# Sea Level Rise and Seagrass Distribution

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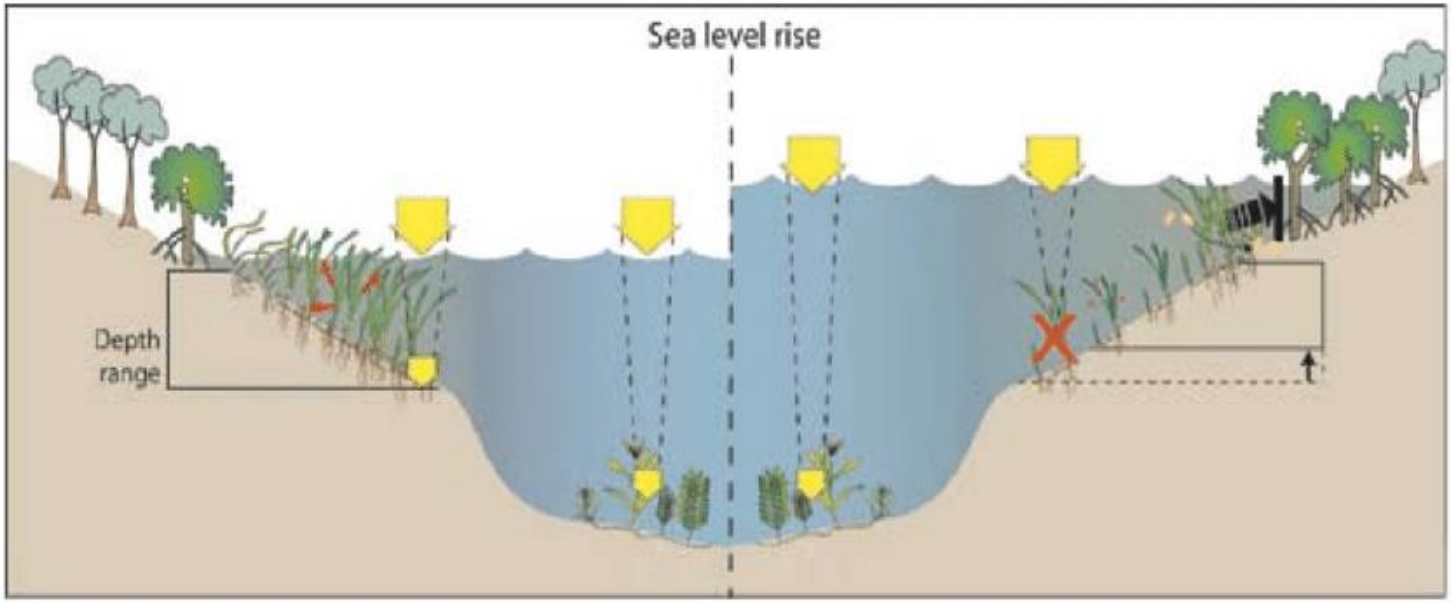
# Introduction

- Sea Level has been rising due to global warming and its effects
- Seagrass are critical habitat for many marine species
- Seagrass appear to be threatened by sea level rise due to change in light availability

https://researchonline.jcu.edu.au/8566/

# Research Question

*Can we already see impact of sea level rise on seagrass distribution?*

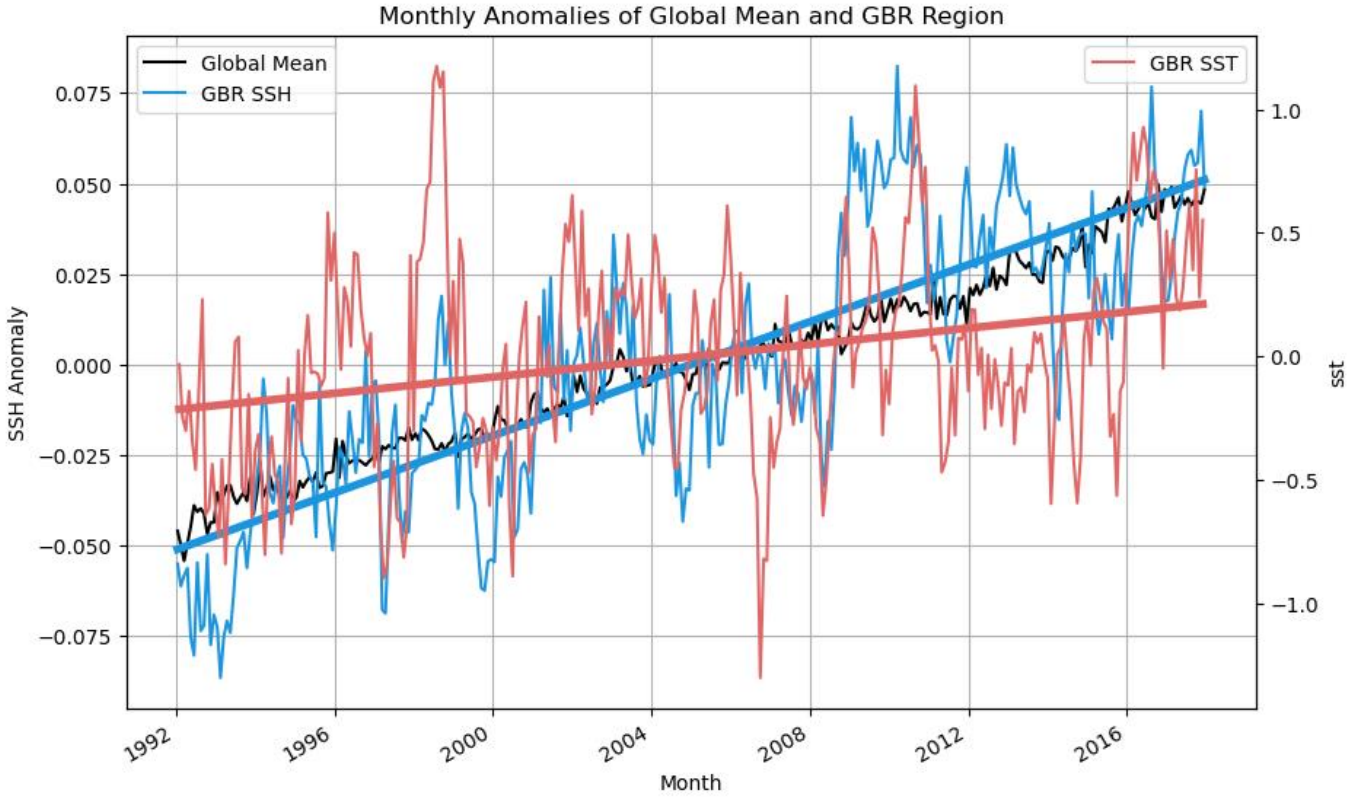


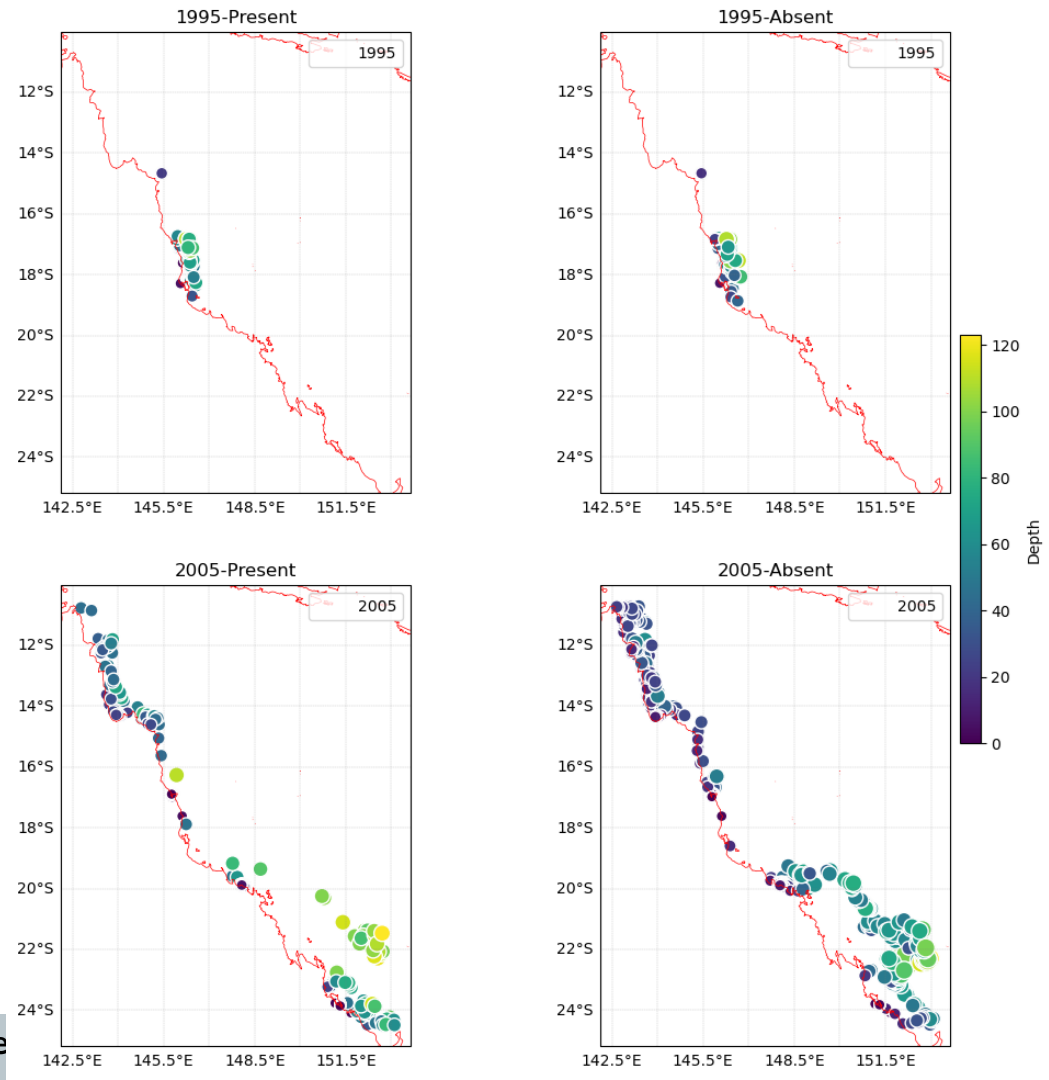
# Methodology – Datasets

- ECCO(Estimating the Circulation and Climate of the Ocean) by NASA
  - Time Duration: 01/1992 - 12/2017
  - Variable used: sea surface height(SSH)

- Seagrass mapping synthesis of Great Barrier Reef, Australia
  - 81000 records
  - Presence/Absence of seagrass on different location
  - 1984 - 2015

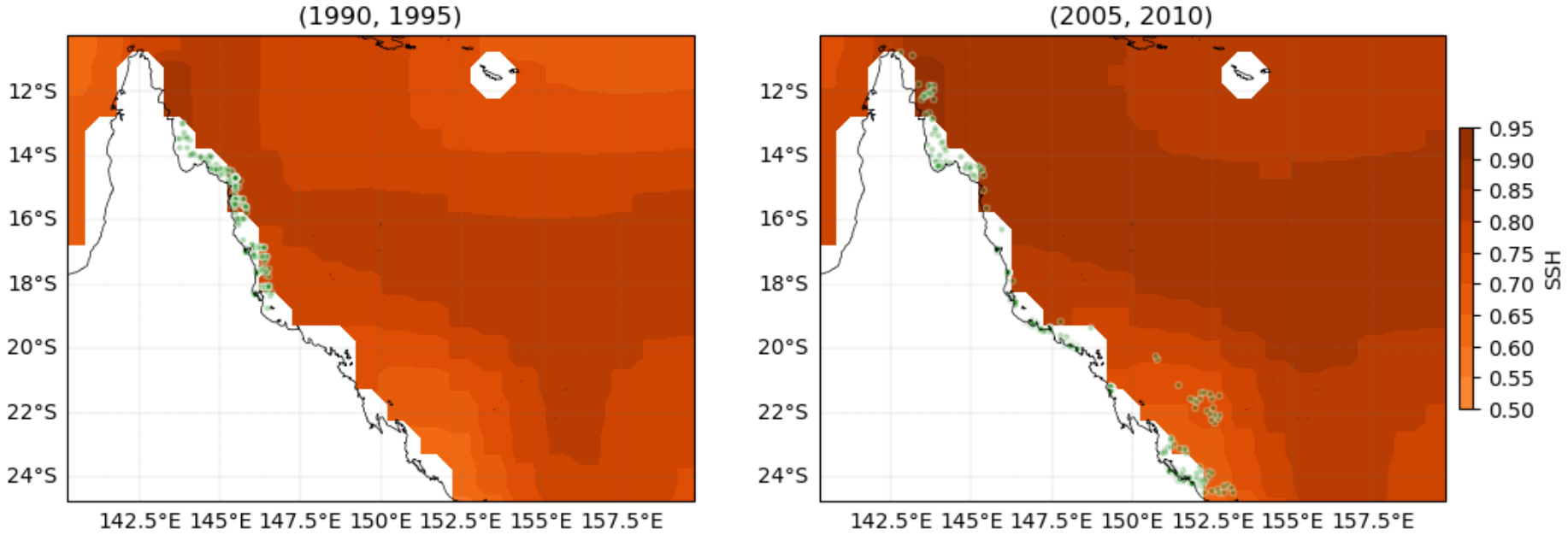
SSH and SST Anomalies:






**Seagrass Distribution at two time points**

# Sea surface height and seagrass records



# Summary and Next step

- *No clear trend in seagrass distribution shift*
- Seagrass: maybe *resilient* to environmental changes?
- Need to consider pH, temperature, habitat etc…
- Data limitations: same locations, same time points?
- Data of outside western world? → Philippines as biodiversity hotspot but no data

# References

ECCO dataset: https://ecco-group.org/

Seagrass dataset: https://eatlas.org.au/data/uuid/5011393e-0db7-46ce-a8ee-f331fcf83a88

Publication on GBR seagrass: https://researchonline.jcu.edu.au/8566/