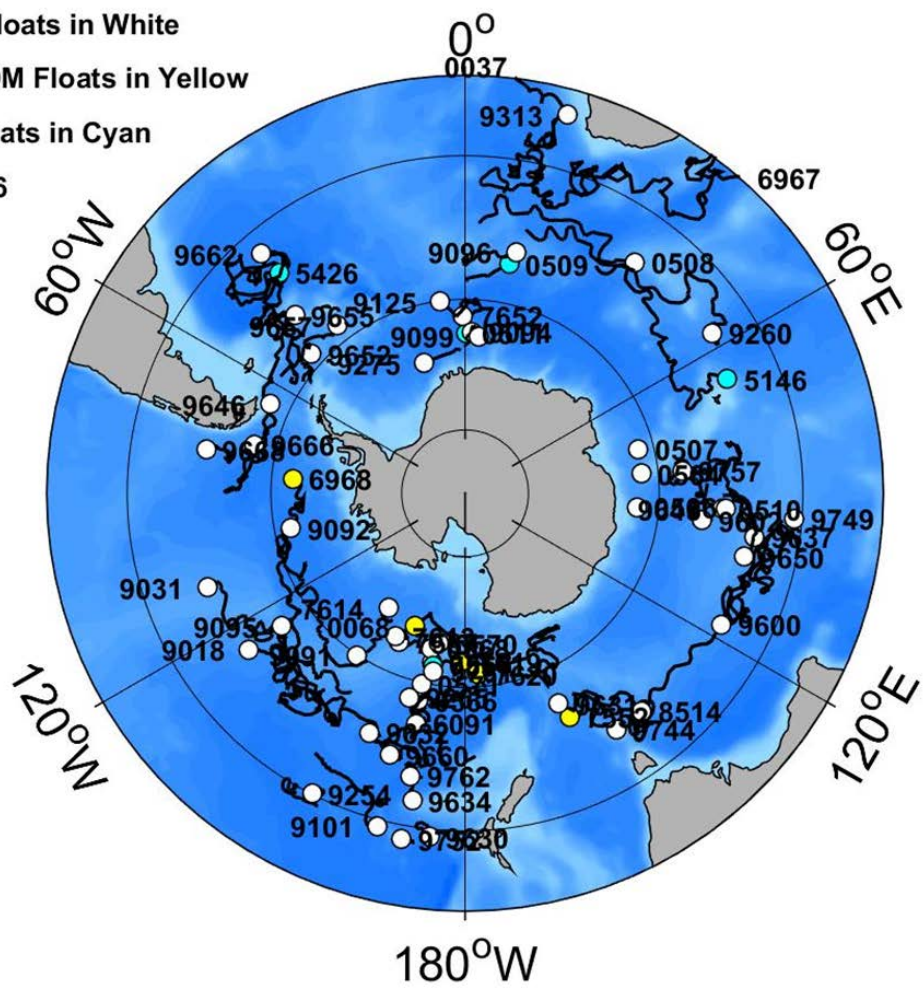


SOCCOM Floats in White

Pre-SOCCOM Floats in Yellow

Non-op. Floats in Cyan

10-Sep-2016



SOCCOM oxygen sensor working group

Riser (Chair), Bittig, Bushinksy, Claustre, Emerson, Gray, Johnson, Kortzinger, Plant, Swift, Talley, Williams



Overarching goal is to continue refinement of oxygen correction to wring last few tenths of a percent from data:

(1) What is the optimal methodology for sampling O<sub>2</sub> in air while floats are on the surface, in order to provide the best calibration data?

(2) What are the best procedures to use for adjusting the O<sub>2</sub> data?

(3) What is the best way to use the shipboard O<sub>2</sub> data collected during float deployment?

(4) How can day/night sampling best be implemented in a manner consistent with the requirements for other BGC sensors and Argo sampling constraints?

(5) What is the ultimate accuracy and precision that we can expect from O<sub>2</sub> sensors on the floats, and how do these affect other parameters derived from the O<sub>2</sub> data?

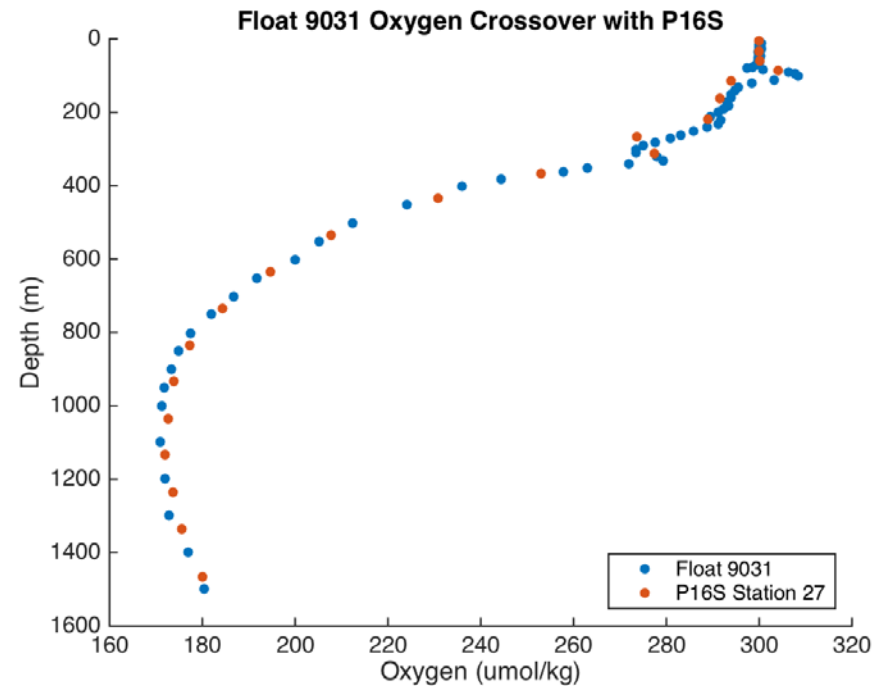
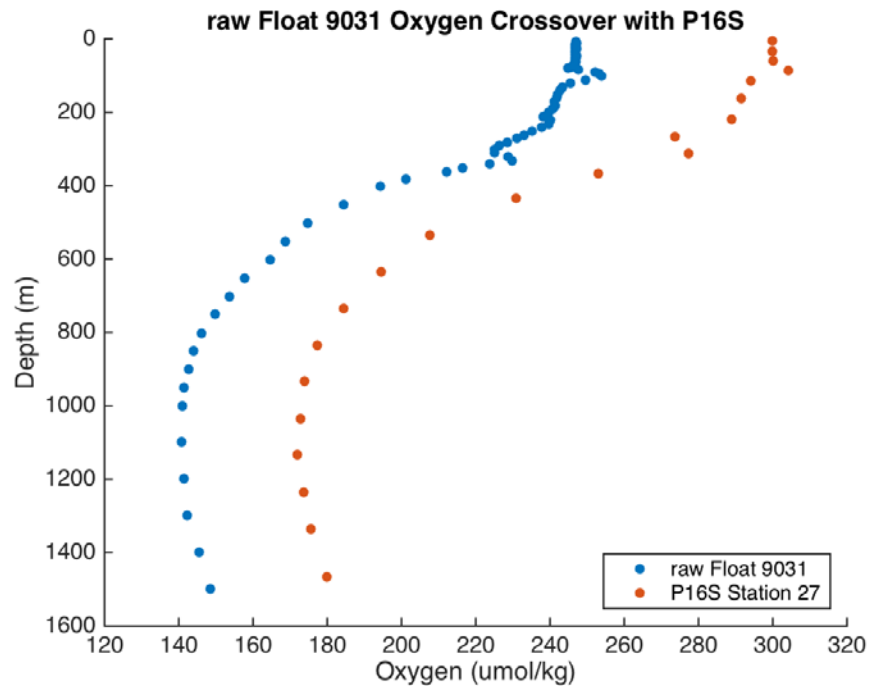
# All BGC sensor data require some adjustment to be most useful.

1. What kind of adjustments are required?

	Gain	Offset	Drift
Salinity		XX	XX
O <sub>2</sub>	XX		??
NO <sub>3</sub> <sup>-</sup>	<10%	XX	XX
pH		XX	XX
Biooptics (FL, BB)	XX	XX	??



# Oxygen offset: more or less eliminated with air measurements

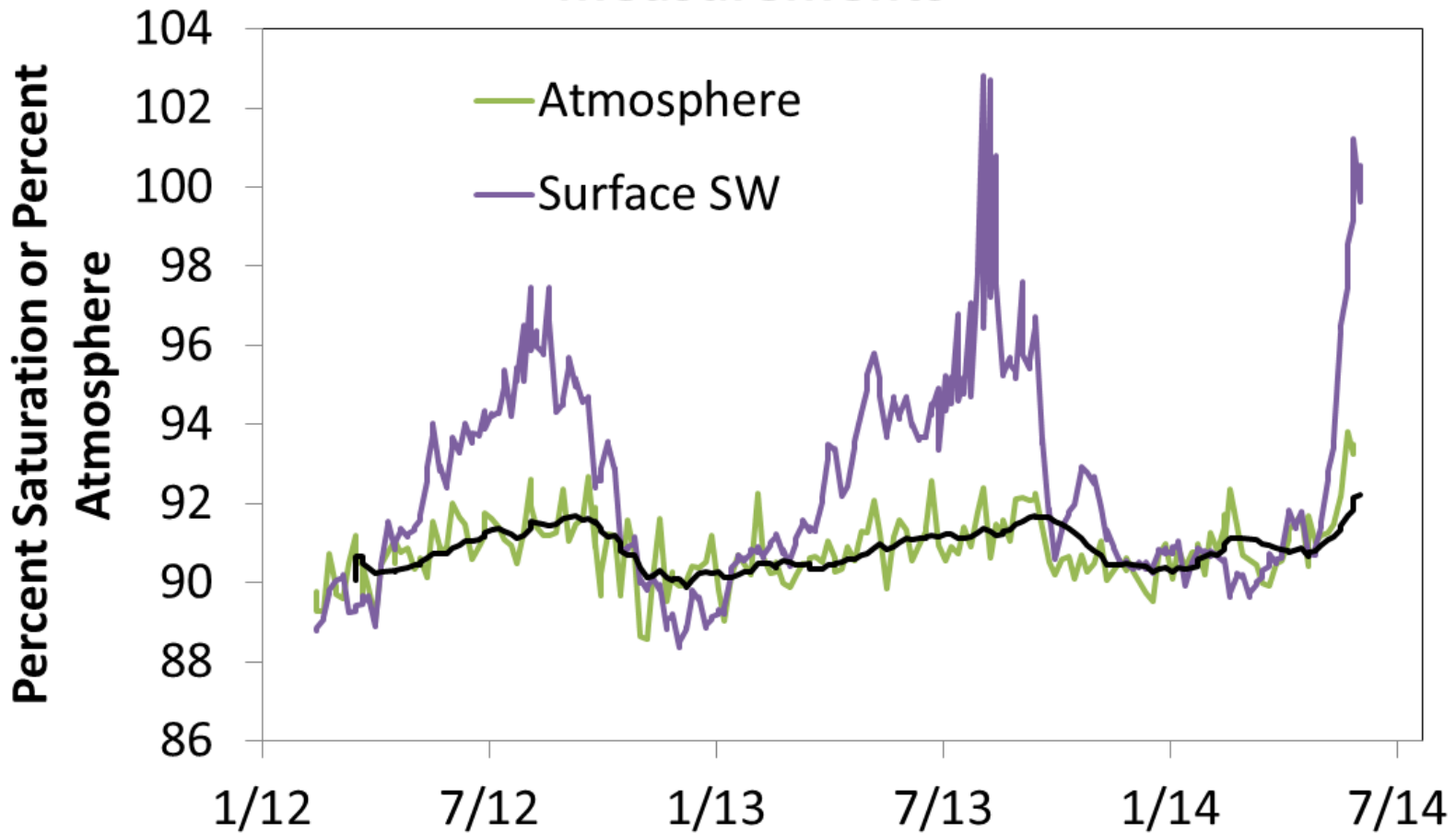


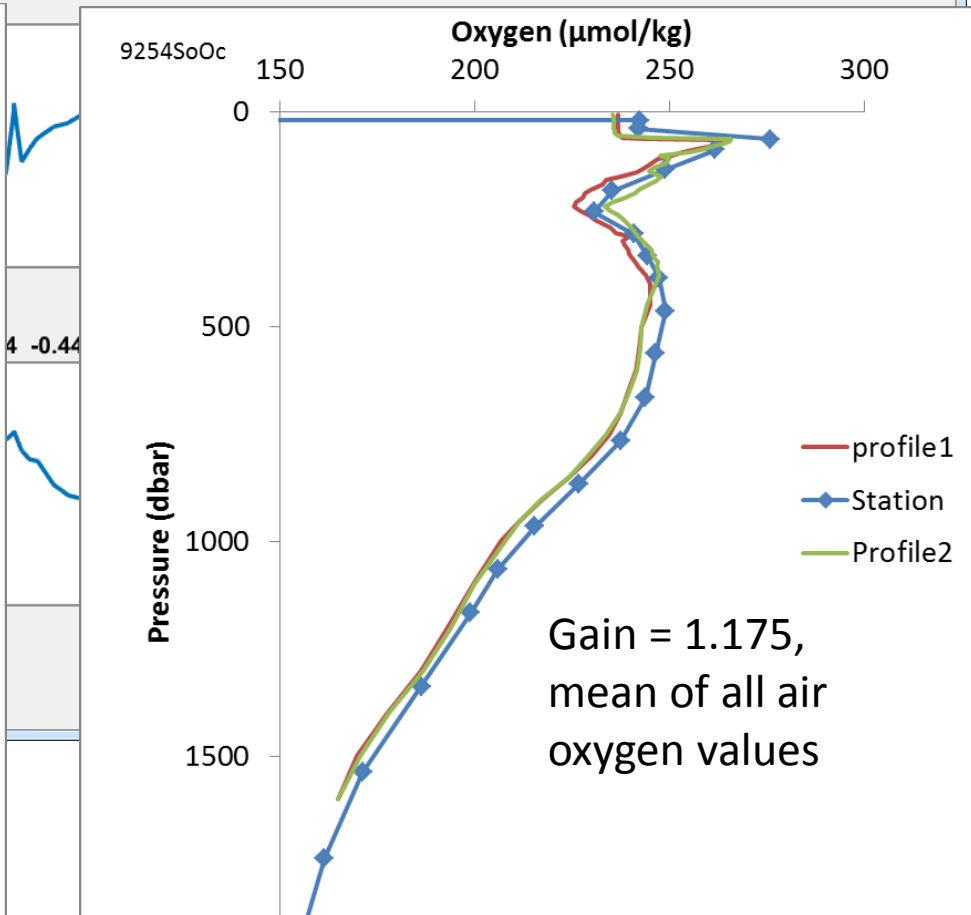
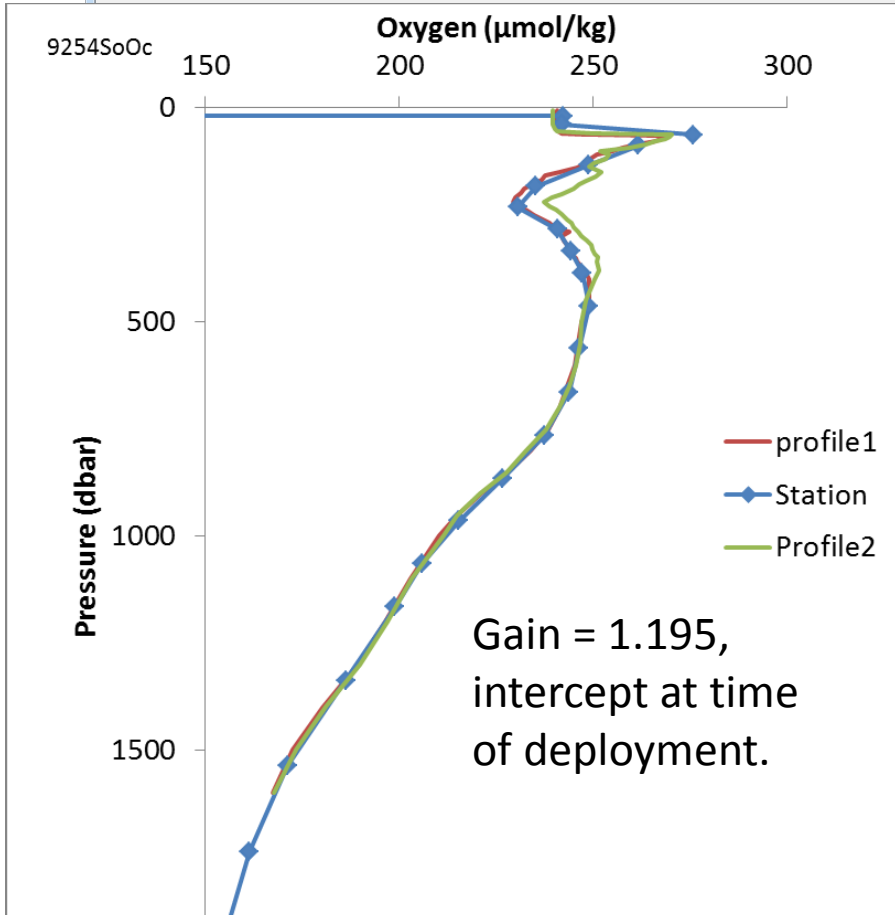
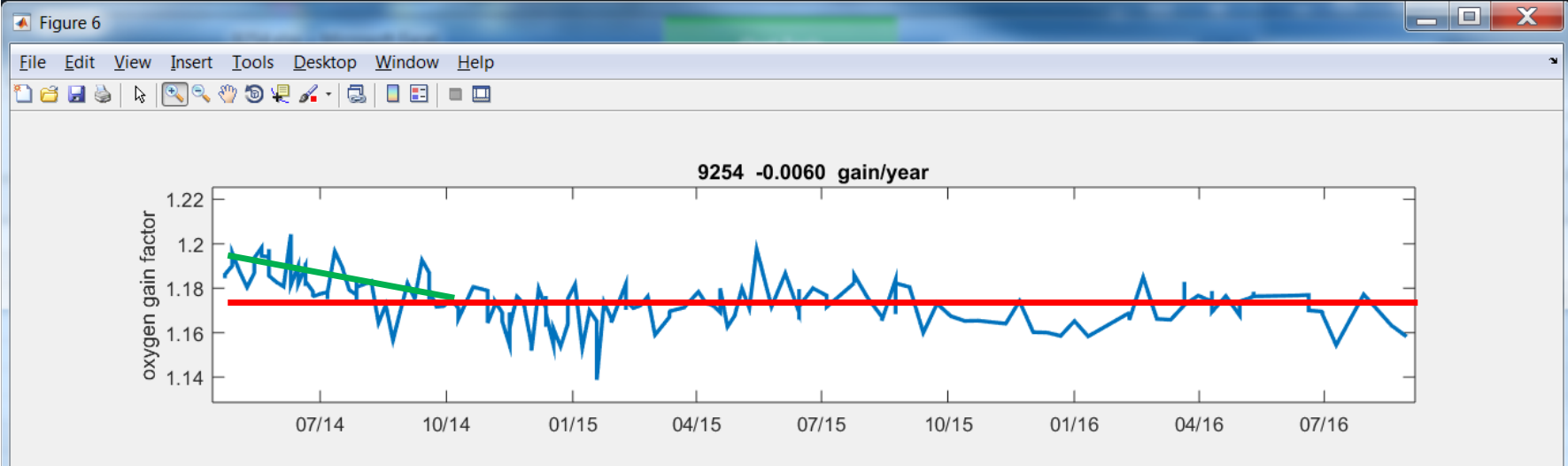
**SOCCOM**

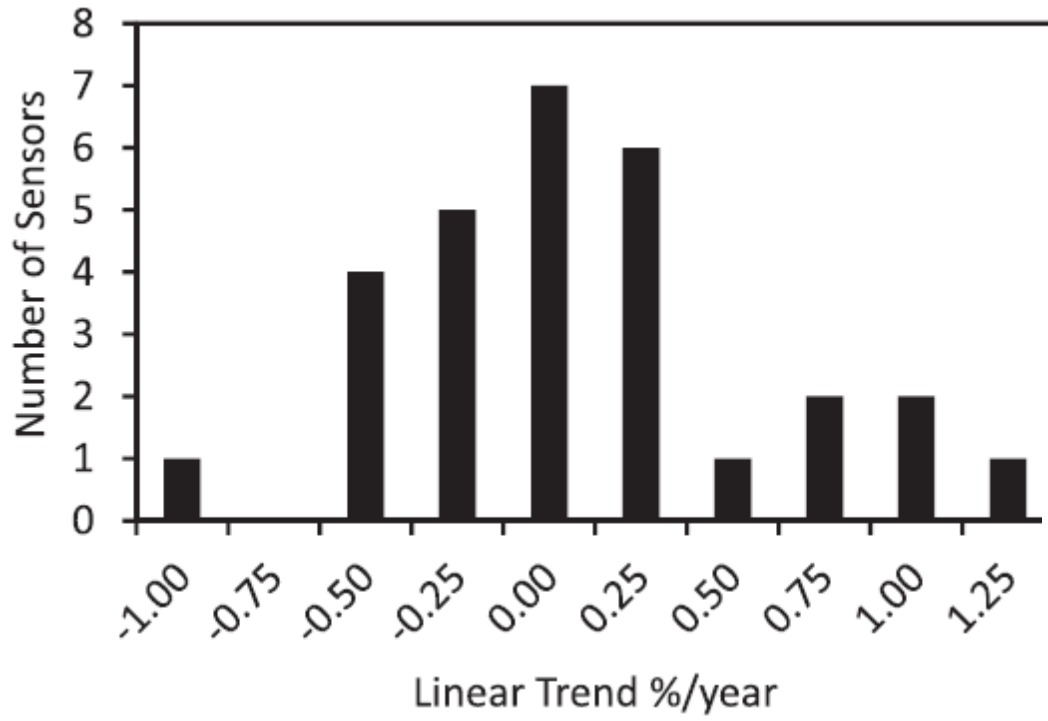
# UW Float 7601 Station Papa, 50°N. Pacific

Air %Sat =  $90.9 \pm 0.9$  % (N>200). Sensor gain correction is  $1/0.909 = 1.100$  (1.106 when summer values filtered out).

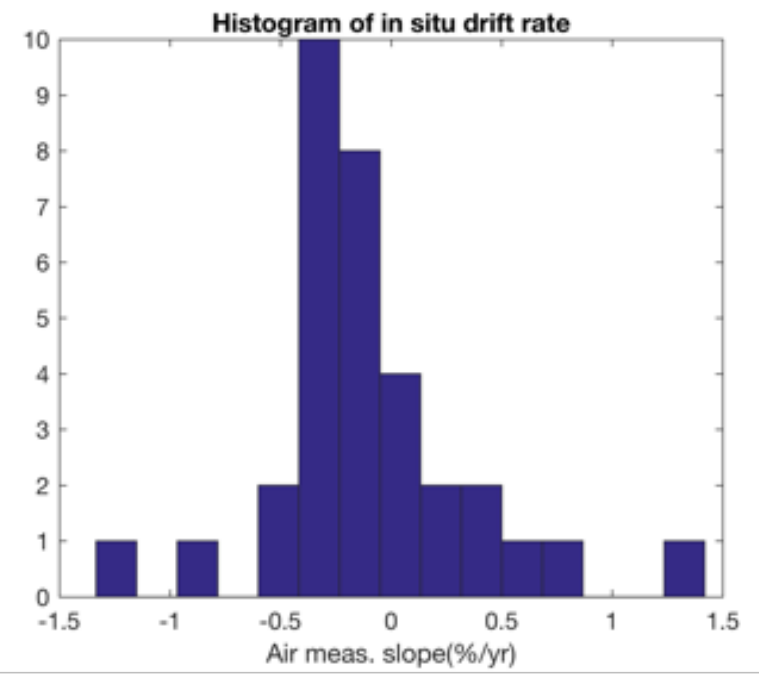
## Optode in Air & Surf SW Oxygen measurements







From Johnson et al., 2015



From Seth Bushinsky, Princeton U.

