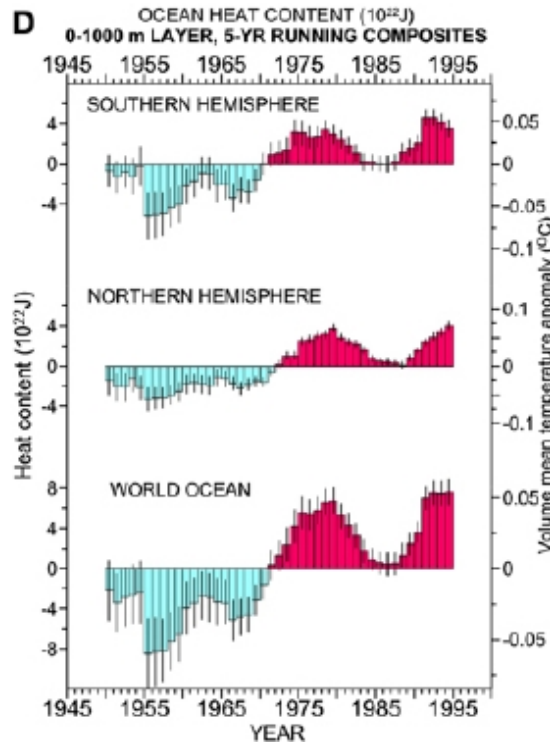


Climate Change in the Antarctic Circumpolar Current

Sarah Gille

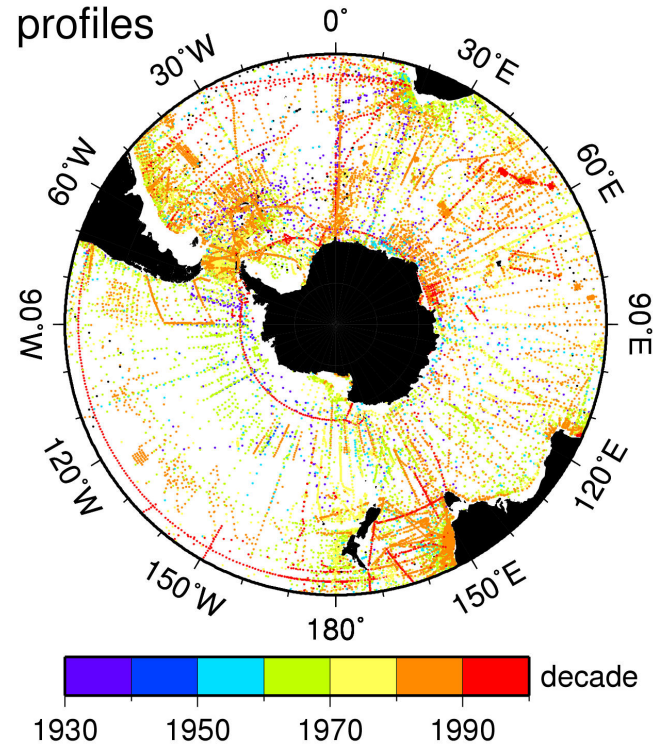
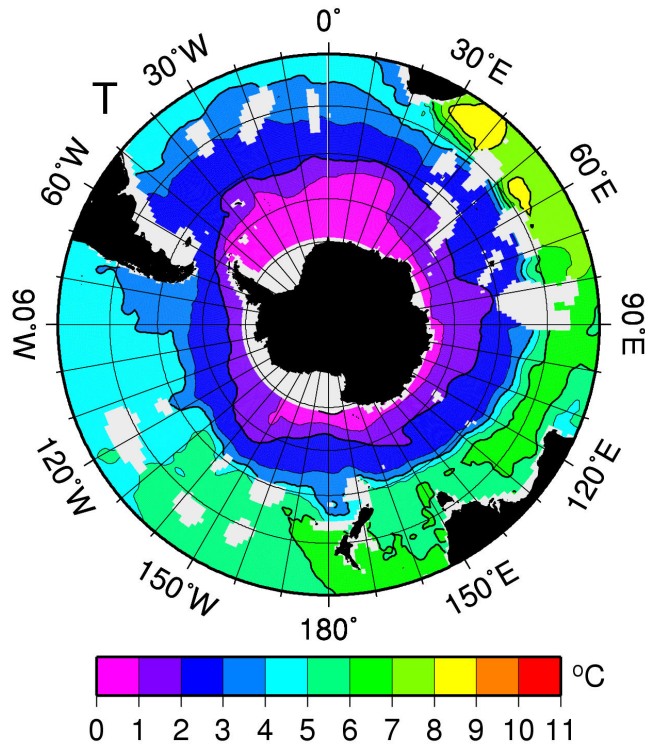
Scripps Institution of Oceanography and
Department of Mechanical and Aerospace
Engineering
UCSD, La Jolla, CA

Global Temperature Trends

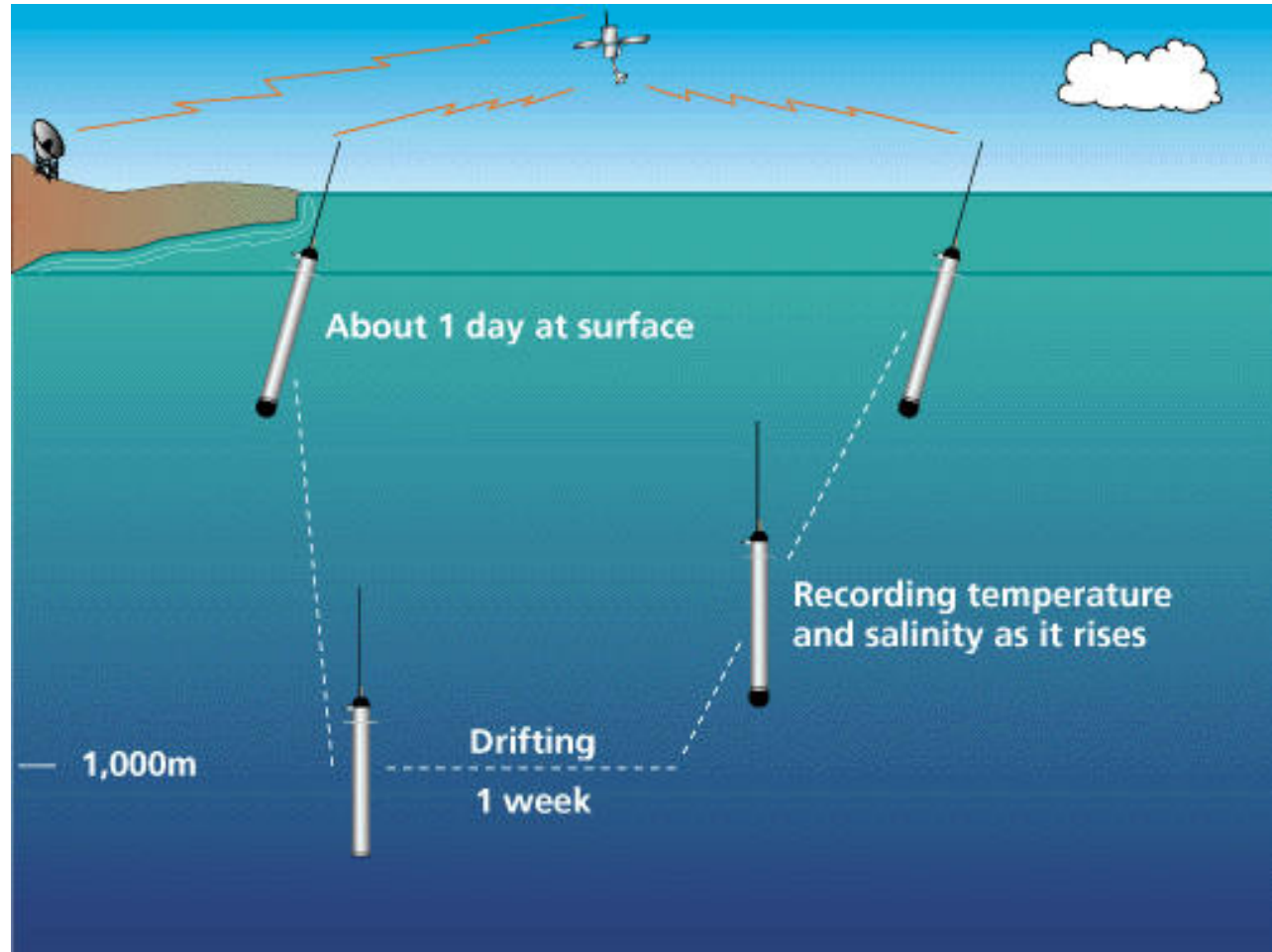


Levitus, 1998

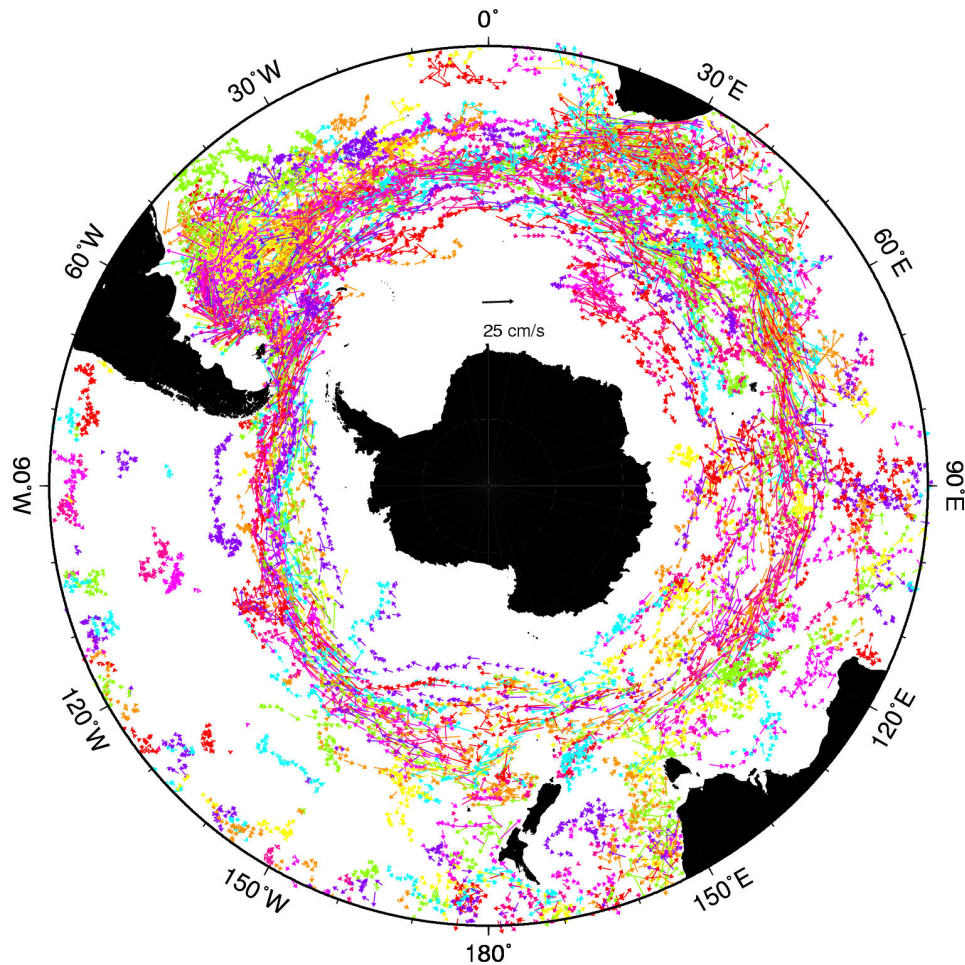
Southern Ocean data (900 m depth)



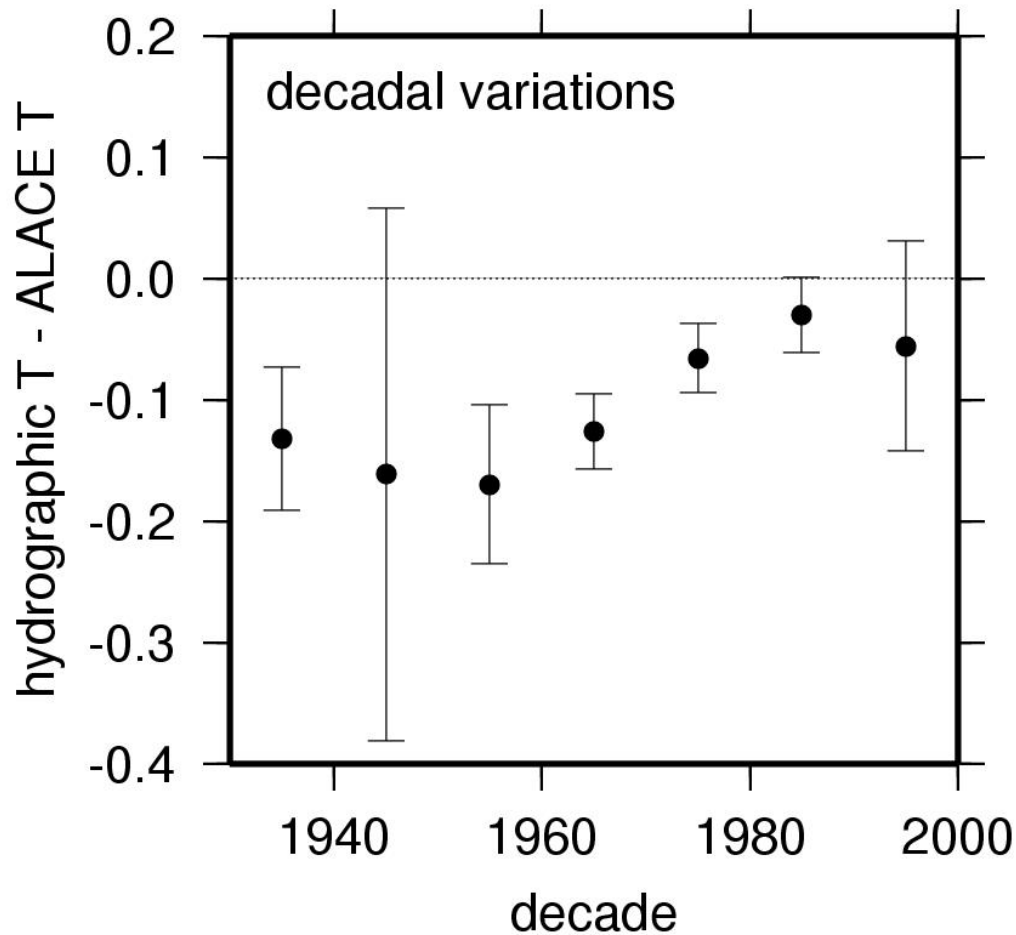
Autonomous Floats: ALACE, PALACE, and ARGO



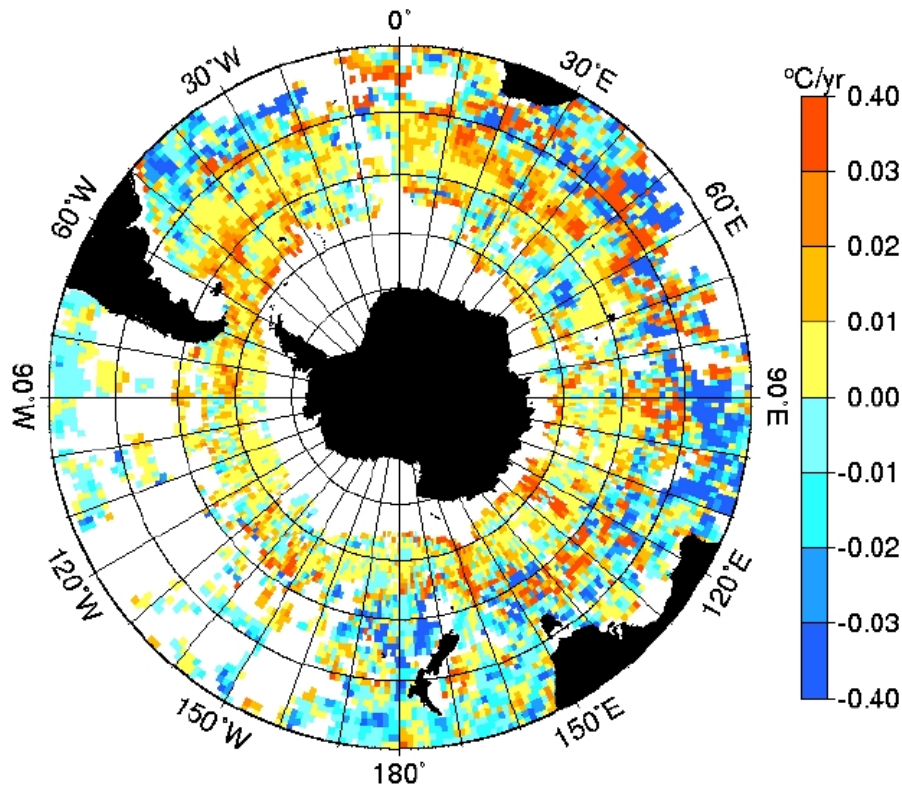
ALACE/PALACE measurements from the 1990s



Temperature Trends (700 to 1100 m depth)



Temperature Trends (700 to 1100 m depth)



Open Questions: “Don’t Quote Me”

- Are these patterns due to anthropogenic climate change?

- Will the deep ocean warm?

Deep ocean links to surface at high latitudes

- Will Antarctica warm?

- Will sea level rise?

Melting all global ice would raise sea level by 70 m.

- Will more CO₂ stay in the ocean?

Gases are more soluble in cold water than in warm water.