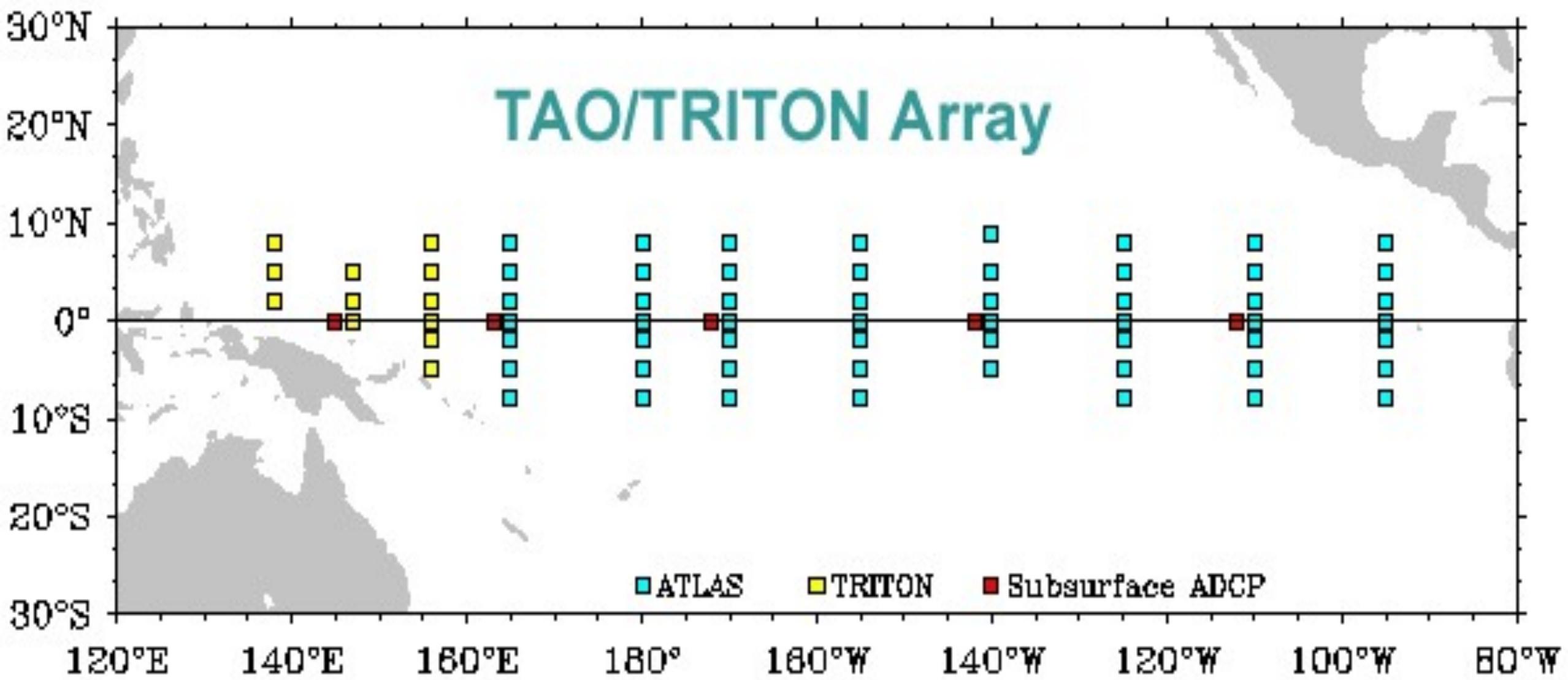


# The NOAA Climate and Global Change Program 1985 – 2005

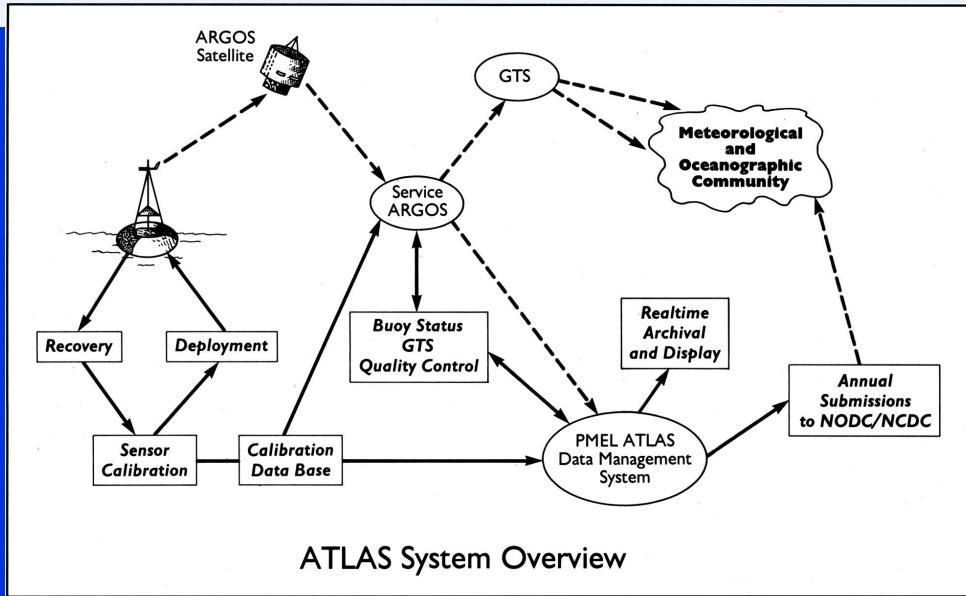
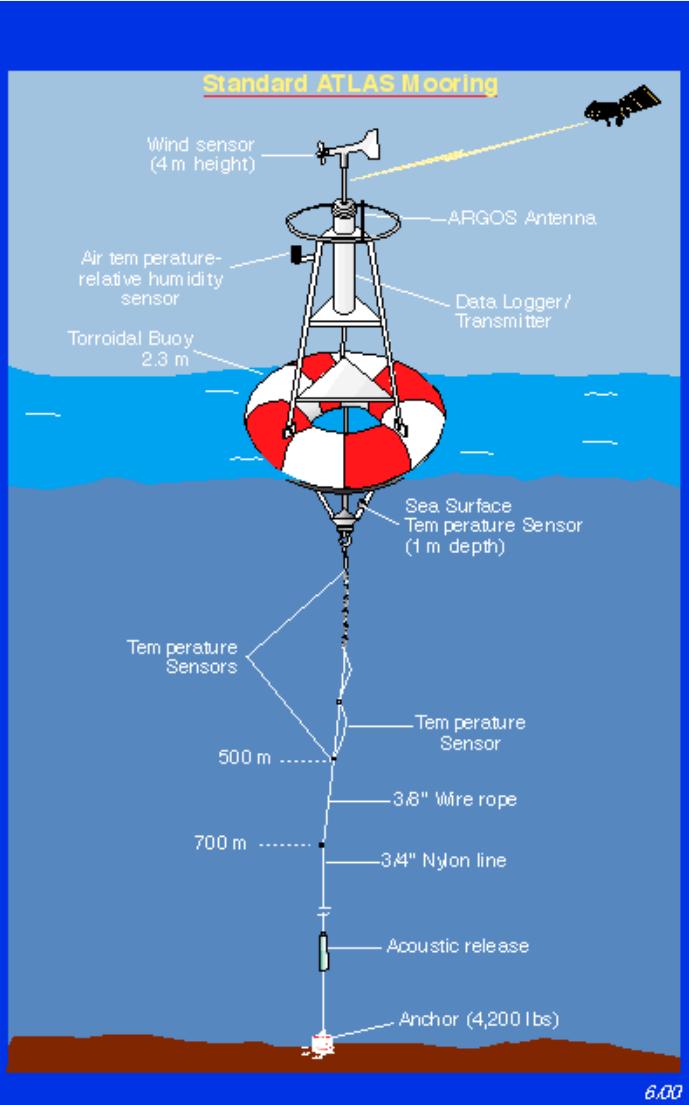
Kenneth Mooney, Jin Huang  
NOAA Climate Program Office

The NOAA Climate & Global Program has its origins in the Tropical Ocean Global Atmosphere (TOGA) Program. In 1985 NOAA establish a line of funding to support the TOGA Program and was selected to host the interagency TOGA Project Office. NOAA's funding was mainly directed at establishing the observing system required by TOGA. In 1990, NOAA identified a line of funding for the Climate & Global Change Program and established the Office of Global Programs (OGP) to manage the program. The presentation will highlight a number of the major scientific successes of the C&GC Program focusing on elements of the climate observing system first established by the C&GC Program. Today the NOAA Climate Program Office (CPO) continues the tradition of the C&GC Program in support of NOAA's mission.

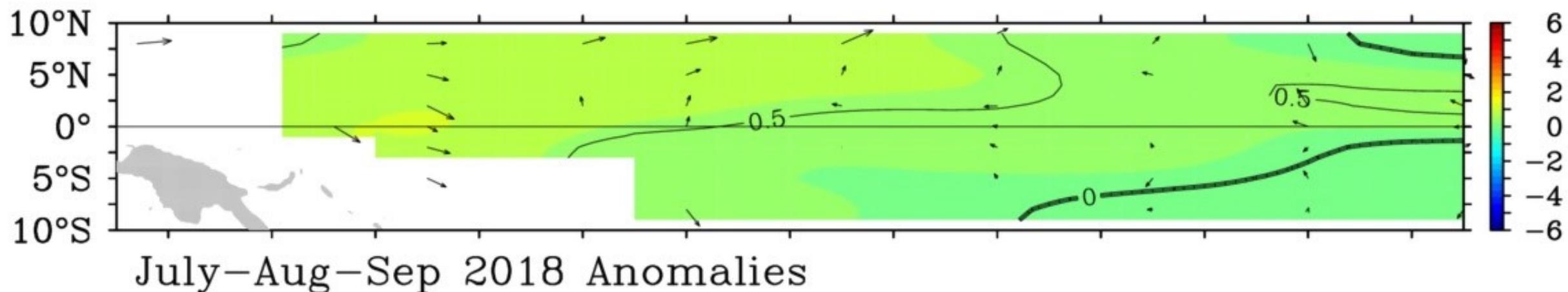
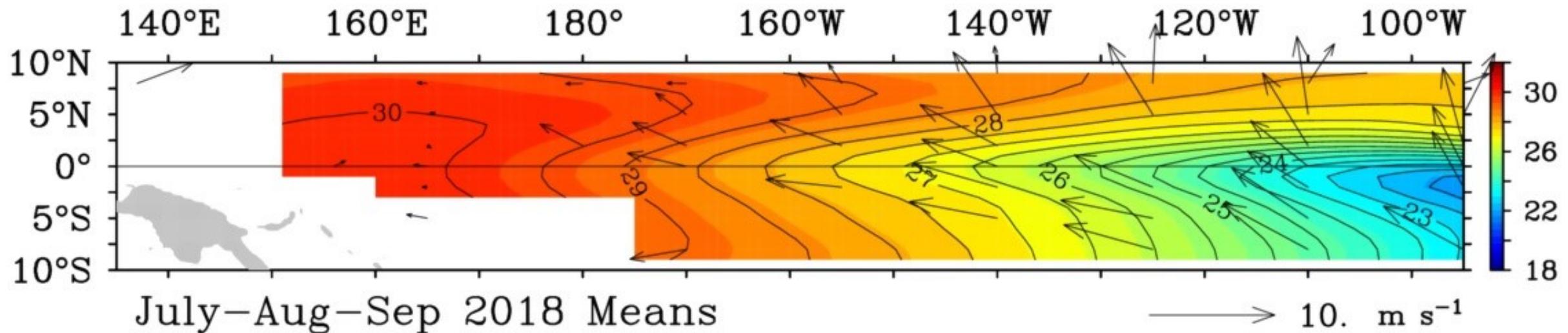
# Tropical Atmosphere Ocean Array



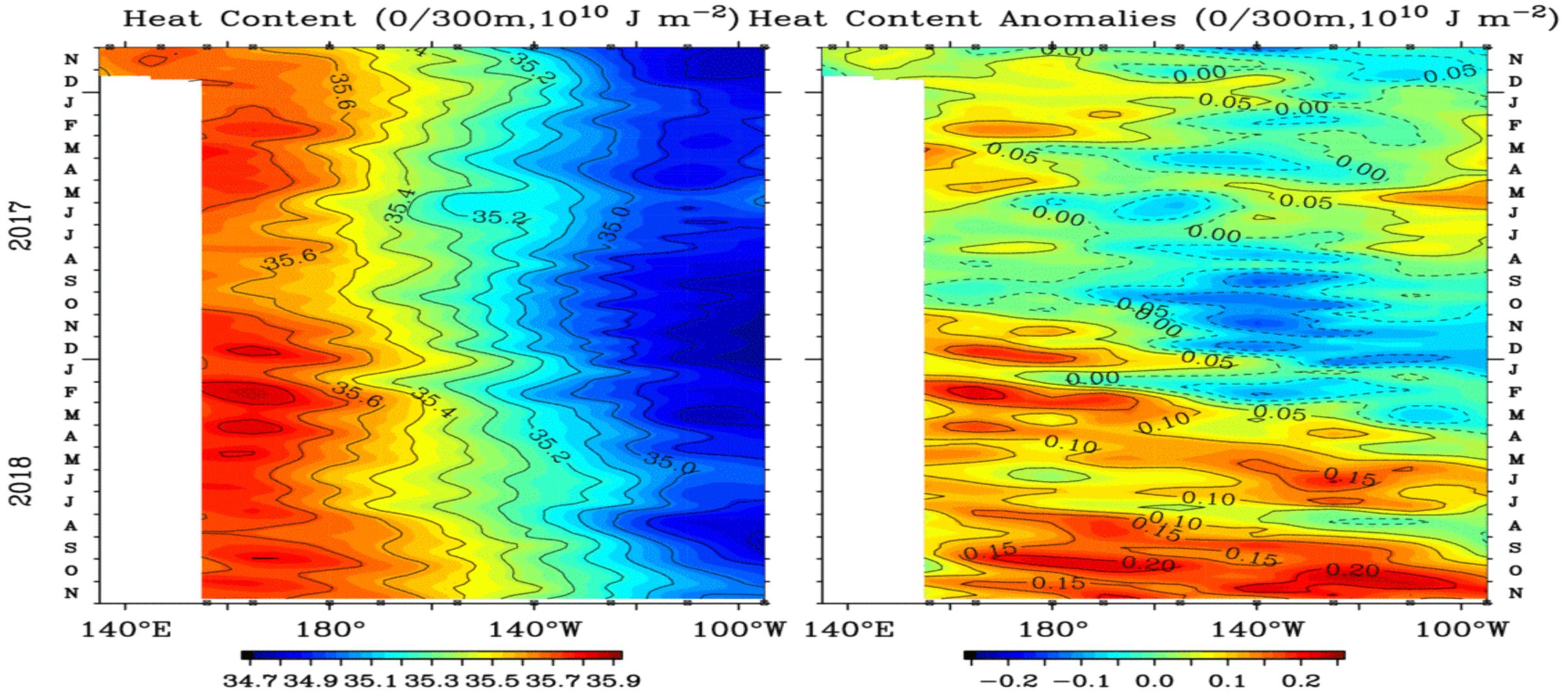
# ATLAS Mooring System



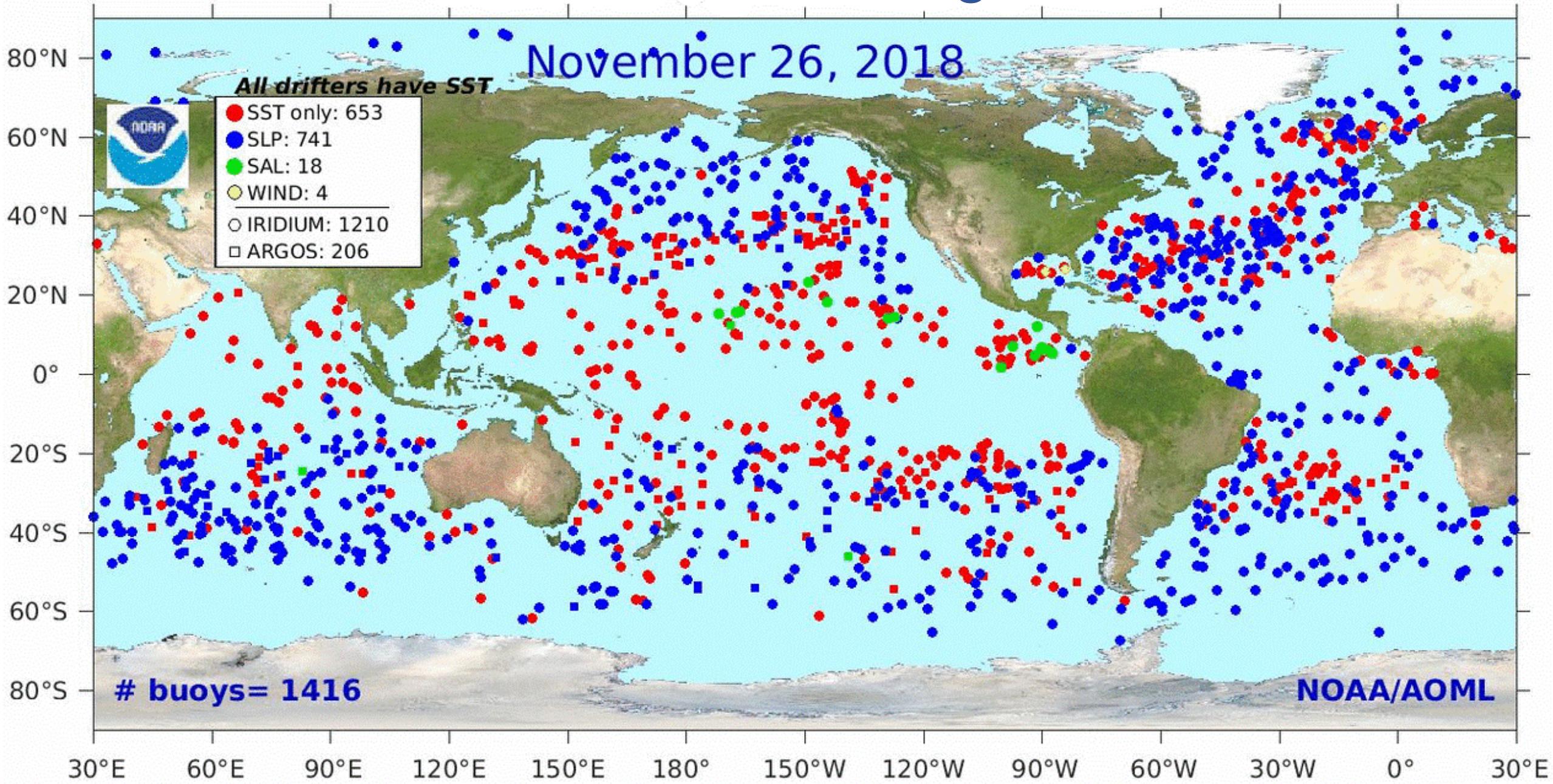
# Quarterly Mean SST ( $^{\circ}\text{C}$ ) and Winds ( $\text{m s}^{-1}$ )



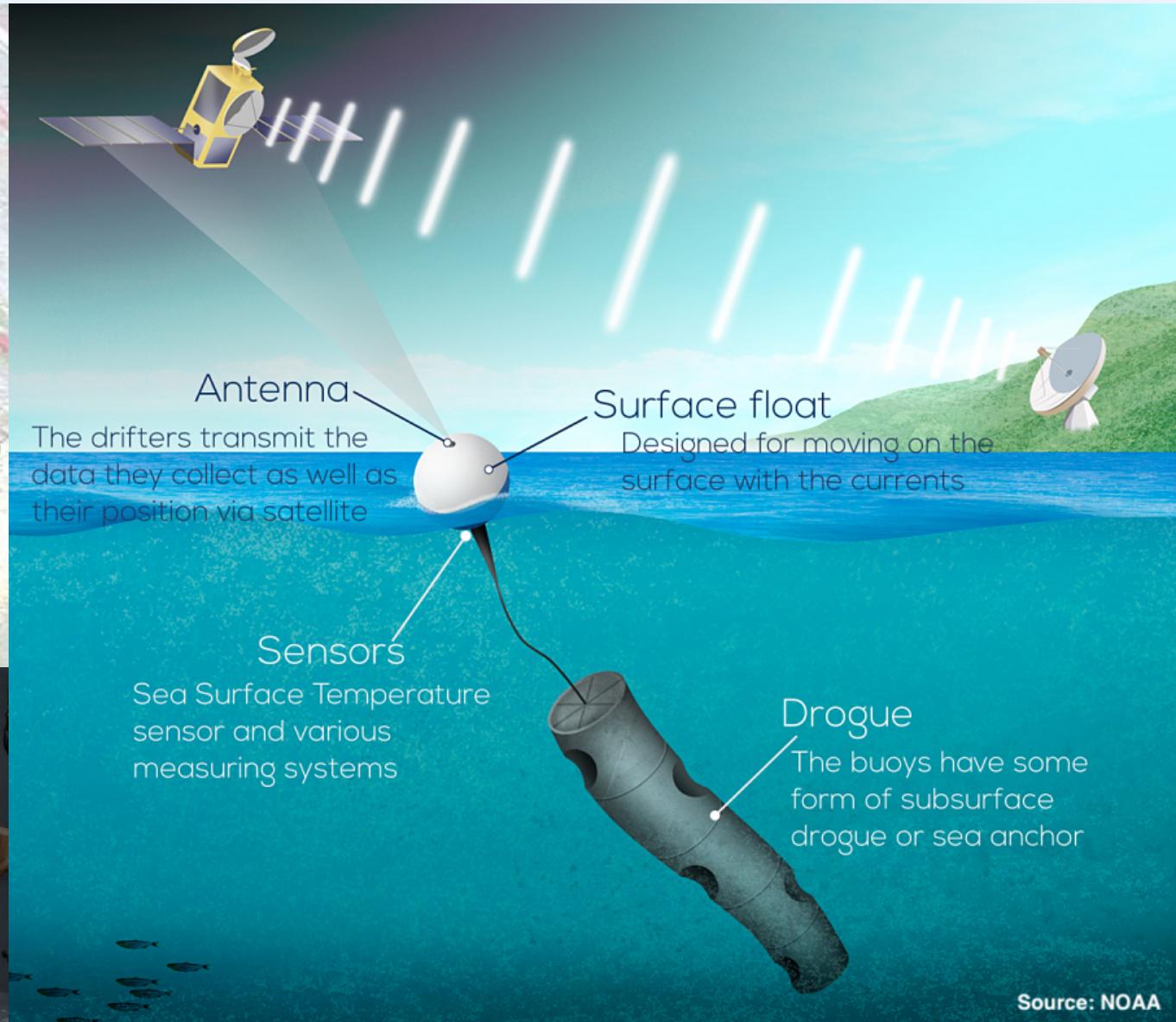
# Five Day Mean Heat Content $2^{\circ}\text{S}$ to $2^{\circ}\text{N}$ Average



# Global Drifter Program

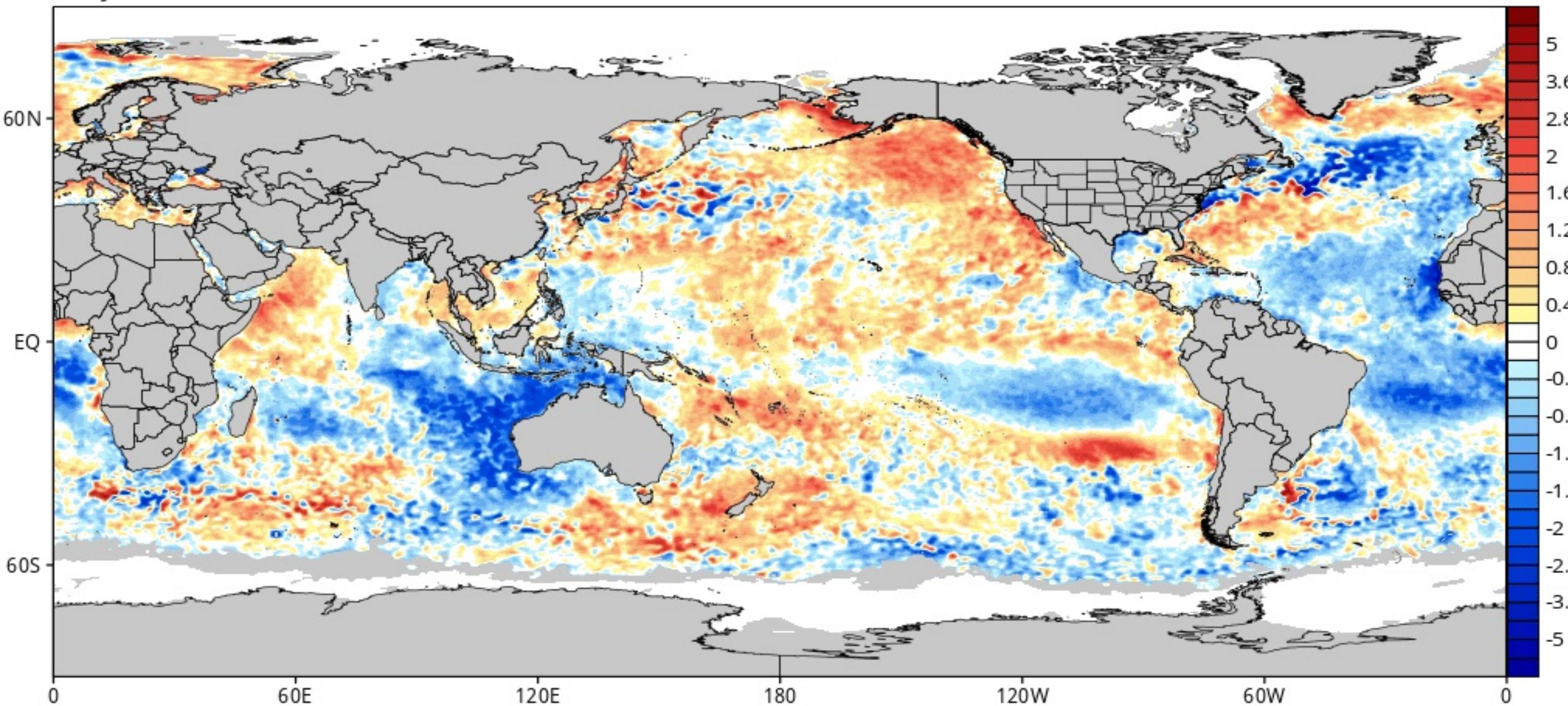


# Global Drifter System

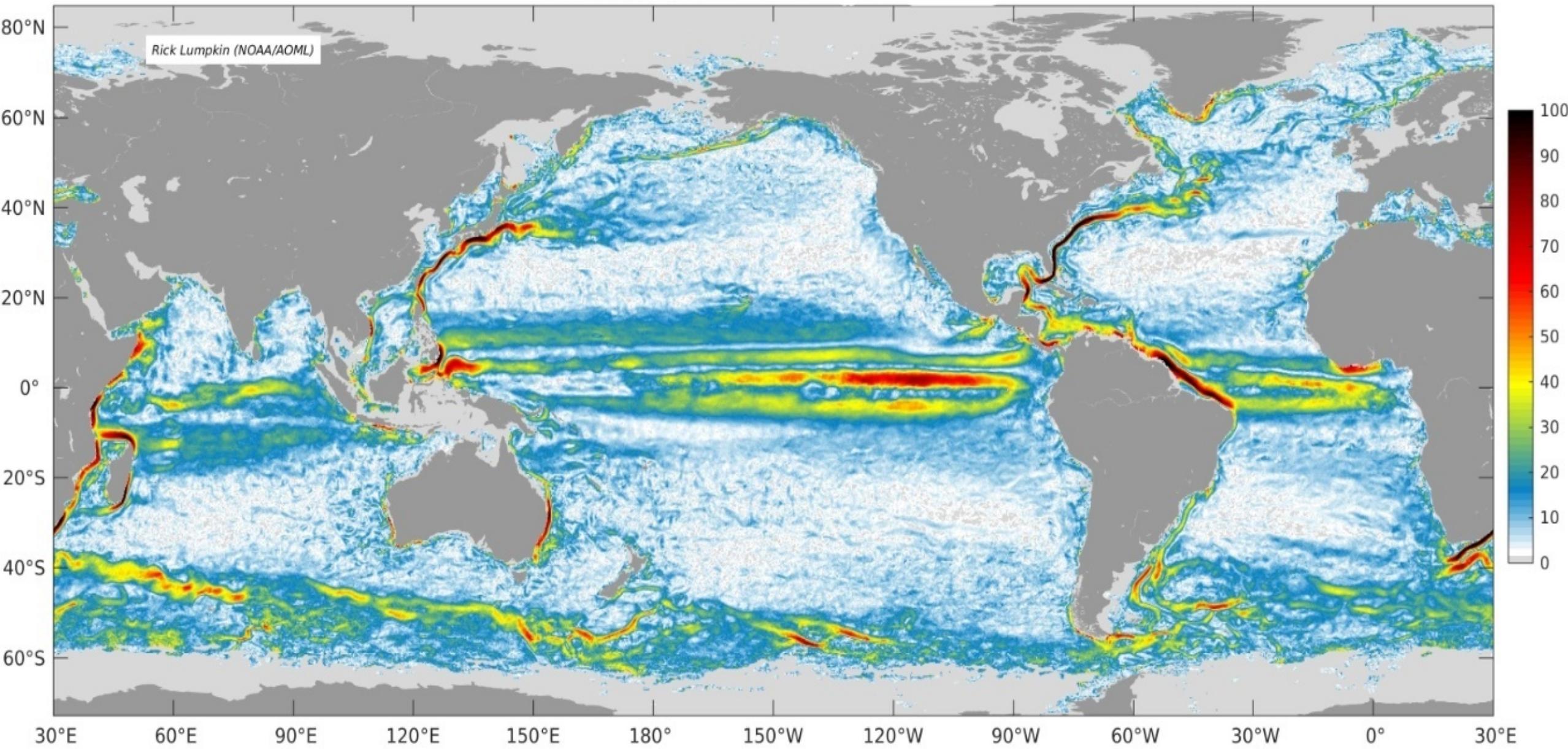


# Sea Surface Temperature Anomaly

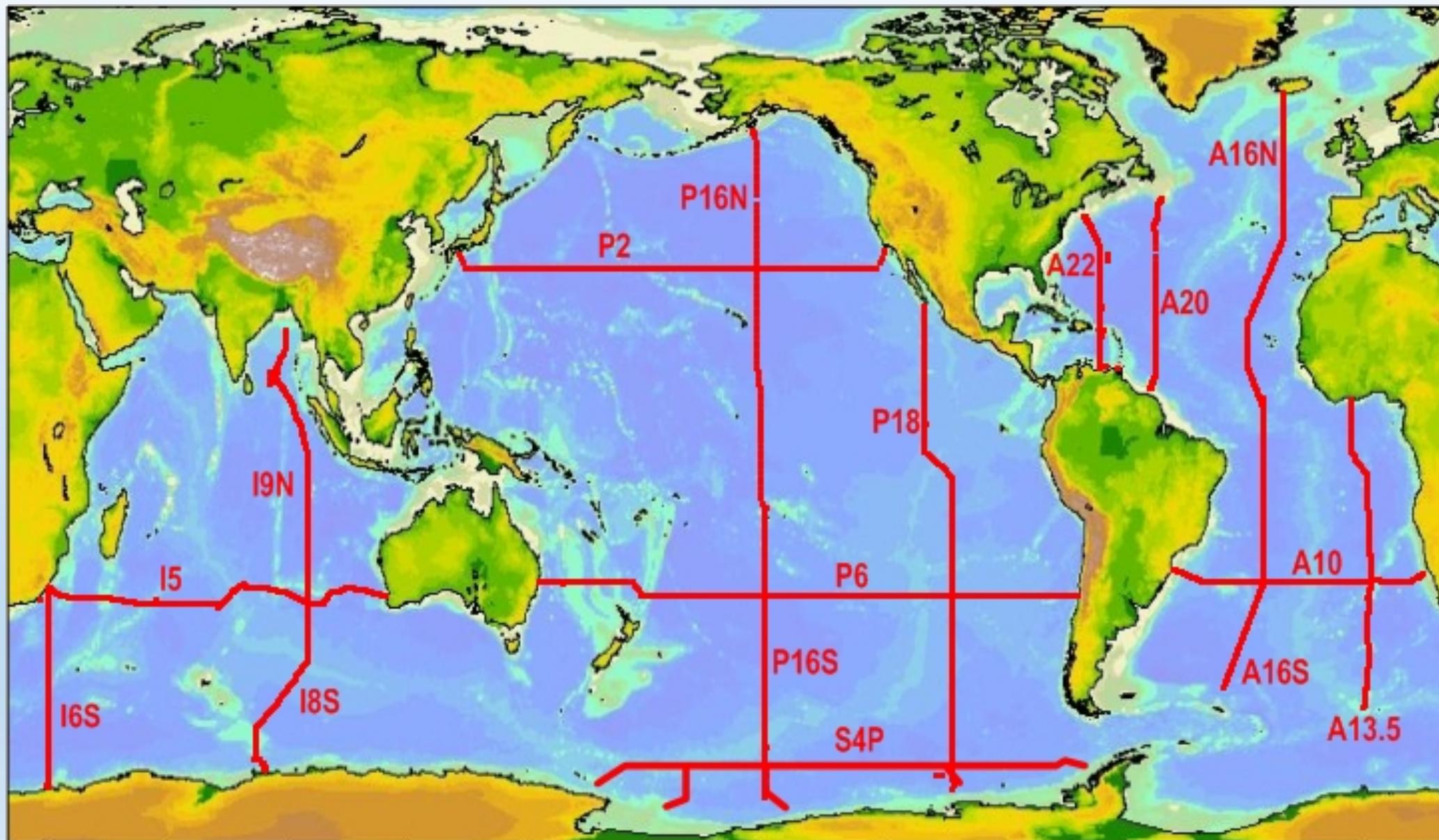
Analysis Time: 06z Nov 29 2018



# Annual Mean Drifter Speed (cm/s)



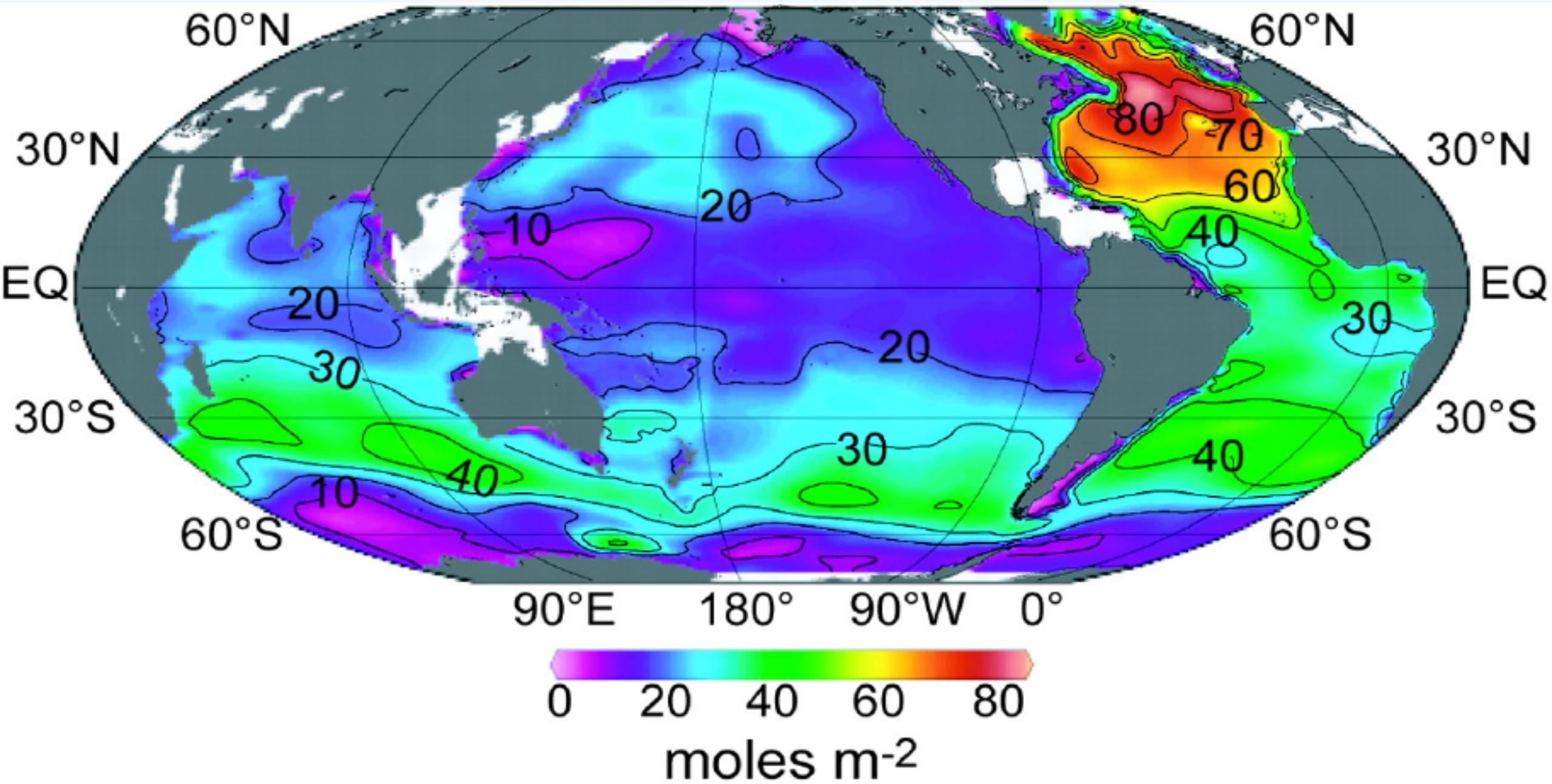
# Repeat Hydrography Program



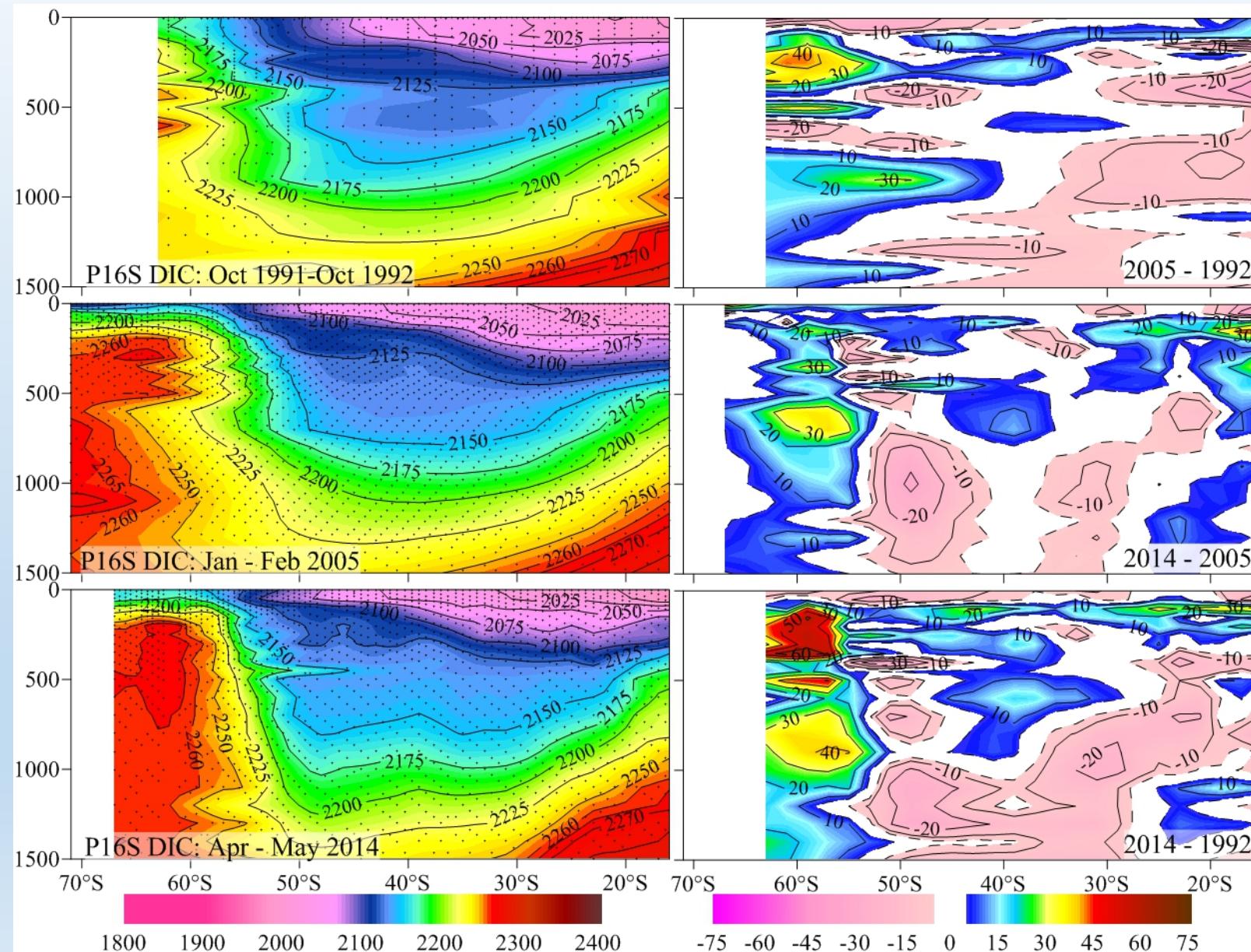
# Deep Ocean Hydrocast



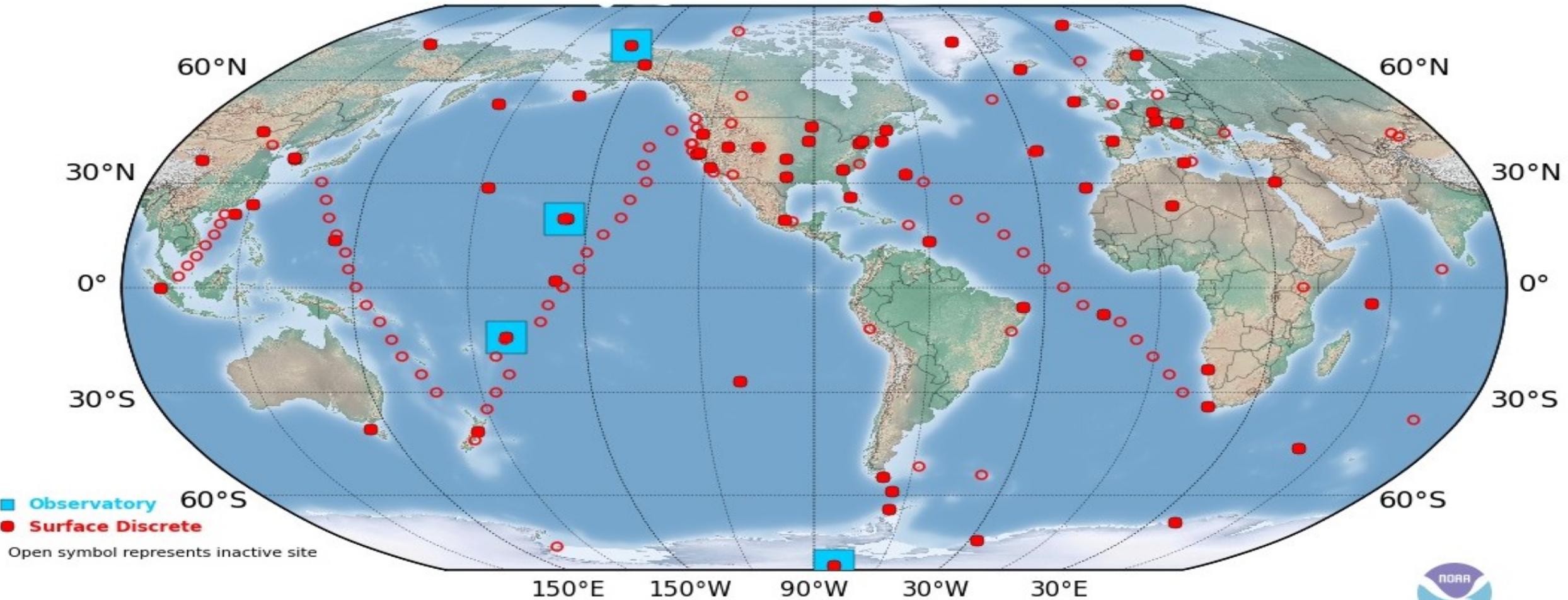
# Global Ocean CO<sub>2</sub> Inventory



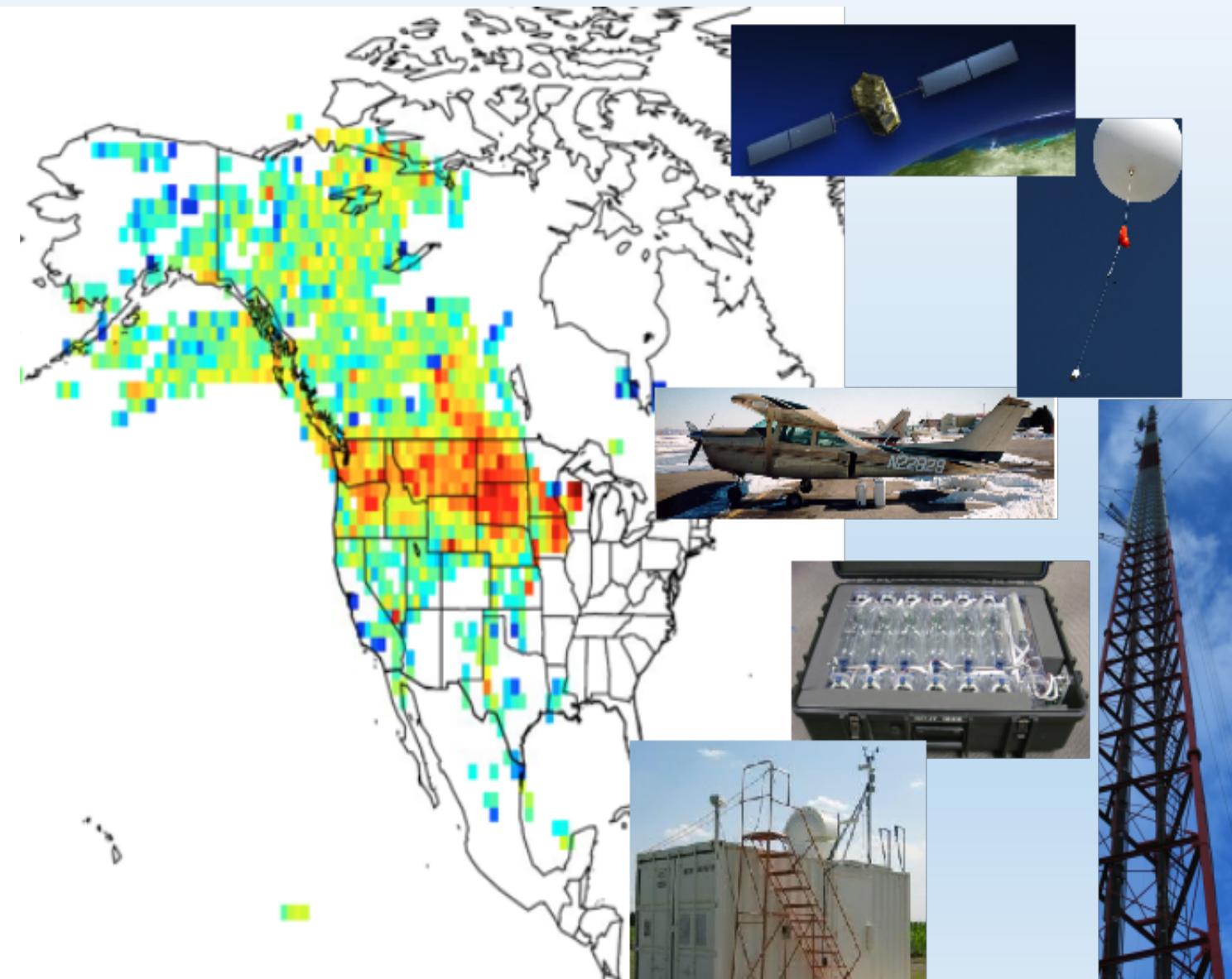
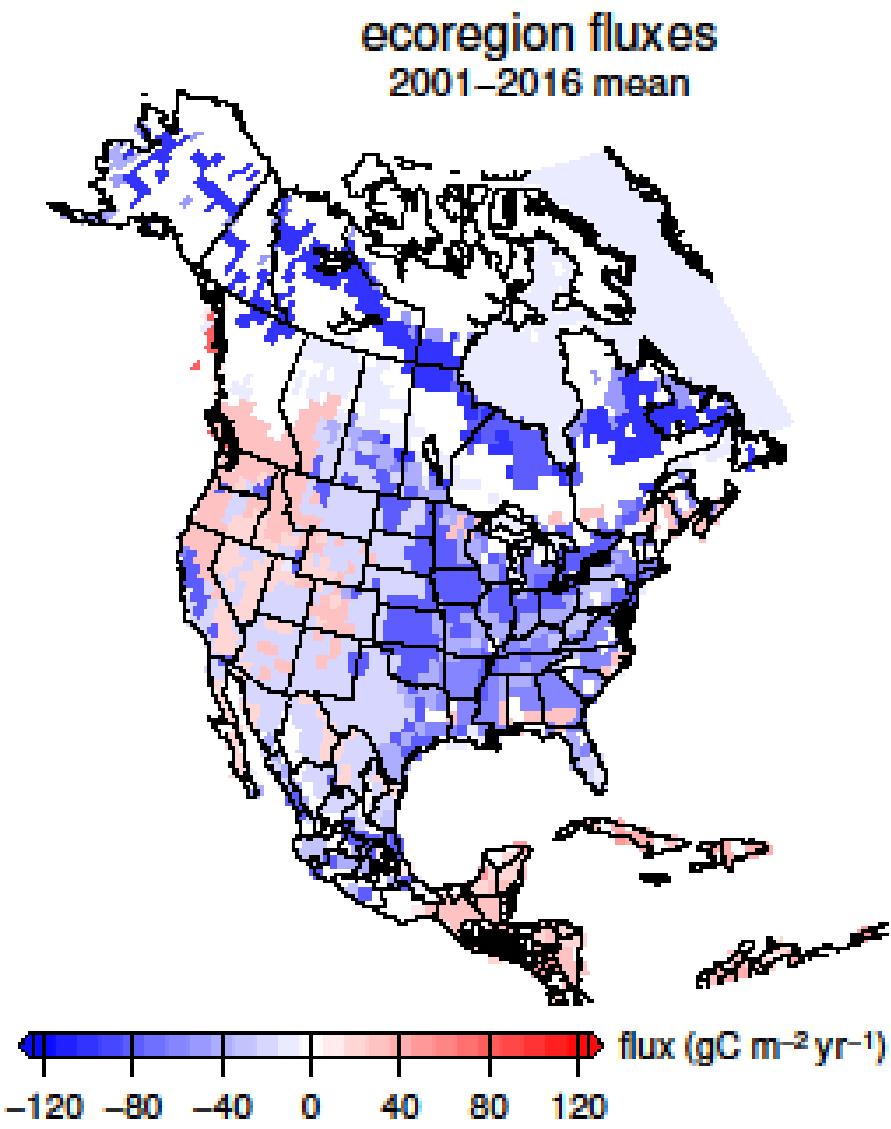
# Decadal Change in Dissolved Inorganic Carbon



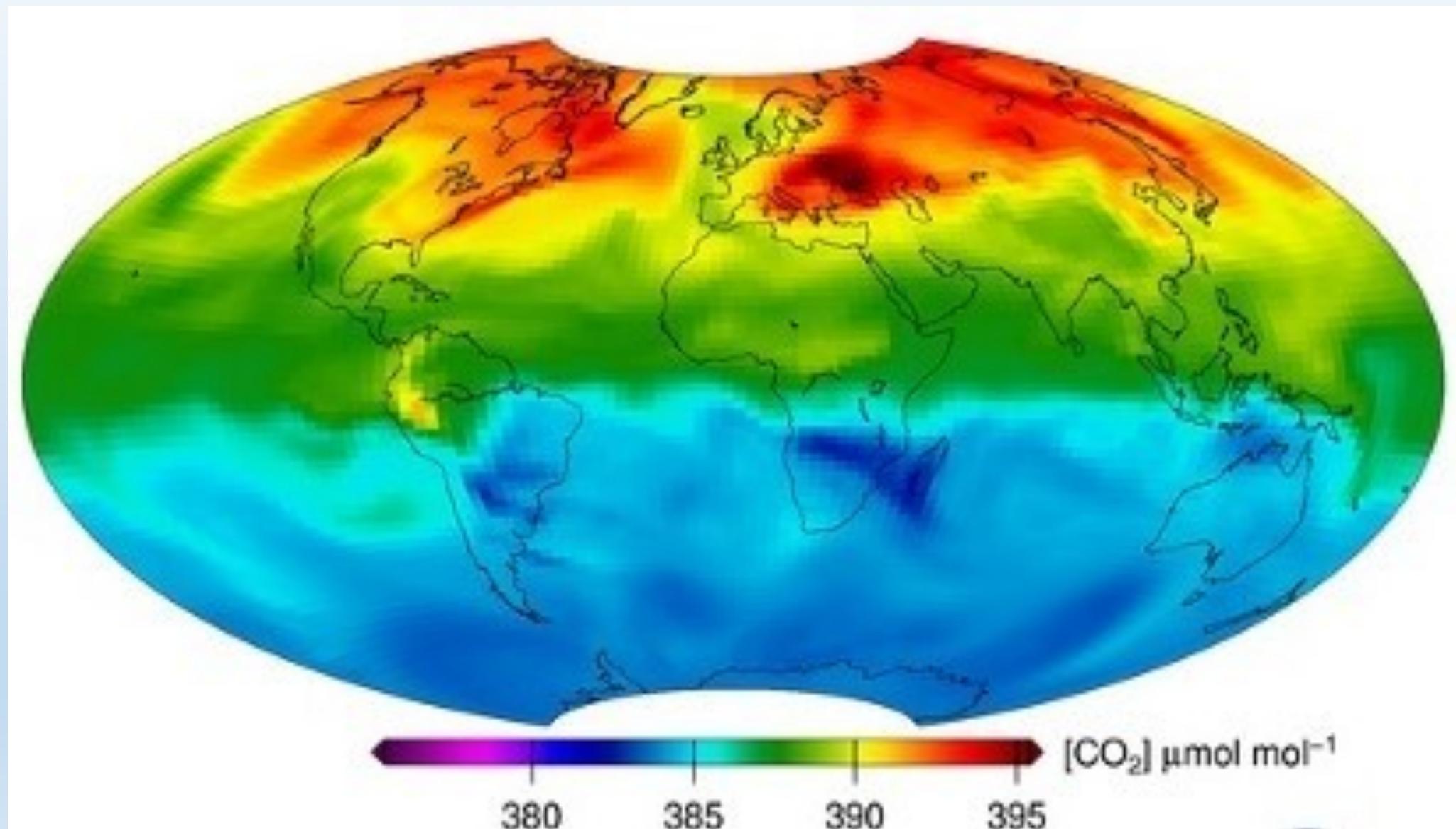
# Global Greenhouse Gas Reference Network



# Carbon Flux Monitoring System



# Free Troposphere CO<sub>2</sub> 2009-MAR-20

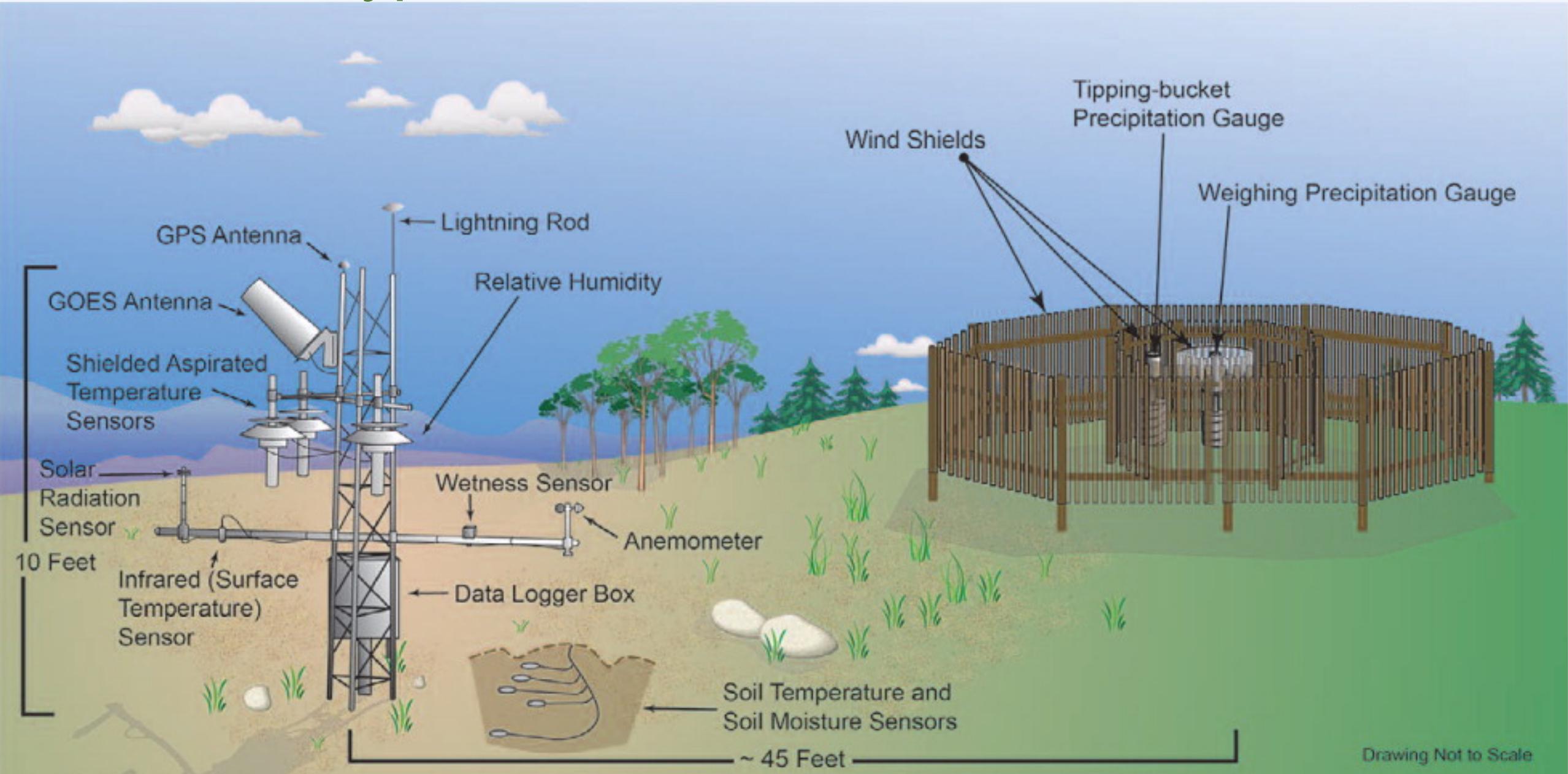


# U.S. Climate Reference Network

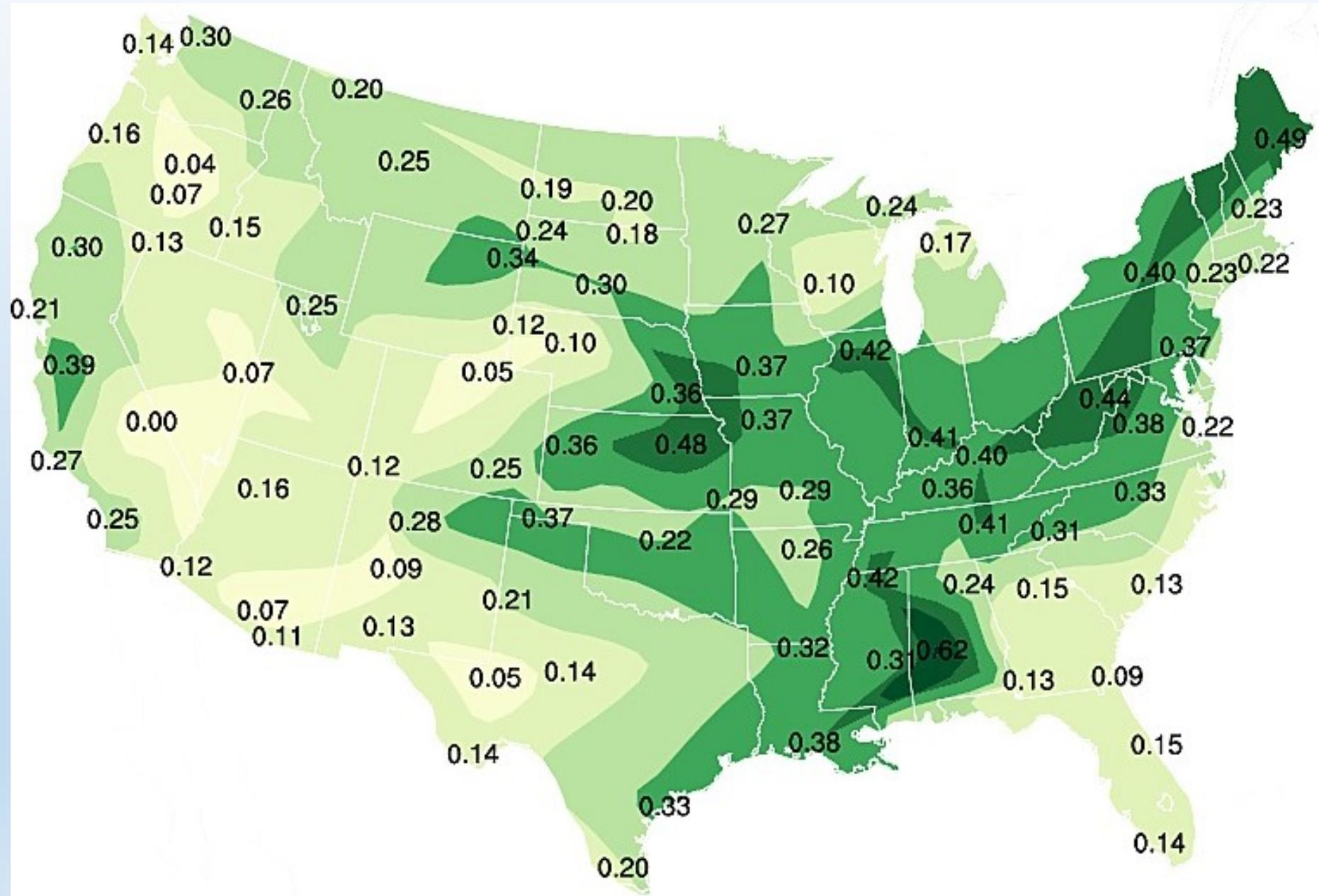


\* Utqiagvik was formerly named Barrow

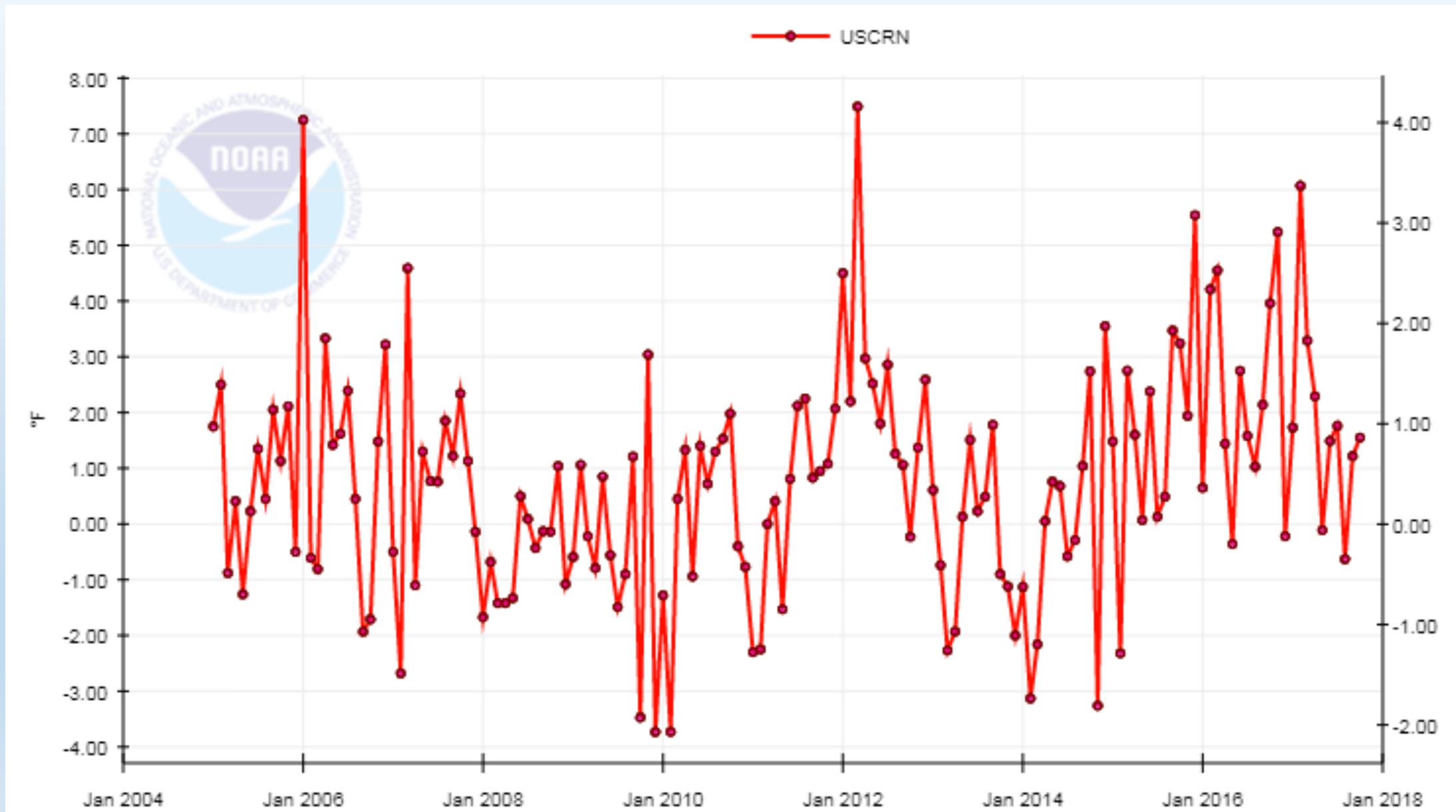
# Typical USCRN Instrumentation



# 10cm Observed Soil Moisture

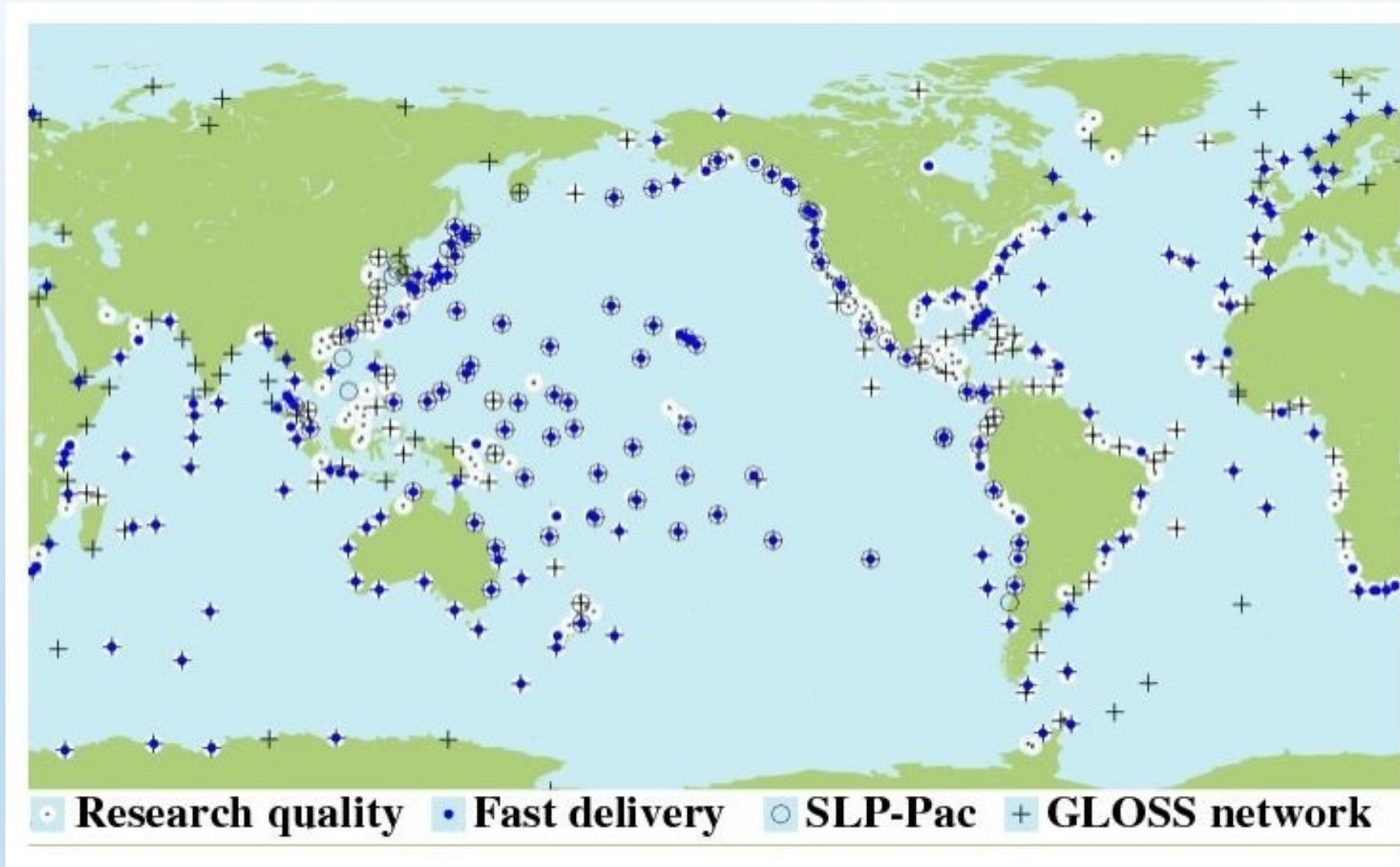


# Contiguous U.S. Average Temperature Anomaly

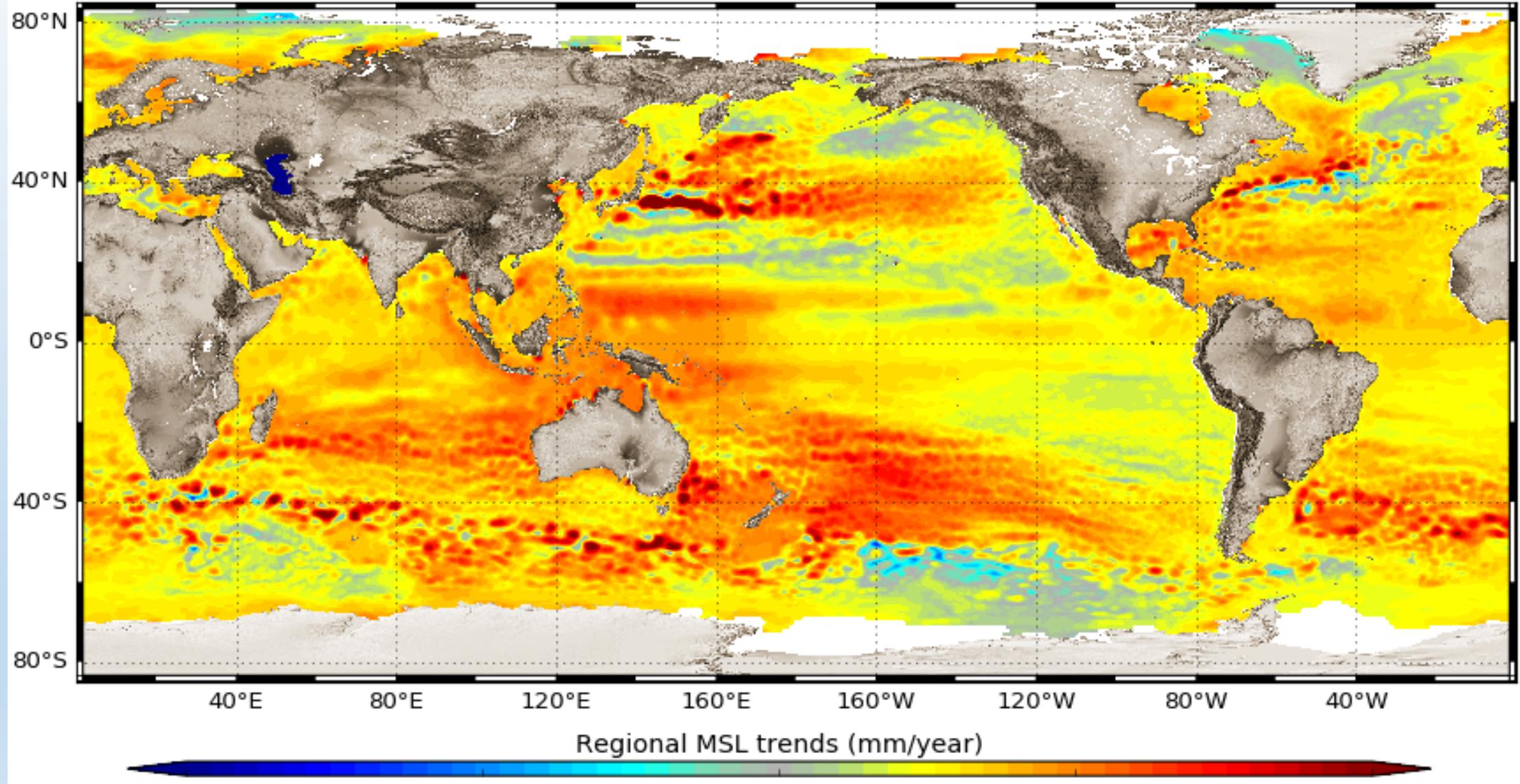


# Backup Slides

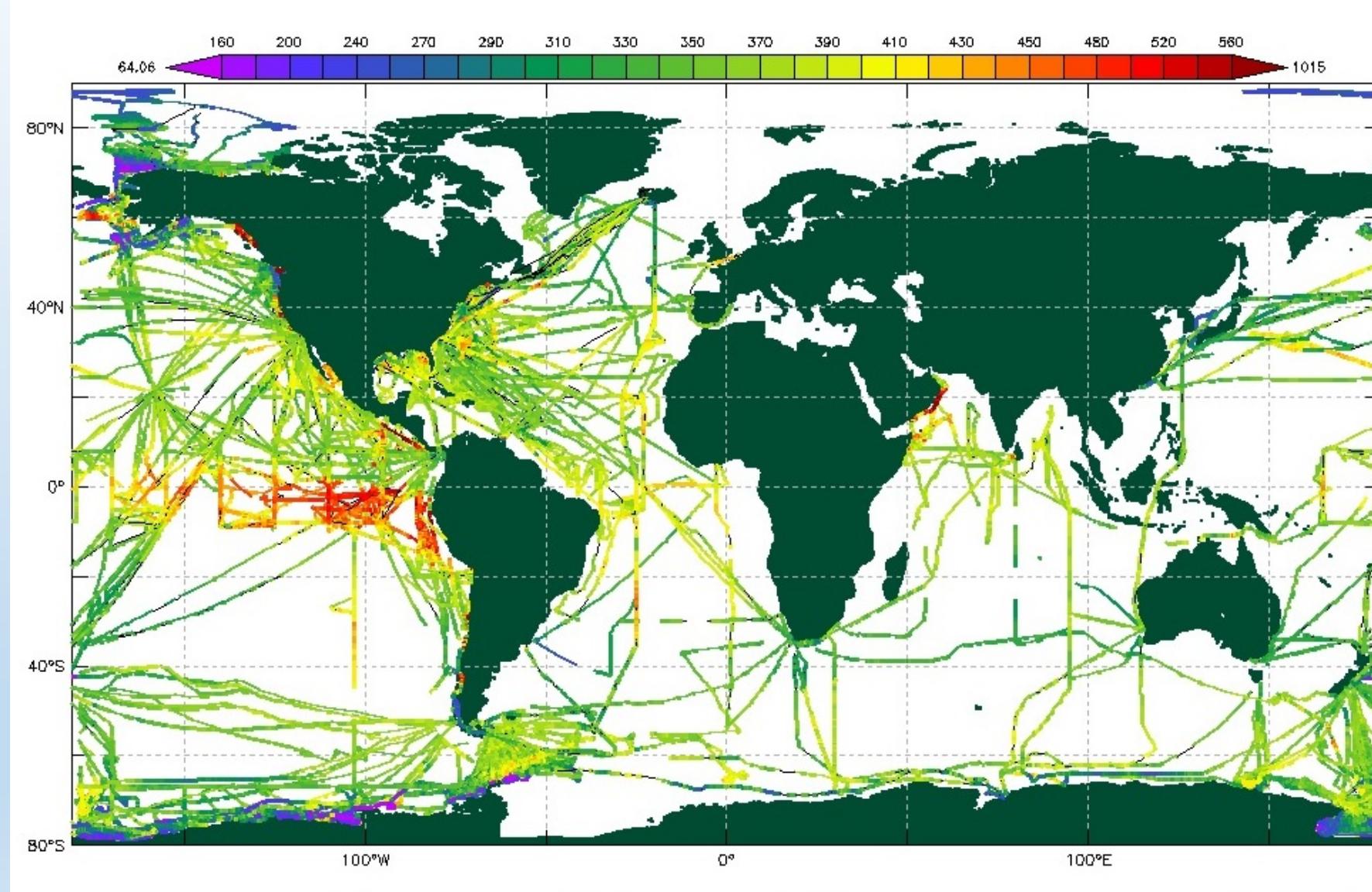
# University of Hawaii Sea Level Center



Period: Jan-1993 to Jan-2017



# Ship of Opportunity CO<sub>2</sub> Consortium



Surface water  $\text{pCO}_2$  along SOOP-CO<sub>2</sub> transects (1990-2013)

## Producing Seasonal CO<sub>2</sub> Flux Maps

