

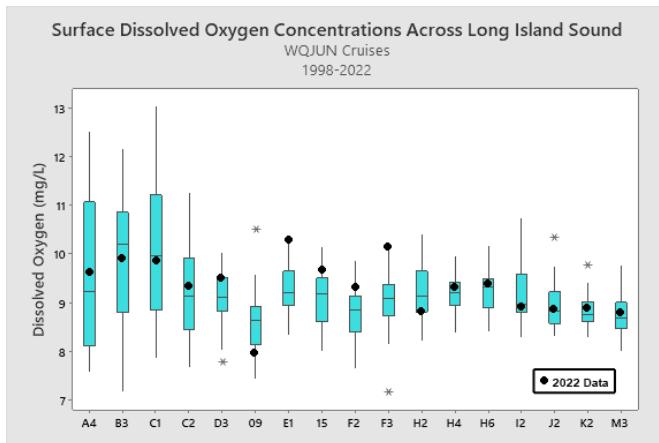
## Long Island Sound Water Quality Monitoring Program

<https://portal.ct.gov/DEEP/Water/LIS-Monitoring/LIS-Water-Quality-and-Hypoxia-Monitoring-Program-Overview>

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# WQJUN22 Hypoxia Summary

*Dissolved Oxygen Concentrations Still Above 6 mg/L*



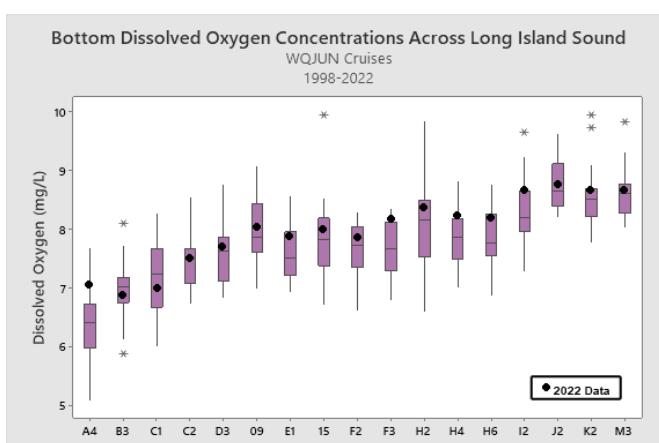
### Contents

Dissolved Oxygen	1
Sampling Schedule	2
Weather	2
Temperature	3,4
Water Clarity	5
Familiar Faces	6

The Connecticut Department of Energy and Environmental Protection conducted our WQJUN22 survey June 2nd through June 6th, 2022 aboard the R/V John Dempsey. Dissolved oxygen concentrations in the bottom waters of Long Island Sound remained well above 6 mg/L through the survey. The lowest concentration measured during the survey was 6.89 mg/L at Station B3 and the highest was 8.77 mg/L measured at Station J2. Of the 25 bottom waters measurements recorded at Station A4 between 1998 and 2022, the median concentration was 6.41 mg/L with a range of 5.08 to 7.69 mg/L. The mean was 6.363 mg/L.

Leading up to the WQJUN22 survey, A4 had concentrations of 10.03 mg/L in April and 9.16 mg/L in May.

Preliminary data from this survey and prior 2022 cruises are available in Excel spreadsheet format as well as on the UCONN ERDDAP site.



# Sampling Schedule



CT DEEP conducted our regular monthly water quality sampling from January through June.

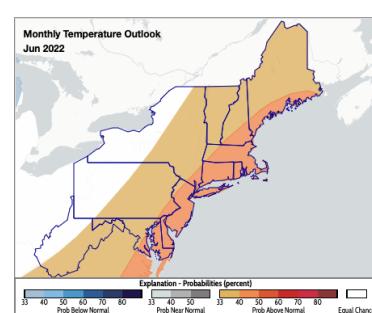
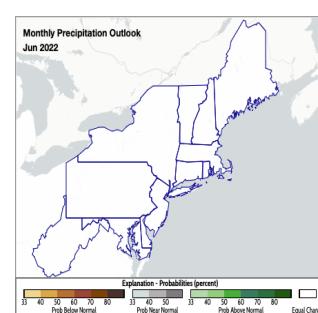
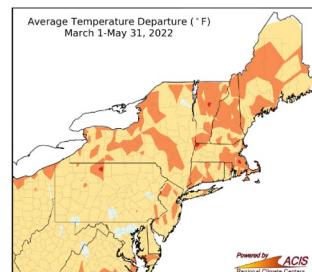
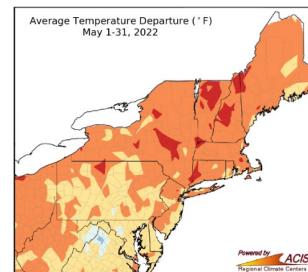
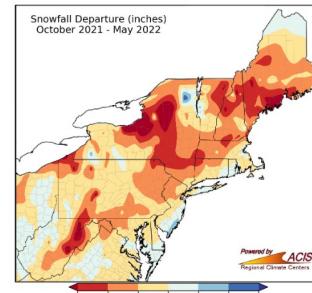
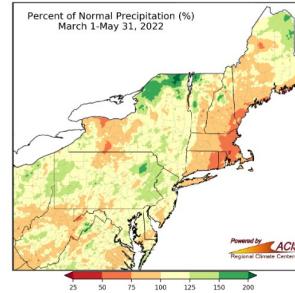
The next survey is planned for 6/13/22 (HYJUN22).

The [schedule](#) for the remainder of 2022 is shown to the left and available on our website.

The trawl survey was conducted during May as slated and continues through June.

# Weather

Spring has finally ended, and with it we open summer with our WQJUN22 survey. Leading up to WQJUN22, the Northeast experienced a warmer-than-normal May, with the average temperature in Hartford reaching 63.9°F; 3.9° higher than the norm. Precipitation varied across the region with the climate sites reporting 1-7 inches of rain falling in May. The two sites in CT were amongst the driest in the region, reporting between 2.5-3 inches of rain. From June 1<sup>st</sup> to June 8<sup>th</sup>, Bridgeport has seen average temperatures of 66.8°F. This is an increase of 0.7°F from the normal average of 66.1°F within this 8-day period. This is lower than the average seen last year, which was 71.5°F. Temperatures across Long Island Sound varied, with western Centerport, NY reporting an average temperature of 67.8°F and eastern Groton New London Airport reporting an average of 63.5°F. In contrast to May, June 1-8, was dry with Bridgeport recording 0.68 inches of rainfall; 61% of the normal level of 1.11 inches. As summer begins, the NOAA Climate Prediction Center indicates that temperatures will be above average for the rest of June, with precipitation fluctuating throughout the region. Weather information can be viewed on the Northeast Regional Climate Center's website <http://www.nrcc.cornell.edu/>.

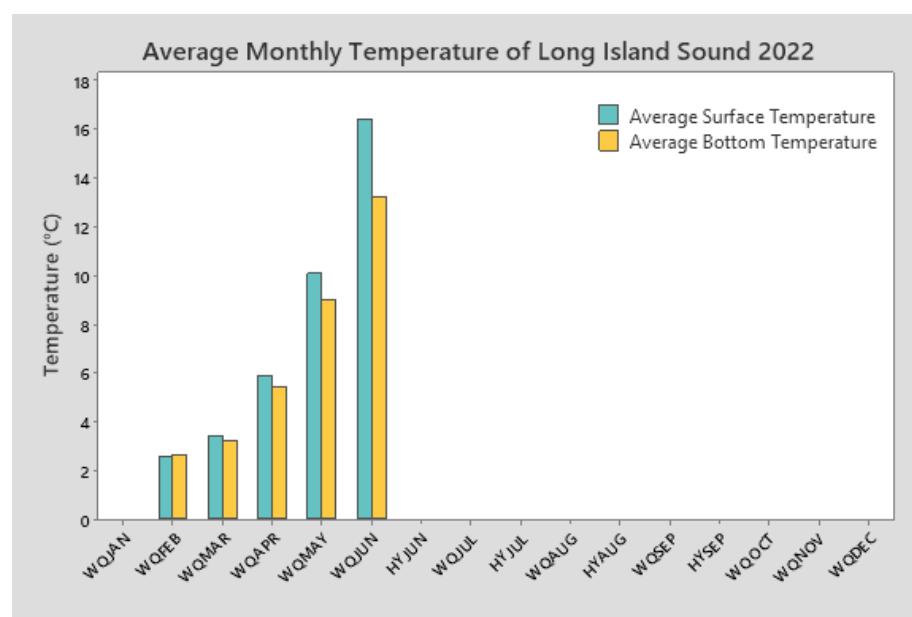
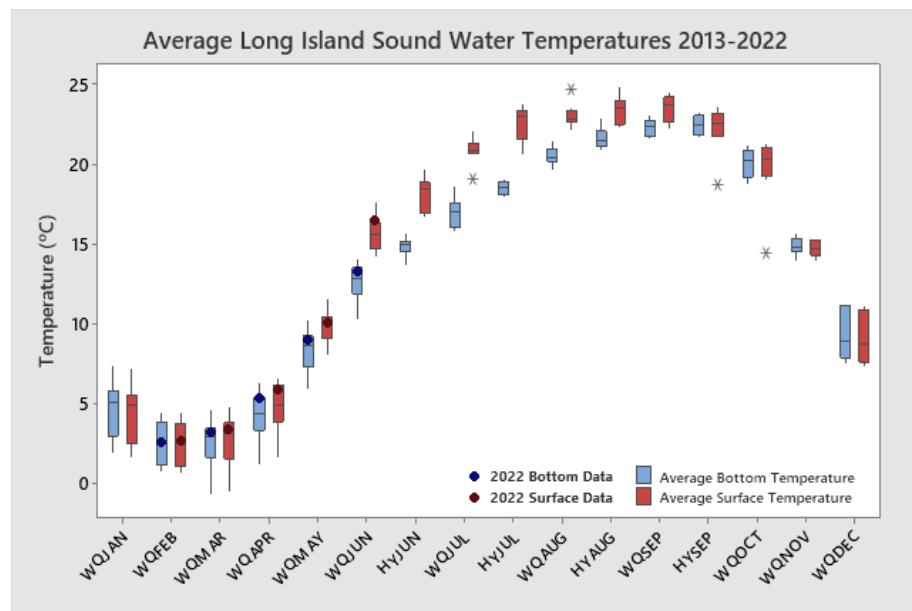


# Temperature

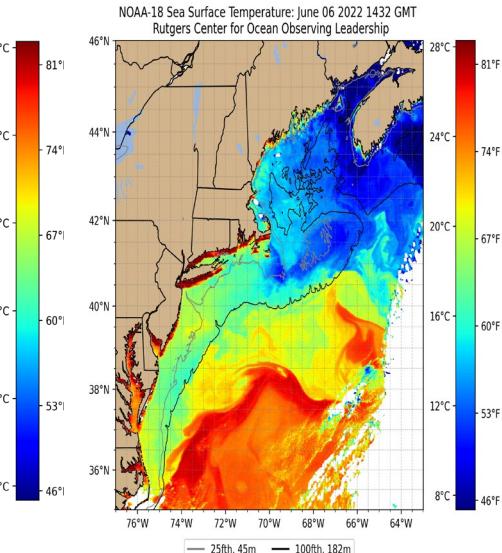
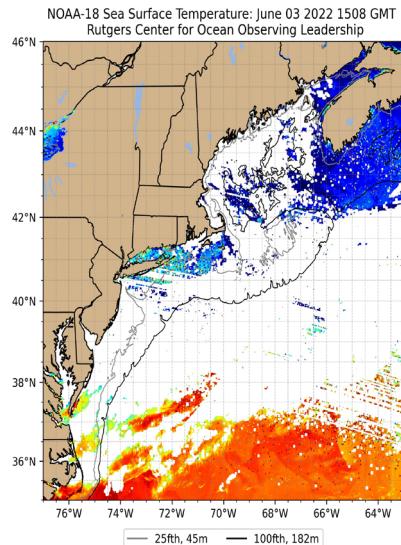
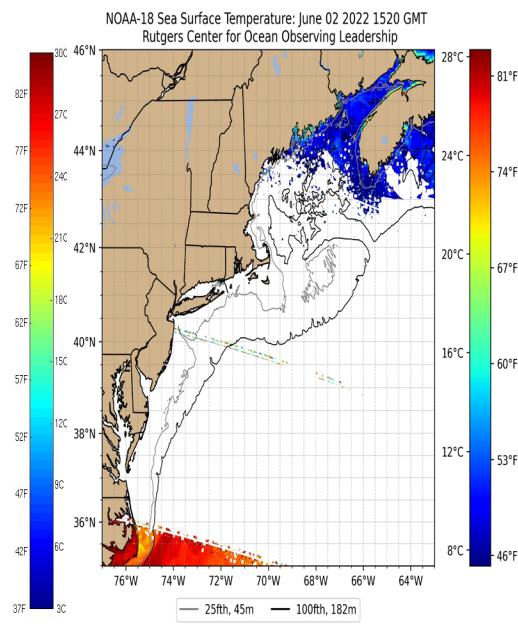
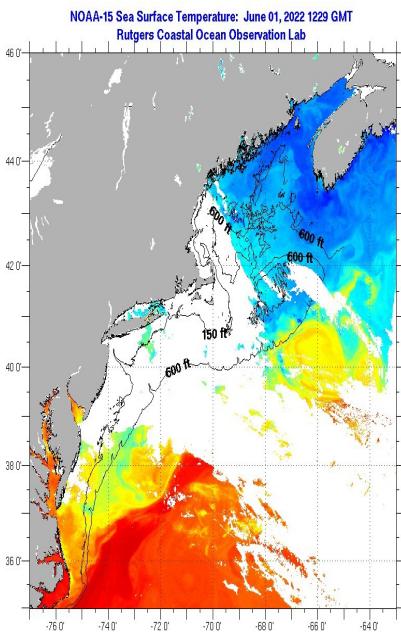
Bottom and surface water temperatures have begun to rise with a  $6.36^{\circ}\text{C}$  increase of average surface temperatures and a  $4.26^{\circ}\text{C}$  increase of average bottom temperatures from WQMAY22 to WQJUN22. The maximum surface water temperature during the WQJUN22 survey occurred at Station F3 ( $18.08^{\circ}\text{C}$ ) while the maximum bottom water temperature occurred at Station 09 ( $16.12^{\circ}\text{C}$ ).

The average surface and bottom water temperature for WQJUN were higher in 2022 than in 2021.

Stratification is intensifying with WQJUN22  $\Delta T$ 's ranging from  $0.25^{\circ}\text{C}$  at Station J2 to  $6.50^{\circ}\text{C}$  at Station F3.  $\Delta T$ 's averaged  $3.20^{\circ}\text{C}$  during the WQJUN22 survey, an increase of  $2.10^{\circ}\text{C}$  from the WQMAY22  $\Delta T$  average ( $1.10^{\circ}\text{C}$ ).



# Sea Surface Temperature



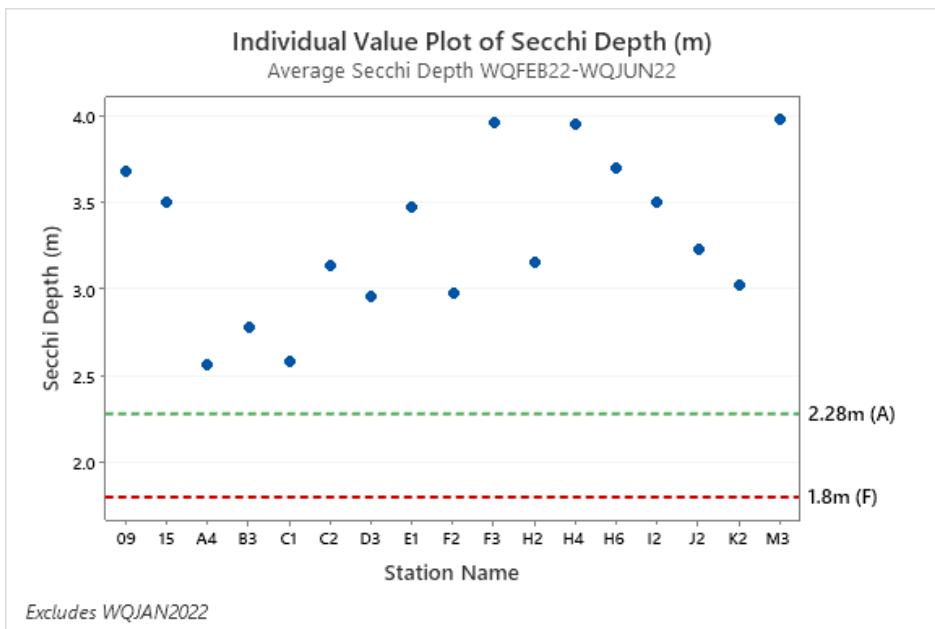
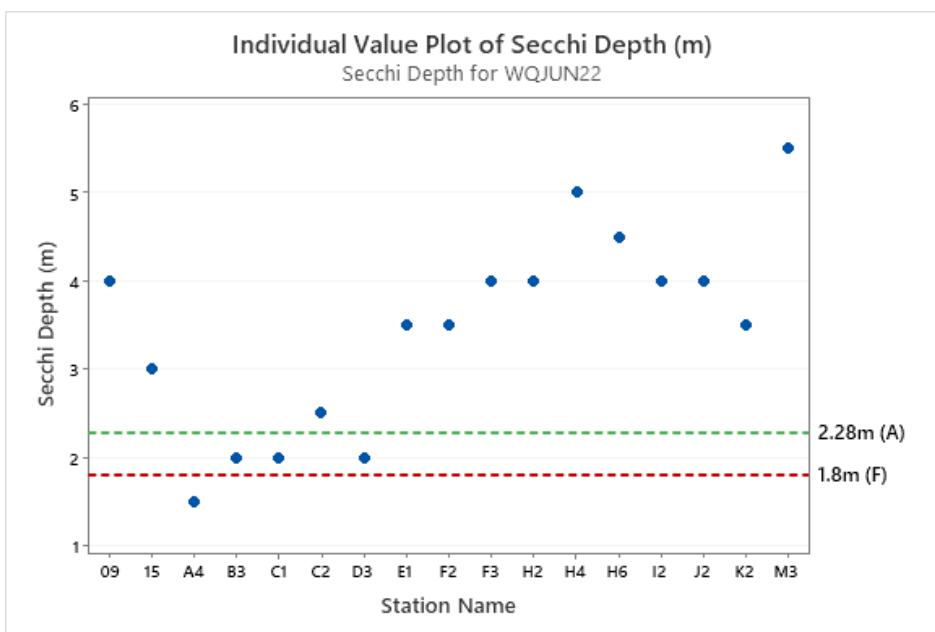
Sea Surface temperature data from Rutgers University IMCU Coastal Ocean Conservation Lab illustrates how currents and fronts impact water temperatures in the Sound and offshore.

In the first image, taken on June 1<sup>st</sup>, the waters in Long Island Sound are around 12°C-15°C (53.6°F-59°F).

The three other images (left) show water from the South Atlantic pushing upward toward LIS. By June 6<sup>th</sup>, temperatures in the Sound increased to between 20-24°C (68-75°F).

More information about sea surface temperature can be found on the Rutgers University Satellite Imagery website [Sea Surface Temperature - IMCS Coastal Ocean Observation Lab \(rutgers.edu\)](http://Sea Surface Temperature - IMCS Coastal Ocean Observation Lab (rutgers.edu))

# Water Clarity



Water clarity, which is the measure of how much light penetrates the water column, is an important indicator of the health of seagrass beds, and therefore, the marine ecosystem. Typically, eastern stations have greater water clarity than western stations, which are near densely populated developed areas.

When looking at the WQJUN22 survey, this trend continues to hold up as the westernmost stations (A4, B3, C1, C2, and D3) have the shortest Secchi depth measurements, and therefore least water clarity. However, when looking at the average Secchi depth readings for all of 2022 so far, stations H2, F2, and K2, which are further east (with K2 being the 2<sup>nd</sup> easternmost station) are close to western stations C2 and D3 levels of clarity.

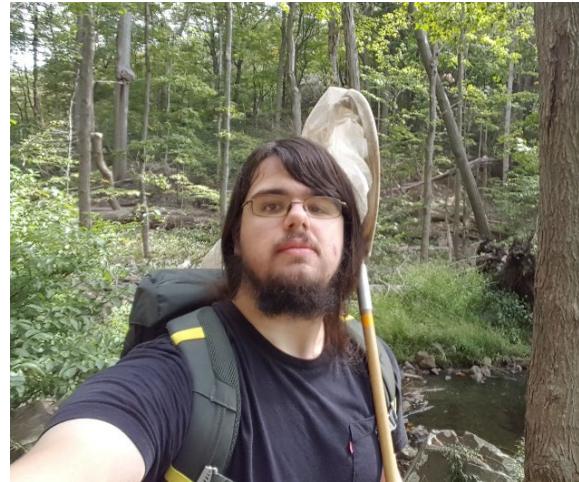
Using average Secchi disk depths, the Long Island Sound Report Card developed by Save the Sound utilizes the following water clarity depth thresholds to "grade" each station: averages <1.8 meters receive an F (<60%), averages 1.8 to <1.95 meters receive a D (60-70%), averages 1.95 to <2.12 meters receive a C (70-80%), averages 2.12 to <2.28 meters receive a B (80-90%), and averages >2.28 meters receive an A (90-100%).

When looking at the 2022 averages, all stations receive an A. However, when looking at June, the 4 westernmost stations (A4, B3, C1, and D3) are the only stations not to receive an A, with B3, C1, and D3 receiving a D, and A4 receiving an F.

# Seasonals

My name is **Erich Nitchke** and I am a seasonal for the 2022 Long Island Sound Water Quality Monitoring team. I am from Meriden, CT and have just finished getting my B.S. in Biology with a concentration in Environmental Science at CCSU.

This past summer I had the privilege of working as a conservation intern for the Steep Rock Association in which we managed the preserves up in Washington, CT. I look forward to bringing what I learned from there, as well as what I have learned from CCSU, to the DEEP in order to do my part in protecting the Sound. I am excited to work with the rest of the team, meet many new faces, and gain new skills as I help monitor Long Island Sound.



When I am not working, I usually prefer to spend my time finding and exploring new hiking trails, learning to ID native plant species, and swimming while outside, while preferring to read and play video games when stuck indoors. I am also currently looking to hopefully add “playing bass guitar” to this list as well if I can manage to teach myself over the summer.

I look forward to meeting and working with all of you this summer!



My name is **Grace Hoeckele** and I am one of the new seasonal employees working for the Long Island Sound Water Quality Monitoring team. I am from Granby, CT and recently graduated from the University of Rhode Island with a B.S. in Environmental Science and Management. I am beyond excited to have the opportunity to work with DEEP and am looking forward to being able to work out in the field.

I previously worked at URI’s Watershed Watch lab to analyze RI’s surface water quality through volunteers collected samples. In the fall I am going back to URI to pursue a Master of Environmental Science and Management with a focus on wetland, watershed, and ecosystem science.

In my free time I enjoy staying active and playing sports like tennis and field hockey. I was on my college’s competitive club field hockey team for 4 years. I also really love to listen to music on my record player and watch movies.

I look forward to meeting and working with everyone!



Connecticut Department of  
**ENERGY &  
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PROTECTION**

