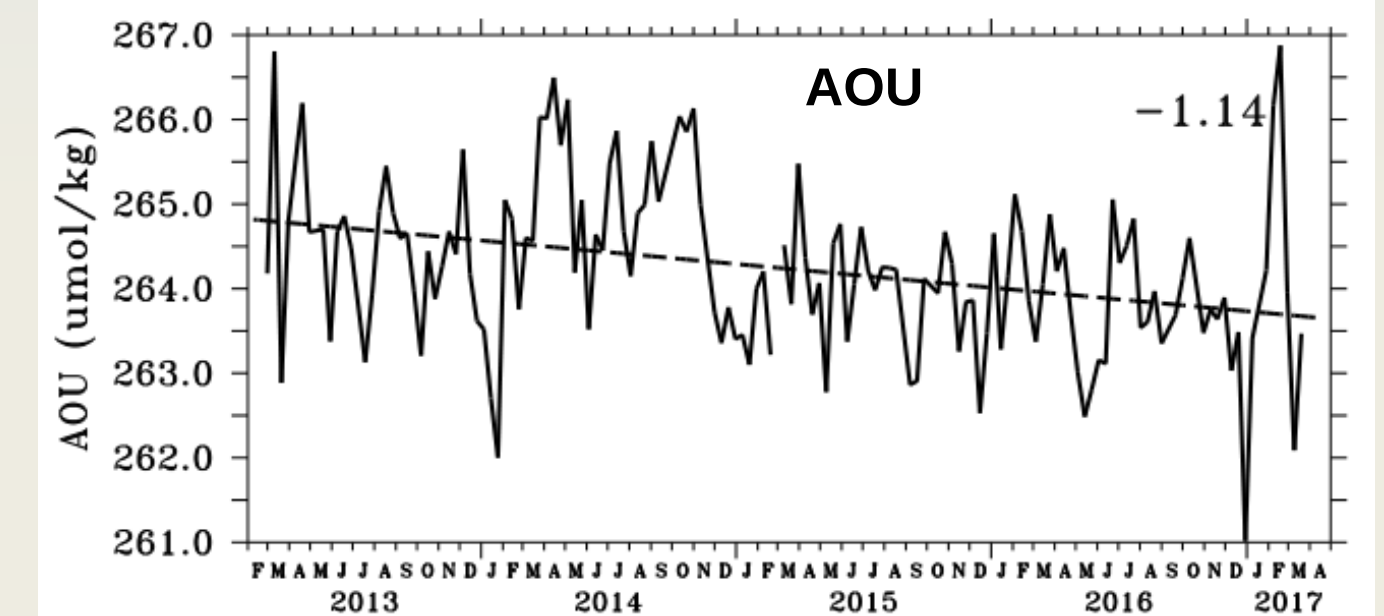
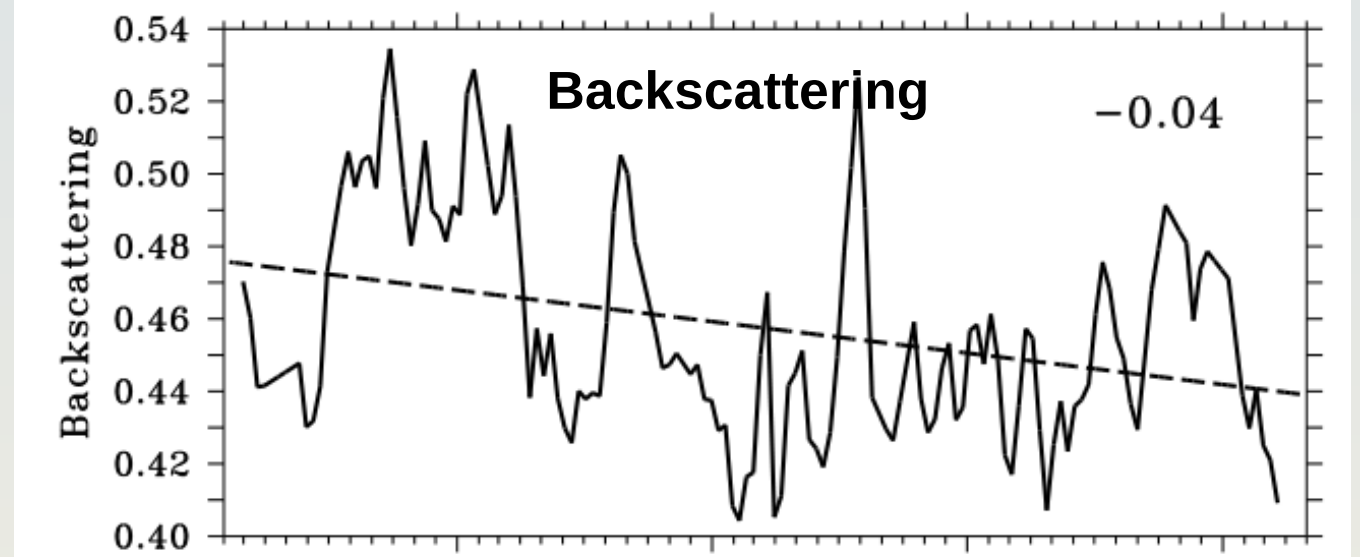
Year	Volume transport (Sv)
2013	6.8
2014	5.6
2015	5.1
2016	4.8

[illegible]

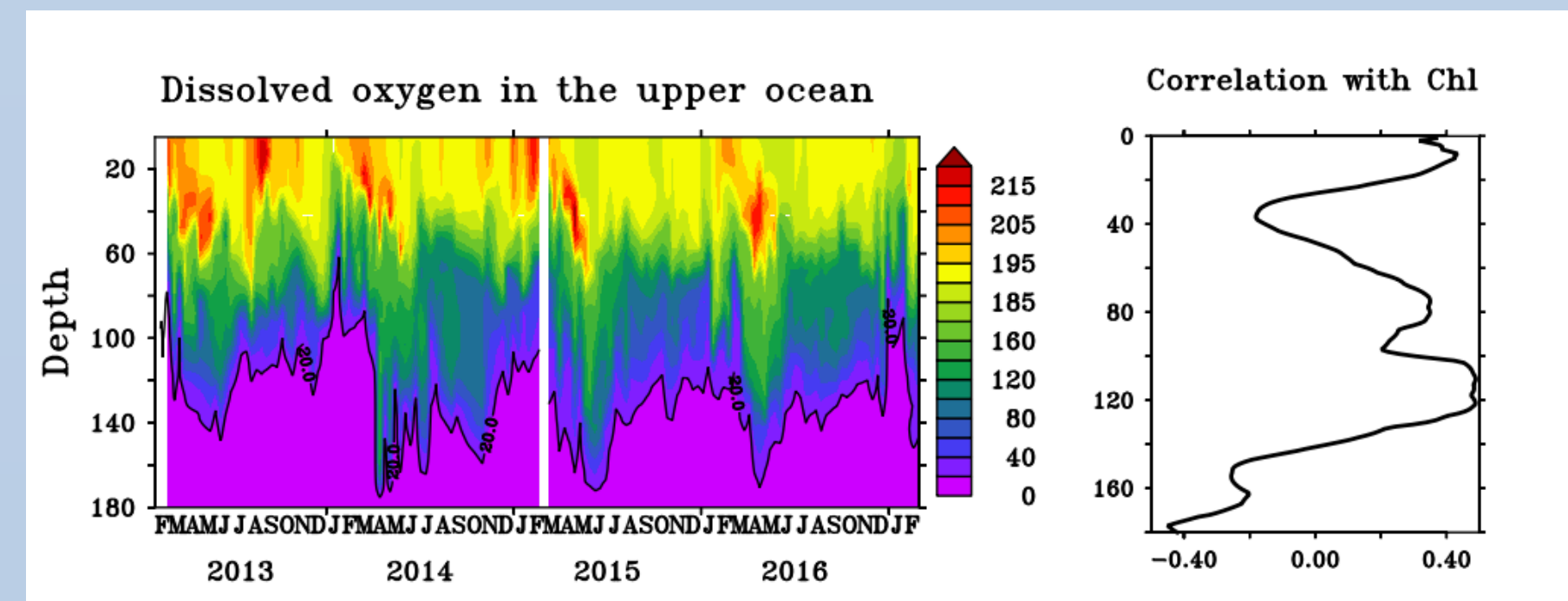
- Oceanic stratification increased over four years during SM and WM
- Lateral advection reduced over four years during SM
- The strength of upwelling Rossby wave decreased over four years during the WM

The graph displays the mean oxygen concentration in the OMZ over a four-year period. The data shows a clear seasonal cycle with annual peaks and troughs. A dashed line indicates a long-term upward trend in oxygen levels, starting around 3.15 in early 2013 and reaching approximately 3.75 by early 2017.

Year	Month	Mean Oxygen
2013	Mar	3.15
2013	Jun	3.10
2013	Sep	3.15
2013	Dec	3.20
2014	Mar	3.25
2014	Jun	3.30
2014	Sep	3.35
2014	Dec	3.40
2015	Mar	3.45
2015	Jun	3.50
2015	Sep	3.55
2015	Dec	3.60
2016	Mar	3.65
2016	Jun	3.70
2016	Sep	3.75
2016	Dec	3.80
2017	Mar	3.75



3.3 observed variability in the oxygen concentration



- The surface productivity has been decreased over 4 years in CAS
- SM bloom was controlled by oceanic stratification, wind speed and lateral advection from CAS
- Rossby wave plays a role on the surface chlorophyll during WM
- Mean oxygen concentration in the OMZ has been increased over four years
- Possible Possible reason for the increase in OMZ oxygen could be the reduction in productivity and the decreased lateral advection from WAS in four years.