

# Connecticut State University Outer Island Education Program Report

Submitted by:

Vincent T. Breslin

Environment, Geography and Marine Sciences

Southern Connecticut State University

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## **Connecticut State University Outer Island Summer Programs**

### **Outer Island Interns**

This year (Summer 2018) three student interns were hired to staff Outer Island and to assist groups with educational programming during their visit to the island. The interns also conducted research activities, including monitoring water quality and fouling, and participated in maintenance activities on the island facilities. This past summer the island interns were Ian Bergemann, Joshua Bartosiewicz and Sage Maier. Brief bios were provided by the interns and are included below:

Sage Maier is a senior at Central Connecticut State University in the biology program. She has a focus on ecology, biodiversity, and evolutionary biology. She previously interned at the Beardsley Zoo in the education programming department, presenting programs to the public and working with the animals. She also volunteered with Connecticut Forest and Parks Association for many years. Sage started the Outing Club at CCSU, which focuses on enjoying the outdoors. Sage's hobbies include camping, hiking, and anything outdoors.

Joshua Bartosiewicz is currently a graduate student at Southern Connecticut State University enrolled in the Environmental Education program. As an undergraduate, he attended Eastern Connecticut University and majored in Environmental Earth Science. At ECSU, he participated in a research project that was based around the Thimble Islands in Branford, CT (Benthic Geologic Habitats of the Lang Shellfish Beds: Branford River and the Thimble Islands, Long Island Sound, U.S.A.). Joshua's hobbies include hiking, playing disc golf and travel. Joshua has traveled to many countries including Spain, Italy, Portugal, Greece, and Iceland.

Ian Bergemann is a freshman at Southern State Connecticut University. Ian previously worked for 4 years at Bishop's Orchard in Guilford, doing a summer education program that taught children the importance of agriculture and sustainability through composting. Ian is also a representative of the SCSU Student Government Association and is working to create more sustainable field trips and programs. Joshua's career goals include working in policy and

advocacy for more environmental protection and sustainable practices. Ian's hobbies include hiking and gardening.

This summer 2018 was the fourth consecutive summer where three interns were hired to provide visitor services on the island. By all measures, having three interns on the island continues to provide improved visitor services and community outreach. Student interns each received a salary processed via CCSU. Tuition reimbursement (3 credits; \$1680) was provided for one of the interns in support of a course applied towards his degree in Environmental Systems and Sustainability Studies at SCSU.

### **Schedule of Visitors**

The island interns and Friends of Outer Island estimated a total of 2446 visitors to the island during the summer 2018 (May 25<sup>th</sup> until the island seasonal closing on September 28<sup>th</sup> 2018). Several programs brought large groups of students to Outer Island this past summer. Eight New Haven school groups participated in the Nature of Learning program with US Fish & Wildlife (210 visitors). The Walsh Intermediate School, Branford had 10 classes visit the island in the fall for a total of 250 students. For the first time, Outer Island visits were on the itinerary for the New Haven International Festival of Arts and Ideas. Two visits were scheduled and 54 participants visited the island on June 19<sup>th</sup> and 21<sup>st</sup>.

Those visitors were included in the twenty-one groups that scheduled 34 separate visits during the summer 2018 with an estimated 700 visitors participating in education programs (see attached schedule). Both the number of scheduled groups and the total number of scheduled group visitors to Outer Island in summer 2018 were comparable, but slightly lower, compared to previous years. Many of the scheduled groups have visited the island in previous years. Some of the notable first time visitors to the island included the Grove School, Madison, the Brass City Charter School, Waterbury and the Plainville Senior Center.

### Outer Island Visitor Schedule 2018

CSCU Escort	Date	Time	Attendance	Organization	Contact	Phone	email
Shaun Roche	31-May	9:00 am - 12:00 pm	15	Housatonic Valley Regional HS	Letitia Garcia-Tripp		<a href="mailto:lgarcia-tripp@hvrhs.org">lgarcia-tripp@hvrhs.org</a>
Shaun Roche	1-Jun	10:00 am - 2:00 pm	25	US Fish & Wildlife School Group	Shaun Roche		<a href="mailto:Shaun_Roche@fws.gov">Shaun_Roche@fws.gov</a>
Shaun Roche	5-Jun	10:00 am - 2:00 pm	25	US Fish & Wildlife School Group	Shaun Roche		<a href="mailto:Shaun_Roche@fws.gov">Shaun_Roche@fws.gov</a>
Shaun Roche	6-Jun	10:00 am - 2:00 pm	25	US Fish & Wildlife School Group	Shaun Roche		<a href="mailto:Shaun_Roche@fws.gov">Shaun_Roche@fws.gov</a>
Shaun Roche	6-Jun	10:00 am - 2:00 pm	25	US Fish & Wildlife School Group	Shaun Roche		<a href="mailto:Shaun_Roche@fws.gov">Shaun_Roche@fws.gov</a>
Shaun Roche	8-Jun	10:00 am - 2:00 pm	25	US Fish & Wildlife School Group	Shaun Roche		<a href="mailto:Shaun_Roche@fws.gov">Shaun_Roche@fws.gov</a>
Interns	11-Jun	10:00 am - 2:00 pm	30	Brass City Charter School	Becca Caravello		<a href="mailto:bcaravello@brasscitycharter.org">bcaravello@brasscitycharter.org</a>
Interns	12-Jun	9:00 am - 12:00 pm	6	CELC Middle School Branford	Melinda Alcosser		<a href="mailto:mandm@ctexperiential.org">mandm@ctexperiential.org</a>
Shaun Roche	14-Jun	9:30 am - 1:00 pm	25	Columbus Academy	Shaun Roche		<a href="mailto:Shaun_Roche@fws.gov">Shaun_Roche@fws.gov</a>
Interns	19-Jun	9:00 am - 12:00 pm	7	The Grove School	Terri Frey		<a href="mailto:Terri_Frey@groveschool.org">Terri_Frey@groveschool.org</a>
Interns	19-Jun	4:00 pm - 7:00 pm		New Haven Arts & Ideas	Ivette Lopez		<a href="mailto:ivette.lopez@yale.edu">ivette.lopez@yale.edu</a>
Interns	20-Jun	4:00 pm - 7:00 pm	15	SCSUPublic Health course PCH 259	Mike Pascucilla		<a href="mailto:pascucillam1@southernct.edu">pascucillam1@southernct.edu</a>
Interns	21-Jun	9:00 am - 12:00 pm		New Haven Arts & Ideas	Ivette Lopez		<a href="mailto:ivette.lopez@yale.edu">ivette.lopez@yale.edu</a>
Interns	26-Jun	10:30 am - 3:30 pm	28	Students from Liverpool UK	Scott Graves		<a href="mailto:gravess1@southernct.edu">gravess1@southernct.edu</a>
FOI	16-Jul	5:00pm - 7:30pm	10	Friends of Outer Island	Jim Lockhart		<a href="mailto:teach-1@sbcglobal.net">teach-1@sbcglobal.net</a>
Interns	17-Jul	10:00 am - 2:30 pm	20	Boy Scouts	Corey Smith		<a href="mailto:cdsmith314@yahoo.com">cdsmith314@yahoo.com</a>
Interns	27-Jul	10:00 am - 2:00 pm	40	Solar Youth	Alyssa D'Amato		<a href="mailto:alyssa@solar youth.org">alyssa@solar youth.org</a>
Interns	3-Aug	10:30am - 12:30pm	15	Plainville Senior Center	Ronda Guberman		<a href="mailto:rfguberman@snet.net">rfguberman@snet.net</a>
Interns	9-Aug	10:00 am - 2:00 pm	15	Lyman Hall FFA	Emily Picard		<a href="mailto:epicard@wallingfordschools.org">epicard@wallingfordschools.org</a>
FOI	19-Aug	11:00 am - 1:00 pm	15	Yoga on Outer Island	Lew Deluca		<a href="mailto:deluca12@southernct.edu">deluca12@southernct.edu</a>

CSCU Escort	Date	Time	Attendance	Organization	Contact	Phone	email
FOI	8-Sep	10:00am – 4:30pm	16	ECSU Biology	Chuck Booth		<a href="mailto:booth@easternct.edu">booth@easternct.edu</a>
FOI							
Island Keeper	11-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	12-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	13-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	14-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	17-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	19-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	20-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	21-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	24-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	26-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	27-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>
Island Keeper	28-Sep	9:00 am – 1:00 pm	25	Walsh Intermediate School	Jeffrey Rizzo		<a href="mailto:jrizzo@branfordschools.org">jrizzo@branfordschools.org</a>

## Research Activities

### Water Quality Monitoring

Water quality parameters were monitored by the CSU interns during the summer 2018 from May 31<sup>st</sup> to August 26<sup>th</sup>. Water quality monitoring occurred each day at 2:00 pm from the end of the floating dock. Water quality parameters monitored included: water temperature, salinity, conductivity, specific conductance, dissolved oxygen, Secchi disk depth, turbidity, and pH. All measurements were made on water samples collected from at a depth of one meter.

Water temperature gradually increased from the spring to the end of the summer. Water temperature ranged from 14.5°C (6/10) to a high of 26.5°C (8/3). Variations in water temperature over the summer correlated well with changes in measured air temperature (Figure 3). Dissolved oxygen concentrations were highest initially (9.63 mg/L) on 6/8 and showed a decrease over the summer months correlating with increasing temperatures reaching a low of 6.08 mg/L on 8/14 (Figure 1b). With one exception, salinity showed little variability, with a range of only 27.1 ppt (6/1) to 28.8 ppt (8/10), while conductivity showed a slightly larger range from 34.22 mS (5/31) to 45.50 mS (8/10) (Figure 1a). Both parameters showed less variability than in previous years. Both salinity and conductivity decreased dramatically on 8/10, corresponding to heavy precipitation on that date.

Water clarity, as measured by a Secchi disk, varied from 0.4 m (6/22) to 1.4 m (7/28) during the monitoring period (Figure 2a). pH ranged from a low of 7.55 (7/4) to a high of 8.46 (8/26) (Figure 2b). Similar to other parameters this season, water clarity/turbidity and pH showed less variation than previous years. The water quality monitoring raw data and graphs will be available online in the redesigned Research section of the Outer Island website.

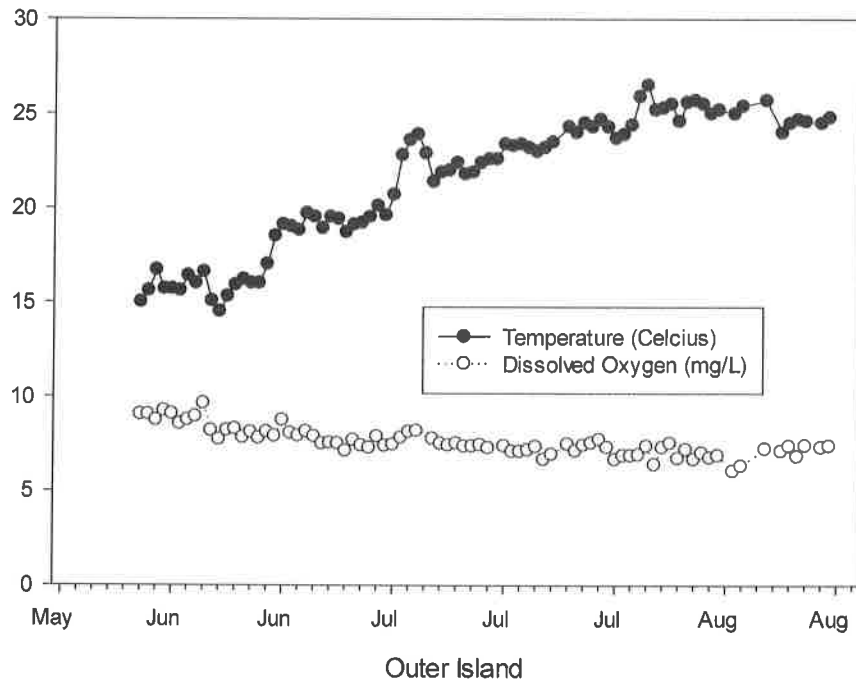
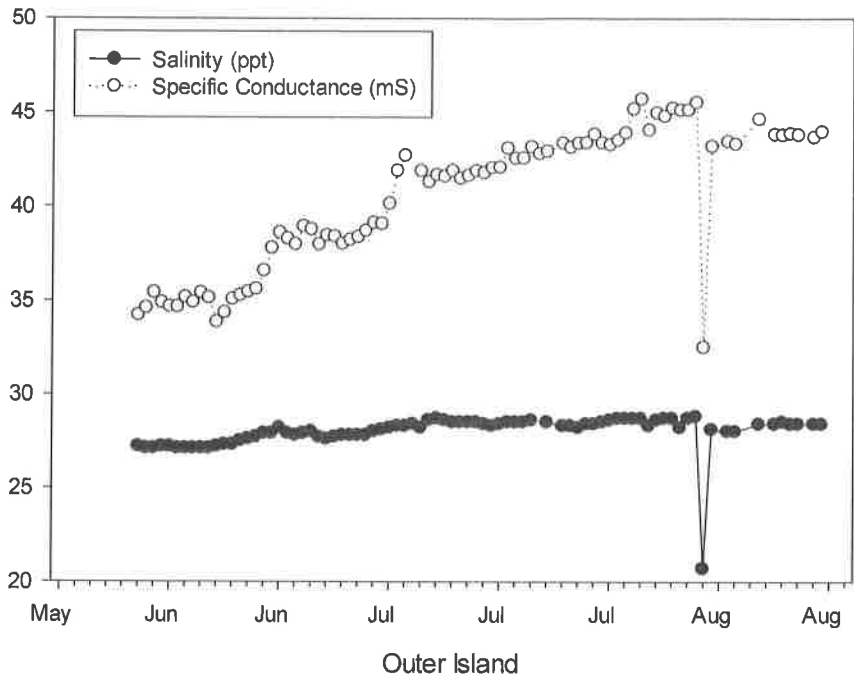


Figure 1. Outer Island 2018 water quality monitoring results: (a) salinity and conductivity and (b) temperature and dissolved oxygen.





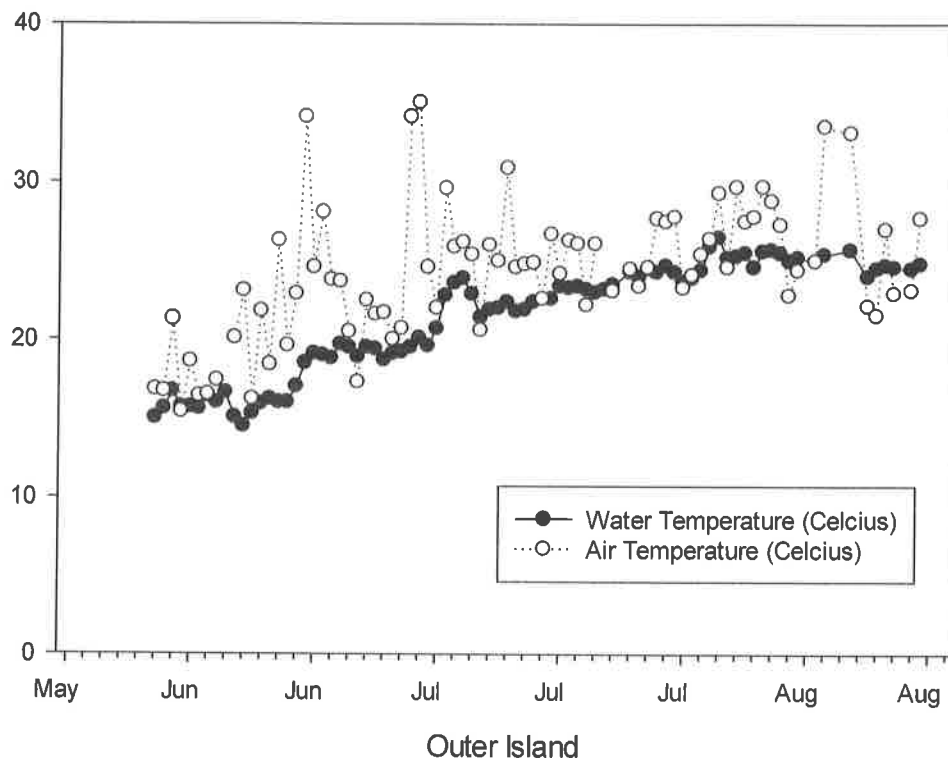


Figure 3. Outer Island water quality monitoring results: water and air temperature.

Outer Island Water Quality Summer 2018

Date	Time	Weather	WInd speed		Rel. Humidity	Air Temperature	Solar Radiation	Salinity	Conductivity	Specific Conductance	Water temp	Oxygen	Secchi Disk	pH
			Max (mph)	Min	%	C	lux x 100							
			PM											
5/31/2018	1:47	overcast	13.4	0.0	75.0	16.8	464	27.2	27472	34.22	15.0	9.05	1.0	8.24
6/1/2018	1:39	overcast	8.5	7.5	86.3	16.7	624	27.1	27419	34.61	15.6	9.04	1.2	8.26
6/2/2018	1:46	partly cloudy	0.3	0.0	81.8	21.3	963	27.1	27351	35.42	16.7	8.74	1.3	8.20
6/3/2018	2:00	partly cloudy	13.6	11.0	71.4	15.4	900	27.2	27510	34.89	15.7	9.23	0.6	8.29
6/4/2018	1:50	overcast	9.9	4.5	70.0	18.6	391	27.2	27408	34.69	15.7	9.07	0.8	8.29
6/5/2018	1:47	overcast, drizzle	7.5	6.5	79.6	16.4	40	27.1	27425	34.66	15.6	8.54	1.0	8.24
6/6/2018	1:46	partly cloudy	7.0	3.6	71.0	16.5	330	27.1	27362	35.17	16.4	8.75	1.0	8.32
6/7/2018	2:30	partly cloudy	6.9	4.7	76.2	17.4	550	27.1	27372	34.90	16.0	8.94	1.1	8.27
6/8/2018	2:30	partly cloudy	0.3	0.0	37.7		779	27.1	27408	35.41	16.6	9.63	1.1	8.24
6/9/2018	2:08	partly cloudy	3.5	1.5	70.1	20.1	678	27.1	27454	35.14	15.1	8.19	0.9	8.24
6/10/2018	2:12	overcast	1.1	0.0	53.9	23.1	415	27.2	27542	33.86	14.5	7.72	1.0	8.23
6/11/2018	2:11	clear sun	10.0	1.2	60.0	16.2	1026	27.3	27622	34.35	15.3	8.20	0.7	8.18
6/12/2018	2:19	clear sun	4.1	0.0	59.1	21.8	921	27.3	27544	35.07	15.9	8.28	1.1	8.16
6/13/2018	4:30	overcast, fog	1.8	0.0	75.4	18.4	405	27.5	27680	35.28	16.2	7.81	0.8	8.10
6/14/2018	2:14	clear sun	8.0	0.0	41.2	26.3	1041	27.6	27820	35.46	16.0	8.10	0.8	8.07
6/15/2018	1:30	partly cloudy	1.0	0.0	72.8	19.6	523	27.7	27922	35.60	16.0	7.78	0.8	8.08
6/16/2018	1:57	clear sun	0.9	0.0	70.8	22.9	882	27.9	28006	36.59	17.0	8.12	0.7	8.12
6/17/2018	2:00	clear sun	0.7	0.0	36.5	34.1	1040	27.9	28051	37.78	18.5	7.89	0.9	8.04
6/18/2018	2:30	clear sun	3.7	0.0	76.2	24.6	845	28.2	28251	38.60	19.1	8.74	0.9	8.11
6/19/2018	2:00	clear sun	10.2	2.2	52.3	28.1	1044	27.9	28113	38.28	19.0	8.05	0.7	8.13
6/20/2018	2:10	partly cloudy	2.2	0.9	63.0	23.8	810	27.8	28017	37.98	18.8	7.90	0.7	8.13
6/21/2018	2:00	clear sun	5.1	0.0	61.4	23.7	965	27.9	28142	38.93	19.7	8.13	0.9	8.17
6/22/2018	2:00	partly cloudy	7.3	2.0	78.1	20.5	1432	28.0	28177	38.77	19.5	7.87	0.4	8.20
6/23/2018	2:05	overcast	3.7	0.0	86.5	17.3	208	27.7	27926	37.97	18.9	7.49	0.9	8.22
6/24/2018	2:00	partly cloudy	7.1	1.6	75.6	22.5	700	27.6	27920	38.45	19.5	7.53	0.9	8.24
6/25/2018	2:14	clear sun	14.5	8.3	56.9	21.6	1052	27.7	27899	38.40	19.4	7.50	1.0	8.23
6/26/2018	1:55	clear sun	1.8	0.0	68.5	21.7	1049	27.8	28020	38.01	18.7	7.11	1.0	8.19
6/27/2018	2:03	overcast	2.2	0.0	81.5	20.0	407	27.8	28011	38.22	19.1	7.68	0.8	8.25
6/28/2018	2:08	partly cloudy	2.1	0.0	88.3	20.7	1017	27.8	28015	38.36	19.2	7.39	0.7	8.30
6/29/2018	2:12	clear sun, partly cloudy	0.6	0.0	46.6	34.1	1085	27.8	28070	38.71	19.5	7.27	0.9	8.19
6/30/2018	1:38	clear sun	0.6	0.0	41.0	35.0	1018	28.0	28150	39.12	20.1	7.87	0.7	8.20
7/1/2018	2:10	partly cloudy	11.7	1.0	73.1	24.6	956	28.1	28295	39.07	19.6	7.38	0.9	8.17
7/2/2018	2:11		8.4	0.1	82.1	22.0	1008	28.2	28413	40.13	20.7	7.44	0.7	8.22
7/3/2018	2:00	partly cloudy	2.6	0.0		29.6	1012	28.3	28441	41.83	22.8	7.81	1.2	
7/4/2018	2:00	partly cloudy	6.8	0.0	76.6	25.9	1010	28.3	28460	42.63	23.6	8.12	1.0	7.55
7/5/2018	2:00	clear sun	4.9	0.0	77.5	26.2	1030	28.4	28582		23.9	8.18	1.2	8.31
7/6/2018	2:30	partly cloudy	1.2	0.0	85.6	25.4	453	28.2	28381	41.86	22.9	6.97	0.7	8.17
7/7/2018	1:55	clear sun	5.2	0.5	65.2	20.6	1052	28.6	28763	41.29	21.4	7.76	0.7	8.24
7/8/2018	2:00	clear sun	7.0	0.1	69.1	26.0	1042	28.7	28825	41.65	21.9	7.50	0.7	8.31
7/9/2018	2:10	clear sun	3.7	0.0	79.4	25.0	1016	28.6	28691	41.57	22.0	7.41	1.0	8.33
7/10/2018	2:00	clear sun	0.9	0.0	60.5	30.9	1028	28.5	28692	41.88	22.4	7.51	1.1	
7/11/2018	2:00	overcast	7.6	2.1	69.5	24.6	375	28.5	28681	41.46	21.8	7.35	1.1	8.28
7/12/2018	2:00		6.0	0.0	63.1	24.8	1040	28.5	28710	41.61	21.9	7.36	1.0	8.28
7/13/2018	2:20	partly cloudy	7.2	4.4	73.5	24.9	1020	28.5	28644	41.86	22.4	7.43	1.1	8.33
7/14/2018	2:00	partly cloudy	12.2	3.4	74.9	22.6	725	28.4	28583	41.76	22.6	7.27	1.0	8.26
7/15/2018	2:25	partly cloudy, overcast	2.0	0.0	71.4	26.7	646	28.3	28518	42.03	22.6	6.90	0.9	8.25
7/16/2018	2:39	clear sun	9.9	0.0	81.6	24.2	930	28.4	28618	42.06	23.4	7.38	0.7	8.28
7/17/2018	2:01	clear sun	10.6	1.4	82.4	26.3	608	28.5	28644	43.08	23.3	7.08	1.0	8.23
7/18/2018	1:54	clear sun	7.8	0.0	54.6	26.1	1025	28.5	28554	42.54	23.4	7.08	1.0	8.27
7/19/2018	2:05	clear sun	9.0	0.0	70.6	22.2	1022	28.5	28685	42.55	23.2	7.15	1.0	8.31
7/20/2018	1:46	clear sun	10.7	0.0	66.4	26.1	893	28.6	28742	43.15	23.0	7.33	1.0	
7/21/2018	1:45	partly cloudy								42.78	23.2	6.66		
7/22/2018	2:37	overcast, fog	13.7	1.3	80.0	23.1	1160	28.5	28726	42.91	23.5	6.93	0.6	8.34
7/24/2018	2:04	cloudy	14.1	7.2	80.5	24.5	348	28.3	28535	43.33	24.3	7.47	1.1	8.34
7/25/2018	2:10	fog, drizzle	14.3	9.0	87.4	23.4	168	28.3	28530	43.10	24.0	7.11	1.1	8.30
7/26/2018	2:30	partly cloudy	0.0	0.0	90.2	24.6	322	28.2	28462	43.33	24.5	7.41	1.2	8.42
7/27/2018	1:50	partly cloudy	2.8	0.0	87.6	27.7	1143	28.4	28585	43.35	24.3	7.52	1.3	8.35
7/28/2018	2:30	partly cloudy	1.5	0.3	79.9	27.5	561	28.4	28667	43.81	24.7	7.71	1.4	8.30
7/29/2018	2:24	partly cloudy	1.8	0.0	61.1	27.8	369	28.5	28699	43.35	24.3	7.30	1.3	8.35
7/30/2018	2:30	overcast	4.0	0.7	78.5	23.3	243	28.6	28805	43.26	23.7	6.65	1.2	8.34
7/31/2018	2:39	clear sun	2.6	0.0	67.3	24.1	873	28.7	28848	43.50	23.9	6.85	1.0	8.28
8/1/2018	2:00	partly cloudy	12.4	4.9	83.3	25.4	1031	28.7	28860	43.89	24.4	6.85	1.2	7.46
8/2/2018	2:09	clear sun	5.7	0.0	80.1	26.4	915	28.7	28887	45.17	25.9	6.90		8.37
8/3/2018	2:24	partly cloudy	0.1	0.0	82.7	29.3	943	28.7	28893	45.70	26.5	7.36	1.2	8.33
8/4/2018	2:00	rain	6.1	3.7	80.9	24.6	215	28.3	28560	44.04	25.2	6.38	1.0	8.70
8/5/2018	2:00	clear sun	1.2	0.0	86.6	29.7	894	28.6	28848	44.95	25.3	7.29	1.0	7.47
8/6/2018	2:00	clear sun	1.1	0.0	85.9	27.5	875	28.7	28864	44.78	25.5	7.51	1.3	8.33
8/7/2018	1:55	clear sun, partly cloudy	3.1	0.1	80.3	27.8	850	28.7	28963	45.20	24.6	6.72	1.2	8.35
8/8/2018	2:05	partly cloudy	2.9	0.0	69.1	29.7	840	28.2	28912	45.10	25.6	7.18	1.2	8.34
8/9/2018	2:10	partly cloudy	13.6	0.0	61.0	28.8	965	28.7	28945	45.11	25.7	6.66	1.3	8.33
8/10/2018	4:20	clear sun	1.9	0.0	75.8	27.3	582	28.8	28906	45.50	25.5	7.00	1.0	8.34
8/11/2018	3:02	overcast, drizzle	10.9	4.7	84.0	22.8	170	20.7	23608	32.49	25.0	6.74	1.3	8.35
8/12/2018	2:45	partly cloudy	5.9	0.3	86.7	24.4	842	28.1	28318	43.17	25.2	6.86	1.1	8.33
8/14/2018	2:40	clear sun	7.8	0.1	78.1	25.0	882	28.0	28265	43.43	25.0	6.08	1.2	8.24
8/15/2018	2:27	partly cloudy	8.6	2.6	52.5	33.5	922	28.0	28245	43.29	25.4	6.35	1.2	8.28
8/18/2018	2:00	partly cloudy	2.7	0.0	61.8	33.1	1028	28.4	28633	44.60	25.7	7.26	1.2	8.34
8/20/2018	2:00	overcast	6.2	2.6	75.0	22.1	1140	28.4	28655	43.76	24.0	7.14	1.1	8.37
8/21/2018	2:05	clear sun	10.5	5.0	75.5	21.5	905	28.5	28700	43.72	24.5	7.40	1.0	8.40
8/22/2018	2:30	partly cloudy	4.3	0.0	75.5	27.0	834	28.4	28646	43.80	24.7	6.85	1.1	8.39
8/23/2018	3:00	clear sun	17.4	0.0	45.8	22.9	690	28.4	28565	43.74	24.6	7.43		8.46
8/25/2018	2:00	partly cloudy	2.0	0.9	67.9	23.1	380	28.4	28622	43.61	24.5	7.33	1.2	8.46
8/26/2018	3:50	clear sun	0.0	0.0	70.8	27.7	598	28.4	28628	43.90	24.8	7.41	1.2	8.46

## **Water Quality and Supplies for Education Programs**

Additional supplies were purchased in support of the water quality monitoring and education programs. A new beta water sampling bottle and a secchi disk were purchased to replace older, poorly functioning equipment.

This year we also purchased two Onset HOBO data loggers: dissolved oxygen and pH. These data loggers have the ability to be deployed and provide constant (hourly-daily) water quality measurements. The goal for summer 2019 will be to build a frame to mount the sensors and to deploy them from the backside of the floating dock. The sensor framework will contain a three sensors and will record measurements for pH, conductivity, temperature, and dissolved oxygen. The meter assembly will be able to be removed from the water for maintenance, including the removal of bio-fouling and downloading of data. The sensors will provide more frequent (higher resolution) water quality measurements.

## **Outer Island Website Update**

We continue to revise the Outer Island website ([www.outerisland.org](http://www.outerisland.org)) to create a more informative, user friendly interface for Outer Island information and educational programming. The Outer Island website is hosted on iPage ([www.iPage.com](http://www.iPage.com); recently renewed; now terms February 2021). Undergraduate computer science students Robert Orozco worked on the Outer Island website this past year. Robert posted additional content to the website during the summer 2018. Improvements to the website include:

- Posting of summer 2016 and 2017 water quality data (harbor and tide pools) and water quality equipment and manuals
- The posting of past Summer Outer Island attendance records (1998-Present)
- Posting of summer 2018 intern photos and bios, and
- Resources for LIS educators

## **AT&T Wireless Account**

The AT&T wireless account used in support of the Outer Island WeatherBug station and video cameras now supports three wireless lines transmitting data and images. Two of the lines support the cameras and WeatherBug weather data and the third line supports the ELM Air Quality monitoring station. The account also supports a wireless hot spot to allow internet access to the student interns. Data usage was well managed during the summer 2018, the interns avoided overage charges for internet usage. I met with AT&T representatives to modify the data usage charges on the account for summer 2019 data limits to reduce excess data usage charges.

AT&T broadband access fees for the wireless for the twelve month service period from April 2018 to February 2019 totaled \$1,722.

## **WeatherBug Station, Web Cameras and Remote Video Capabilities**

Overall, the WeatherBug weather station has been performing well. A new High Definition camera and 5 year maintenance contract was purchased and installed in spring 2017 (\$6,000). The camera replaced an older, poorly functioning camera. The two cameras now provide high quality video from west looking over the marsh and east with a view of the dock.

For the past several months Dec-March the WeatherBug weather station data and video from the cameras have not been viewable from the [outerisland.org](http://outerisland.org) website. We believe this is due to a hardware issue on the island that will not be resolved until the lab facilities are once again accessible. The redesigned website will restore the camera views and access to the WeatherBug weather data.

## **Outer Island Watercolor Workshop/Art Experience**

Unfortunately the Outer Island Watercolor Workshop/Art Experience was canceled this year. The annual workshop, conducted in collaboration with the Friends of Outer Island, is a popular event and we look forward to scheduling the workshop once again for the summer 2019.

SCSU Outer Island Funds Request 2018-2019				
Category		Requested Funds		Disbursed Funds
<b>Personnel</b>				
	Student Stipend (150 hours @ \$10/hour)	\$1,500.00		1,500
	Website maintenance (Undergraduate Student)			
	Student Tuition (3 credits)	\$0.00		1,680
	Faculty Stipend Scott Graves (Summer 2018)	\$1,500.00		0
	Faculty Stipend T. Wiley Carr (Summer 2018)	\$1,000.00		0
	Faculty Stipend Scott Graves (Summer 2018) (62.7%)	\$941.00		0
	Faculty Stipend T. Wiley Carr (Summer 2018) (20.4%)	\$204.00		0
	<b>Total Personnel</b>	<b>\$5,145.00</b>		<b>3,180</b>
				<b>3,180</b>
<b>Supplies</b>				
	Water Quality, Weather Meters	\$5,200.00	23-May	93.62
	Laboratory and field supplies		28-May	84.98
	Art Supplies		29-May	594.98
	Educational Supplies and Books		30-May	154.45
			14-Jun	134.96
			15-Jun	185
			8-Jul	298.66
			23-Jul	176.63
				1723
	FOI Equipment request	\$1,600.00	1-May	106
	Binoculars, spotting scope, throw net, pH paper		11-May	821.54
			3-Jun	375.7
			21-Jun	381.88
				1685.12
<b>Equipment</b>				
	HOBO dissolved oxygen logger	\$1,250.00		1259.99
	HOBO pH logger	0		792
				2051.99
<b>Refreshments</b>				
	Chartwells Catering (GLOBE Teacher Workshop)	\$600.00		0
				0
<b>Travel (in State)</b>				
	Ferry Tickets to Outer Island	\$2,400.00	FOI	240
			FOI	960
				1200
<b>Other</b>				
	Annual AT&T Broadband Access fees	\$2,800.00	18-Apr	197.63
			18-May	197.63
			18-Jun	199.09
			18-Jul	199.09
			18-Aug	199.09
			18-Sep	199.09
			18-Oct	199.09
			18-Nov	64.1
			18-Dec	89.09
			19-Jan	89.09
			19-Feb	89.09
				1722.08
<b>Total Funds Requested 2018-2019</b>		<b>\$18,995.00</b>		<b>11,562</b>