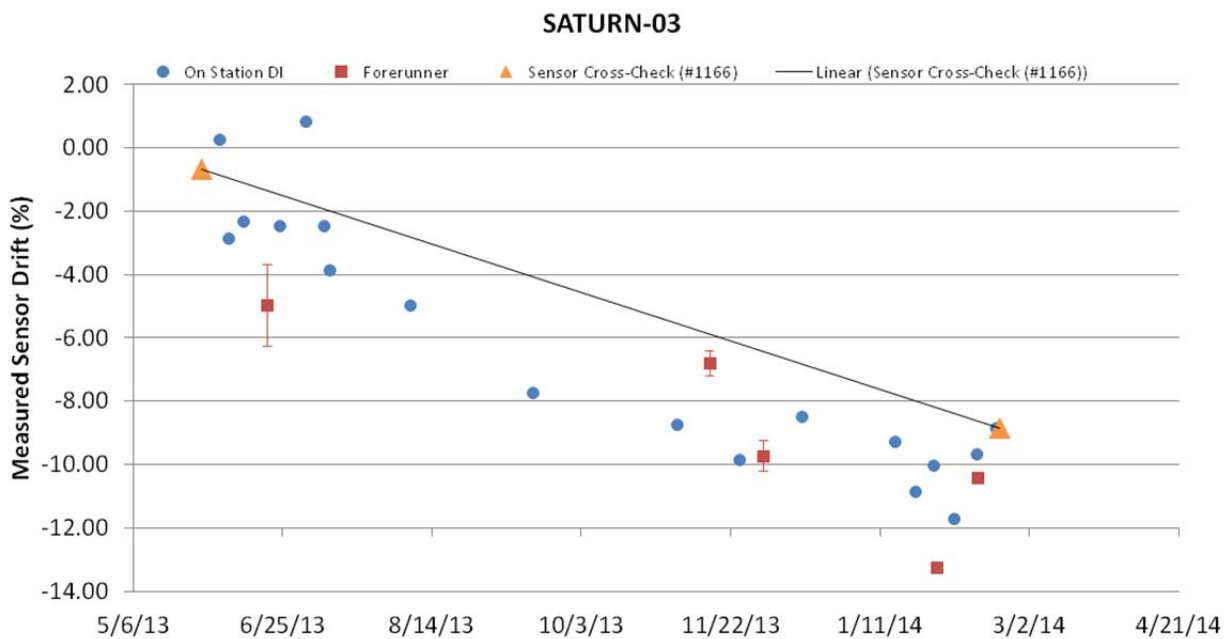


CORRECTION FOR DRIFT OF SATURN-03 DISSOLVED OXYGEN SENSOR BETWEEN 5/31/13 - 2/20/13

The sensor was recalibrated by the manufacturer on 5/15/13 just prior to deployment on 5/31. The sensor was checked in 100% aerated fresh water prior to and following deployment. The post-deployment check showed the sensor to be reading 91.15% +/- 0.12% in the aerated DI. Following cleaning the sensor read 98.25% +/- 0.1% indicating that the drift was due primarily to sensor fouling. Frequent on-station aerated DI readings and data from near-station CTD casts show that the sensor drift was linear.



Both the on-station DI readings and Forerunner cast-comparison data are more subject to error and are best used as supporting evidence. In this case, the readings show that the change in sensor calibration was not precipitous but occurred over the course of the deployment. The dissolved oxygen data have been corrected for linear drift, using the pre and post deployment checkout readings in 100% aerated DI.

Calibration Correction Details:

The correction factor (CF) is the ratio of the known good reading/observed reading :

$$CF = 100\% / (100\% - \text{observed}\%)$$

$$\text{Corrected data} = \text{raw data} * CF.$$

	Date	Sensor reading in 100% aerated DI	Correction Factor (100%/reading in aerated DI)
Pre-deployment	5/29/13	99.33%	1.0067
Post-deployment	2/20/14	91.15%	1.0971

The scale factor used to correct the data was calculated from the linear interpolation of the starting CF (1.0067) on 5/29/13 to the ending CF (1.0971) on 2/20/14.