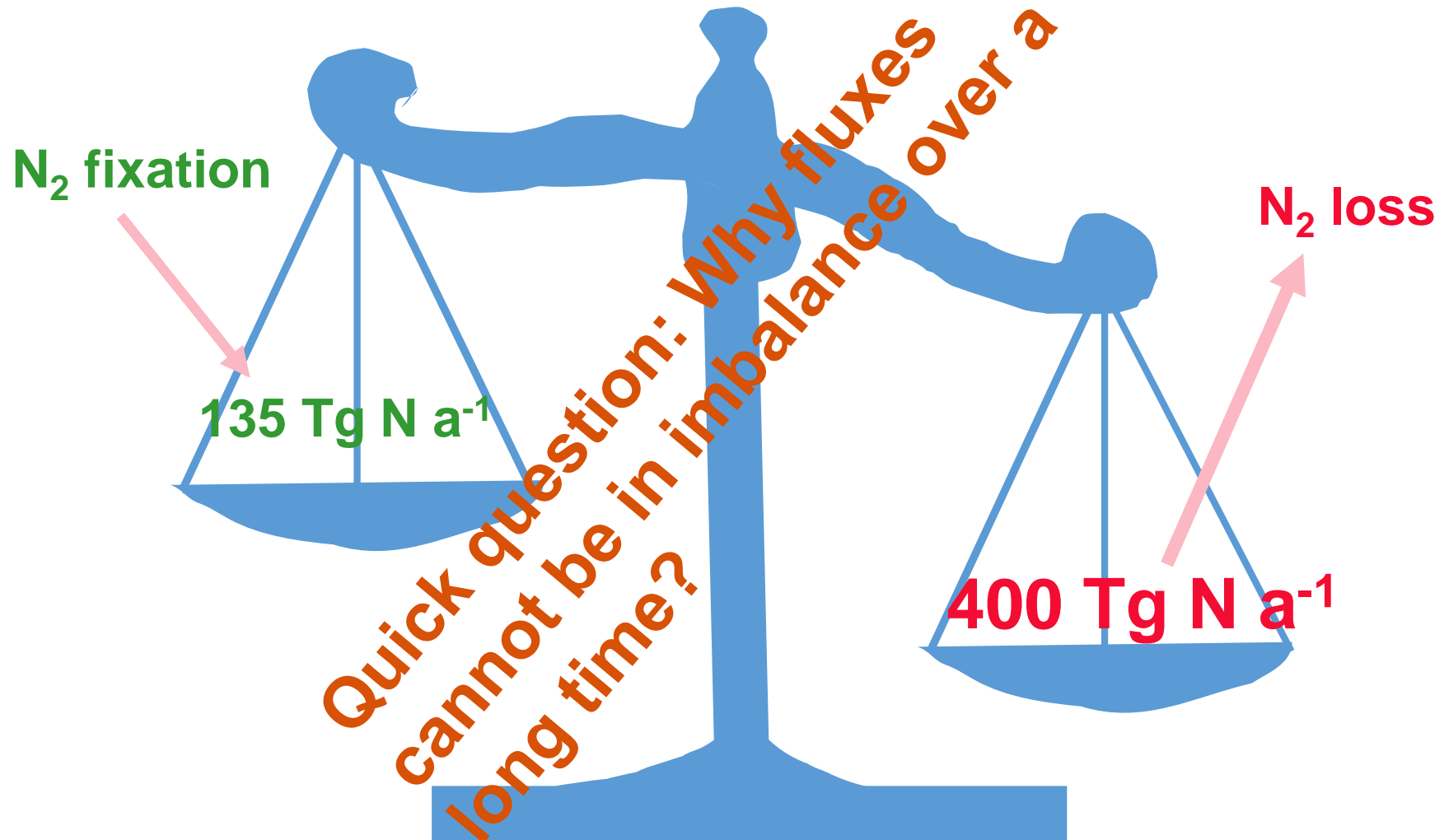


# **Low Dinitrogen Fixation Rates in the Bay of Bengal during Summer Monsoon**

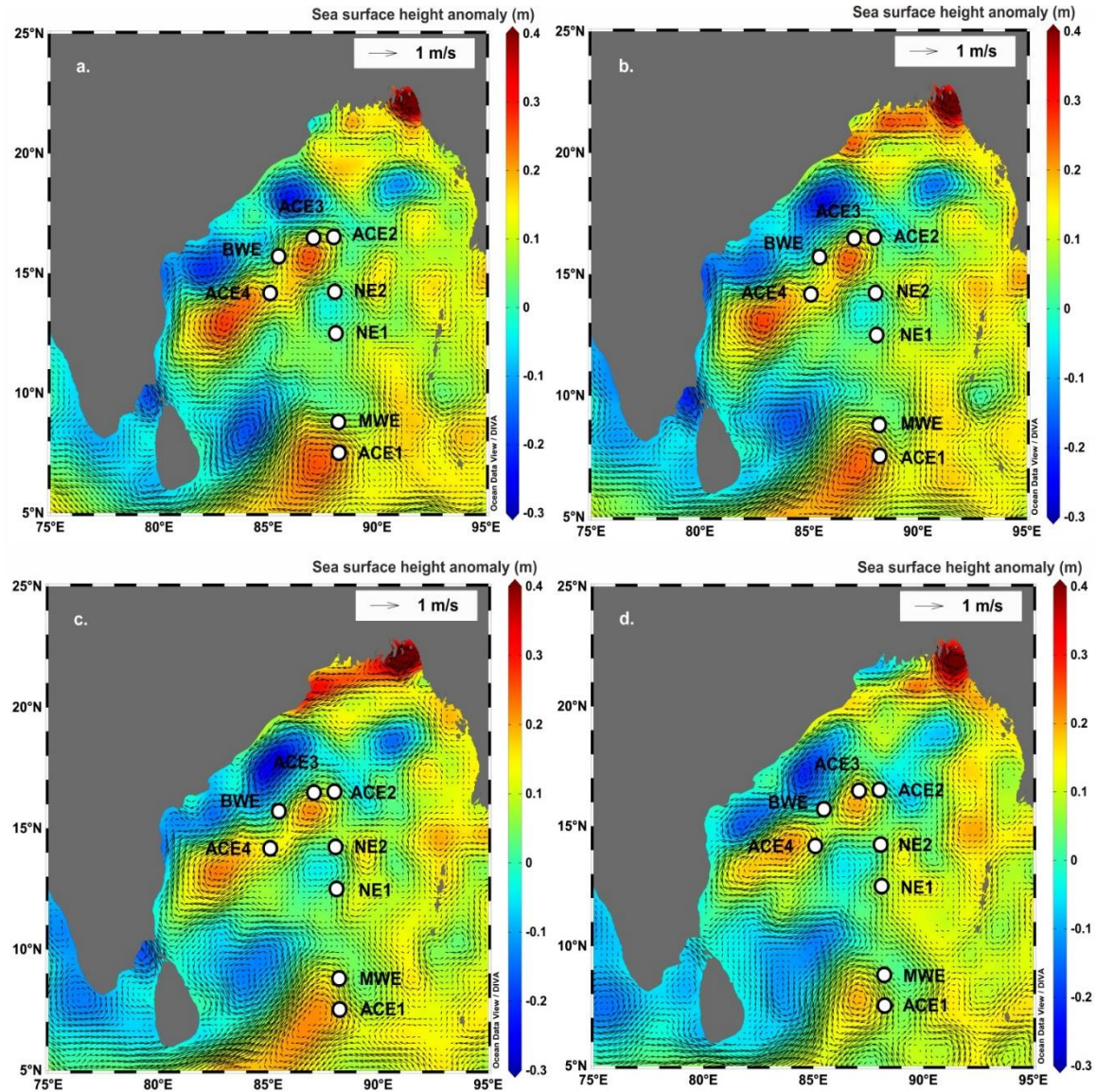
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Sanjeev Kumar, A K Sudheer

Physical Research Laboratory, Ahmedabad, India

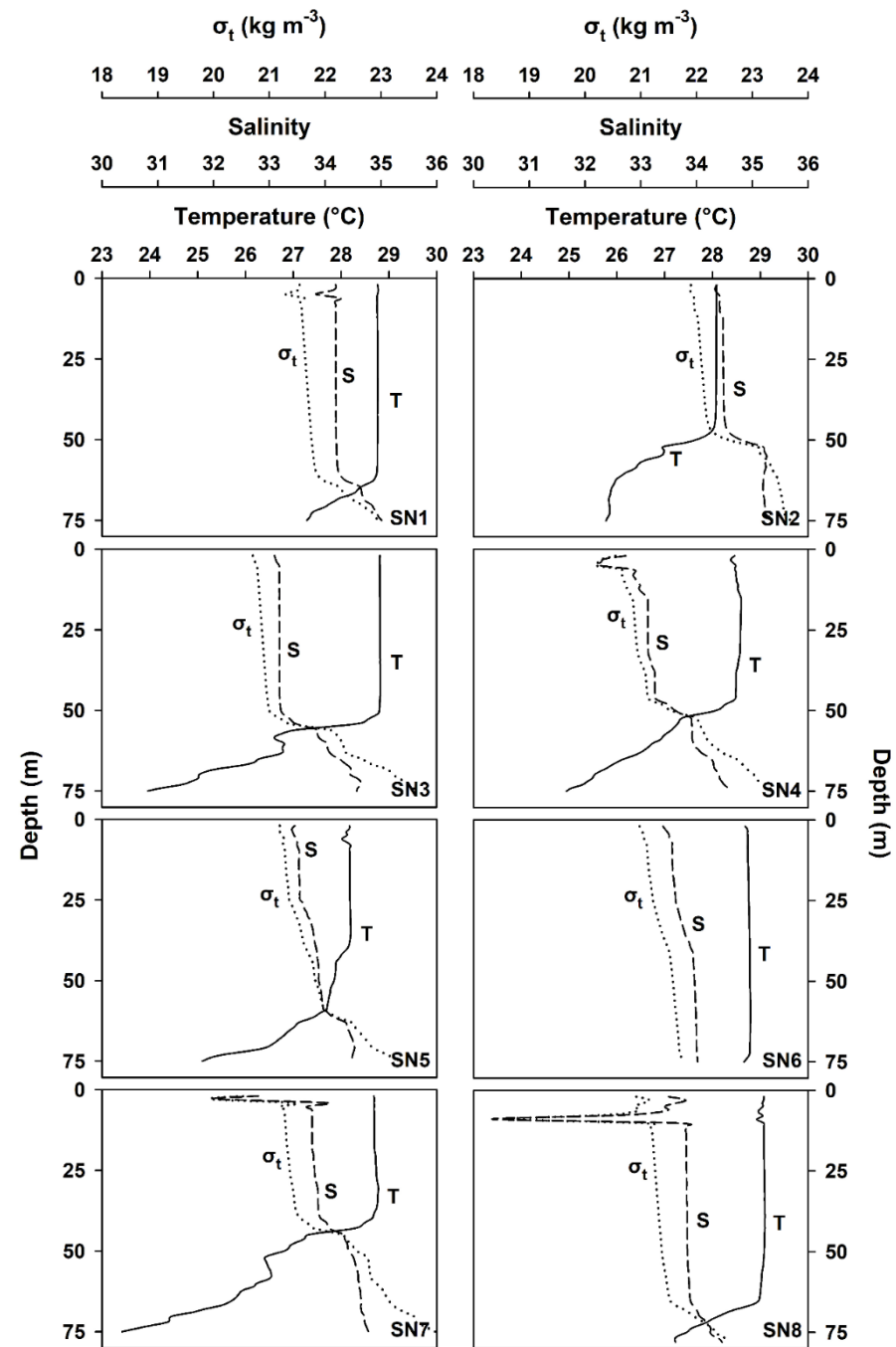
# Motivation - Nitrogen Imbalance



# Sampling Locations (July 2018)

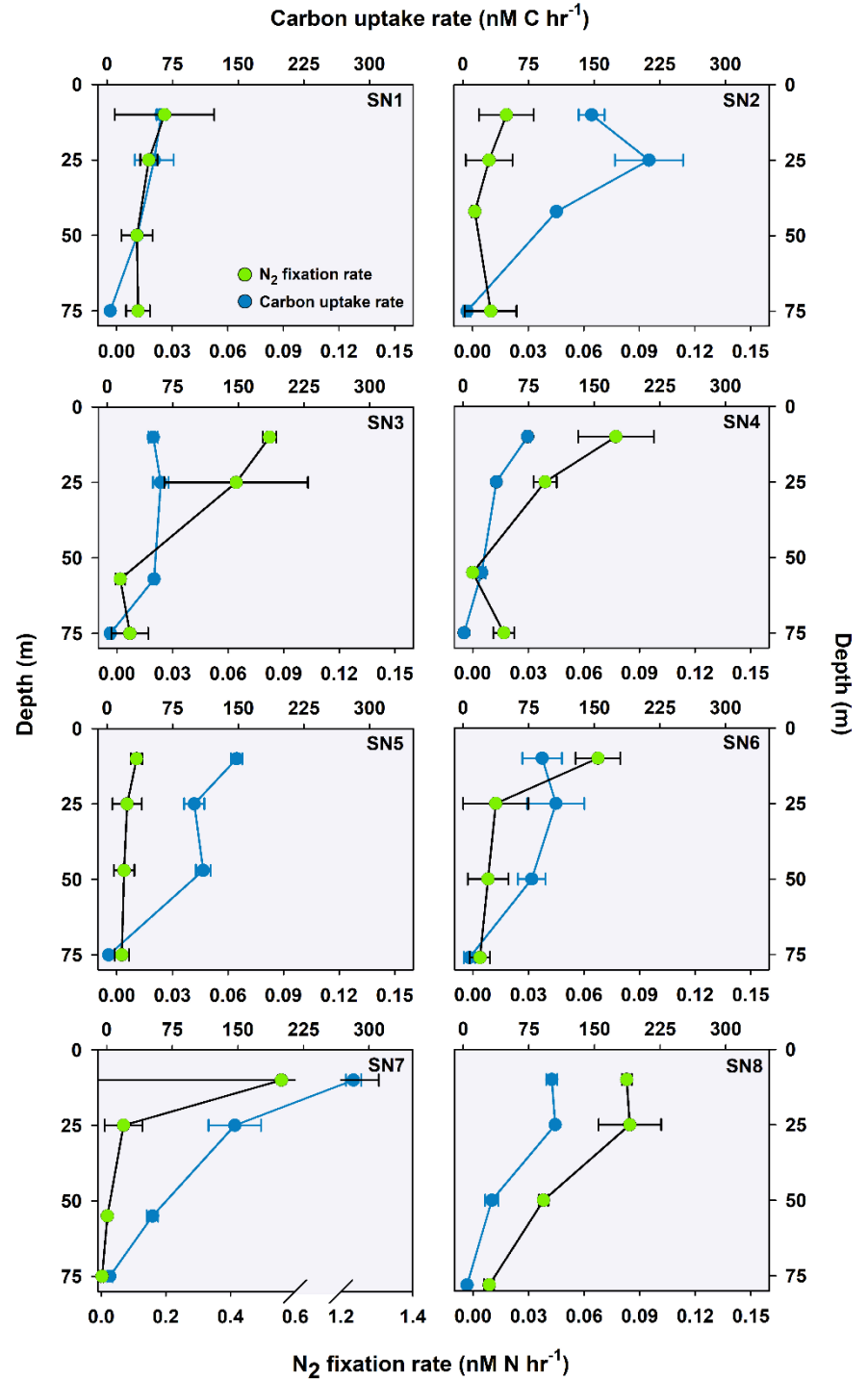


# Physical Properties

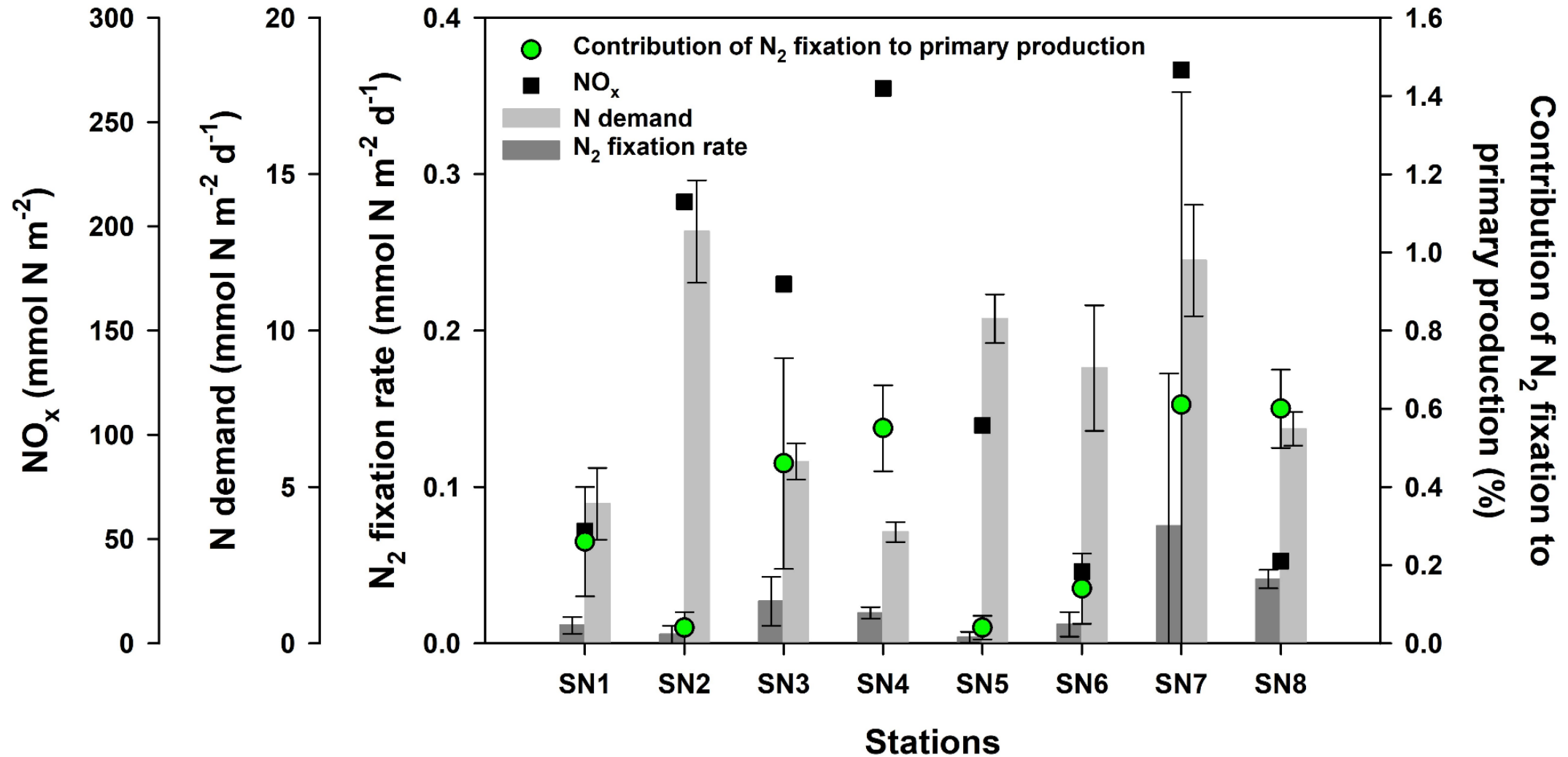




# Volumetric Rates



# Integrated Rates



# Summary

- **First N<sub>2</sub> fixation study within the sunlit layer of the Bay of Bengal.**
- **Bay encounters warm water, excess PO<sub>4</sub><sup>3-</sup> and Fe - prerequisites for diazotrophs, thus we hypothesized high N<sub>2</sub> fixation in the Bay.**
- **Our findings were contrary to our hypothesis.**
- **Contribution of N<sub>2</sub> fixation to primary production was negligible.**
- **Turbidity due to copious riverine discharge and cloud cover over Bay might have contributed towards the low rates of N<sub>2</sub> fixation.**
- **A detailed study (covering all seasons) is needed to estimate the N<sub>2</sub> fixation rates in the Bay.**