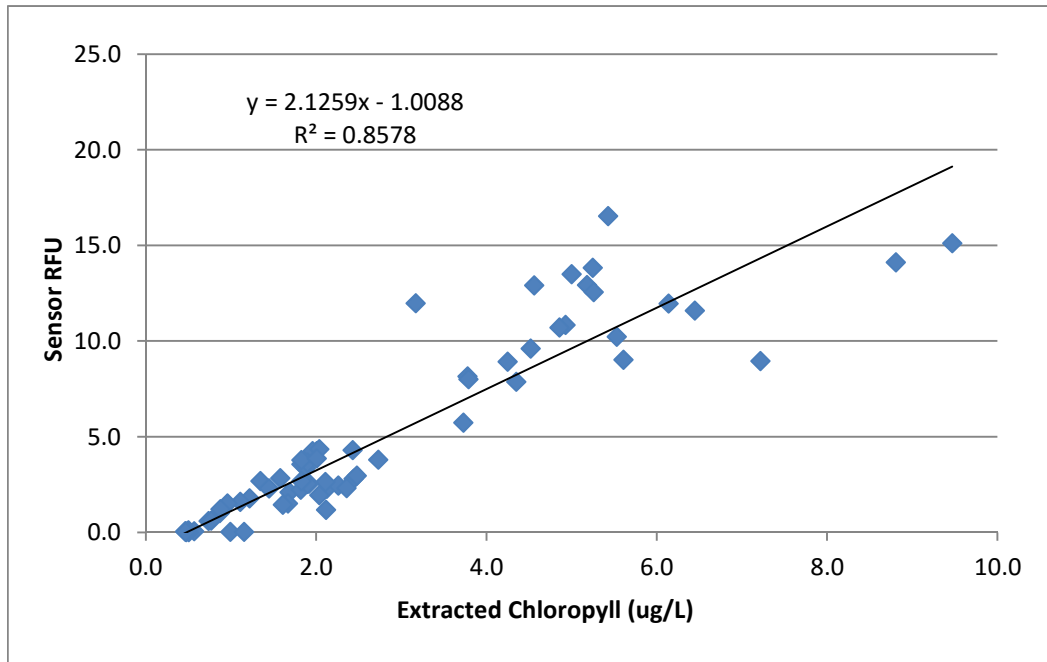


## SATURN-04 Chlorophyll Sensor Field Calibration (January 2013 – December 2014)

**NOTICE: This calibration was revised and replaced on August 11, 2016**



### Calibration Details:

This sensor was calibrated against extracted chlorophyll samples taken from field samples collected between January 2014 and February 2015. The corresponding sensor reading was determined by interpolating the *in situ* sensor data to the grab sample time point. Data from 57 water samples and 23 in-situ DI readings made at SATURN-04 were used to calculate the relationship between sensor response and extracted chlorophyll concentration (see table below). The linear fit of sensor reading in relative fluorescent units (rfu) vs extracted chlorophyll (ug/L) yielded the following relationship: Chlorophyll (ug/L) = 2.13\*rfu -1.01.

No field samples were collected for extracted chlorophyll measurement during 2012 & 2013. This calibration based on 2014 data is very similar to the calibration based on 2010 and 2011 data, indicating that the sensor has remained stable (aside from shifts in baseline which have been corrected for separately) . This calibration was applied to data in 2013 while the previous calibration was applied to the 2012 data.

### Field Sample Data for calibration:

Filter Type	Sample Time	Level (cm)	Sample Chl (µg/L)	Station Chl
GF/F	1/9/14 15:01	8.6	1.177	2.118
GF/F	1/9/14 15:12	0.3	2.268	2.128

GF/F	1/15/14 16:50	0.3	2.082	1.690
GF/F	1/15/14 17:05	8.6	1.505	1.670
GF/F	1/23/14 16:50	0.3	2.781	2.440
GF/F	1/23/14 17:05	8.6	2.433	2.260
GF/F	1/28/14 16:31	8.6	2.627	2.110
GF/F	1/28/14 16:34	0.3	2.307	2.360
GF/F	2/4/14 13:32	0.3	2.537	1.920
GF/F	2/4/14 13:35	8.6	2.955	2.480
GF/F	2/11/14 15:52	0.3	1.936	2.040
GF/F	2/11/14 15:57	8.6	1.443	1.610
GF/F	4/14/14 12:40	8.6	16.526	5.430
GF/F	4/14/14 12:55	0.3	12.898	4.560
GF/F	4/24/14 13:48	0.3	10.222	5.530
GF/F	4/24/14 14:01	8.6	11.587	6.450
GF/F	4/25/14 0:00	0	-0.005	0.524
GF/F	4/30/14 0:00	0	0.045	0.472
GF/F	5/1/14 12:43	8.6	9.009	5.610
GF/F	5/1/14 12:53	0.3	8.144	3.780
GF/F	5/8/14 12:52	8.6	14.097	8.810
GF/F	5/8/14 13:02	0.3	15.102	9.470
GF/F	5/14/14 10:38	8.6	8.945	7.220
GF/F	5/14/14 10:51	0.3	10.835	4.930
GF/F	5/22/14 12:10	0.3	11.956	6.140
GF/F	5/30/14 13:21	8.6	8.920	4.250
GF/F	5/30/14 13:30	0.3	7.994	3.790
GF/F	6/6/14 13:41	0.3	10.708	4.860
GF/F	6/6/14 13:45	8.6	9.601	4.520
GF/F	6/12/14 15:22	0.3	13.488	5.000
GF/F	6/12/14 15:24	8.6	12.920	5.180
GF/F	6/17/14 10:52	0.3	13.827	5.250
GF/F	6/17/14 11:01	8.6	12.550	5.260
GF/F	7/16/14 0:00	0	-0.007	1.171
GF/F	7/24/14 0:00	0	0.106	0.501
GF/F	7/24/14 15:04	8.6	5.728	3.730
GF/F	7/24/14 15:14	0.3	11.970	3.170
GF/F	7/29/14 0:00	0	0.045	0.569
GF/F	7/29/14 14:10	0.3	7.856	4.350
HAWP	8/18/14 0:00	0	-0.010	0.470
GF/F	8/18/14 0:00	0	0.015	0.470
HAWP	8/19/14 9:22	0.3	4.232	2.010
HAWP	8/19/14 9:25	8.6	1.762	1.220
HAWP	8/27/14 0:00	0	-0.006	1.157
GF/F	8/27/14 0:00	0	0.015	1.157
HAWP	8/28/14 10:03	8.6	3.556	1.830
HAWP	8/28/14 10:11	0.3	3.785	2.730
GF/F	9/4/14 0:00	0	0.016	0.995
HAWP	9/4/14 0:00	0	-0.009	0.995

HAWP	9/4/14 15:43	8.6	2.820	1.580
HAWP	9/4/14 15:55	0.3	4.241	1.960
HAWP	9/16/14 0:00	0	-0.006	0.653
GF/F	9/16/14 0:00	0	-0.001	0.653
HAWP	9/16/14 10:12	0.3	3.347	1.880
HAWP	9/16/14 10:14	8.6	1.579	1.110
GF/F	9/24/14 0:00	0	-0.002	1.120
HAWP	9/24/14 12:24	8.6	2.666	1.350
HAWP	9/30/14 0:00	0	-0.014	0.508
GF/F	9/30/14 0:00	0	-0.008	0.508
HAWP	10/1/14 9:04	8.6	2.226	1.820
HAWP	10/1/14 9:10	0.3	4.341	2.040
	10/17/14			
HAWP	13:25	0.3	2.293	1.450
	10/17/14			
HAWP	13:30	8.6	1.010	0.870
HAWP	10/23/14 0:00	0	-0.003	0.491
	10/23/14			
HAWP	14:25	0.3	1.502	0.960
	10/23/14			
HAWP	14:35	8.6	1.197	0.880
HAWP	11/18/14 0:00	0	-0.002	0.910
	11/18/14			
HAWP	12:16	0.3	0.580	0.740
	11/18/14			
HAWP	12:20	8.6	0.604	0.770
HAWP	12/3/14 0:00	0	0.004	0.508
HAWP	1/20/15 0:00	0	0.003	0.477
HAWP	2/11/15 15:30	0.3	2.513	1.900
HAWP	2/11/15 15:30	0.3	3.632	1.900
HAWP	2/11/15 15:33	8.6	2.677	1.830
HAWP	2/11/15 15:33	8.6	3.764	1.830
HAWP	2/12/15 0:00	0	-0.001	0.450
HAWP	2/24/15 0:00	0	0.055	0.466
HAWP	2/25/15 11:08	0.3	4.289	2.430
HAWP	2/25/15 11:12	8.6	3.857	2.010
HAWP	3/3/15 0:00	0	-0.001	0.461