

# Talk #136, 6/21/23

## 136<sup>th</sup> meeting of the Lyncean Group of San Diego

**Date:** Wednesday, 21 June 2023

**Location:** Southwestern Yacht Club  
2702 Qualtrough Street  
San Diego, CA 92106 (Point Loma)

**Speaker:** Prof. Lynne D. Talley, Scripps Institution of Oceanography, UCSD, La Jolla, CA

**Topic:** The ocean's large-scale circulation with emphasis on the Antarctic - Observations to process understanding to climate implications

### **Presentation outline:**

- Global scale ocean observing with ship-based measurements and autonomous instruments
  - Heat trends
  - Anthropogenic carbon trends
  - pH trends
- Global ocean surface circulation
  - Absolute sea surface height
  - External forces that drive large-scale circulation
- Global ocean overturning circulation (top to bottom)
  - Effects of temperature, salinity & density
  - Vertical mixing
  - Sea ice: dual role in water mass formation
- Climate system: heat & carbon

Prof. Talley's presentation is available for download here:

[https://lynceans.org/wp-content/uploads/2023/07/Lyncean\\_Talley\\_june2023-compressed.pdf](https://lynceans.org/wp-content/uploads/2023/07/Lyncean_Talley_june2023-compressed.pdf)



Our favorite sandwich buffet.




Welcome back!



Bill Hagan introduced our speaker.



His slides are available for download here:

<https://lynceans.org/wp-content/uploads/2023/07/Hagan-Meeting-Slides-6-21-23-compressed.pdf>



# The ocean's large-scale circulation with emphasis on the Antarctic

Observations to process understanding to climate implications

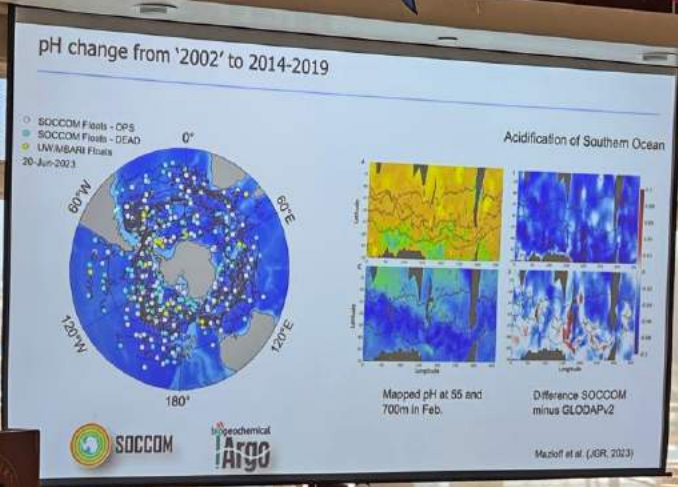



Lynne D. Talley  
 Scripps Institution of Oceanography, UCSD, La Jolla, CA

Lyncean Society  
 June 21, 2023

Special thanks to PhD students and collaborators:  
 Veronica Tamsitt, Jia-Rui Shi, Channing Prend, Laura Cimoli

ISA ROSSO



pH change from '2002' to 2014-2019

- SOCCOM Floats - CP8
- SOCCOM Floats - DEAD
- UW/BARR Floats

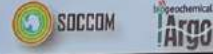
20-Jun-2023

Acidification of Southern Ocean

Mapped pH at 55 and 700m in Feb.

Difference SOCCOM minus GLODAP-2

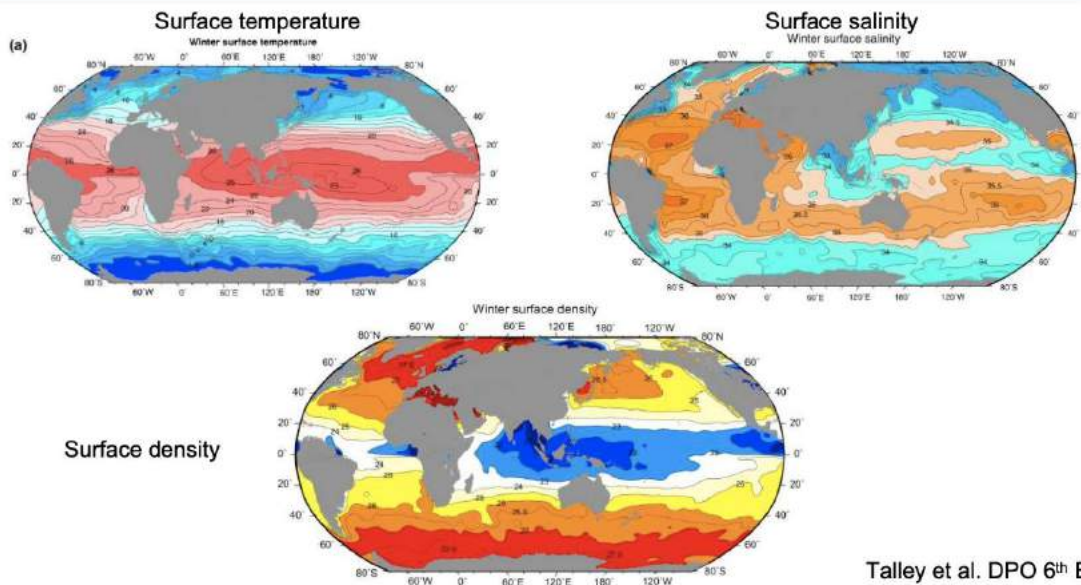
Mazloff et al. (JGR, 2023)





50 Lyncean members and guests attended the June luncheon meeting.

### Ocean surface temperature, salinity, and density





Dr. Talley's was the 2016 awardee of the AMSOC "Albatross" award. Find out more about this prestigious award here: [Albatross Award of the American Miscellaneous Society](#)



Bill Hagan presented Dr. Talley with The Lyncean Group of San Diego's Scary Little Lynx Award.

