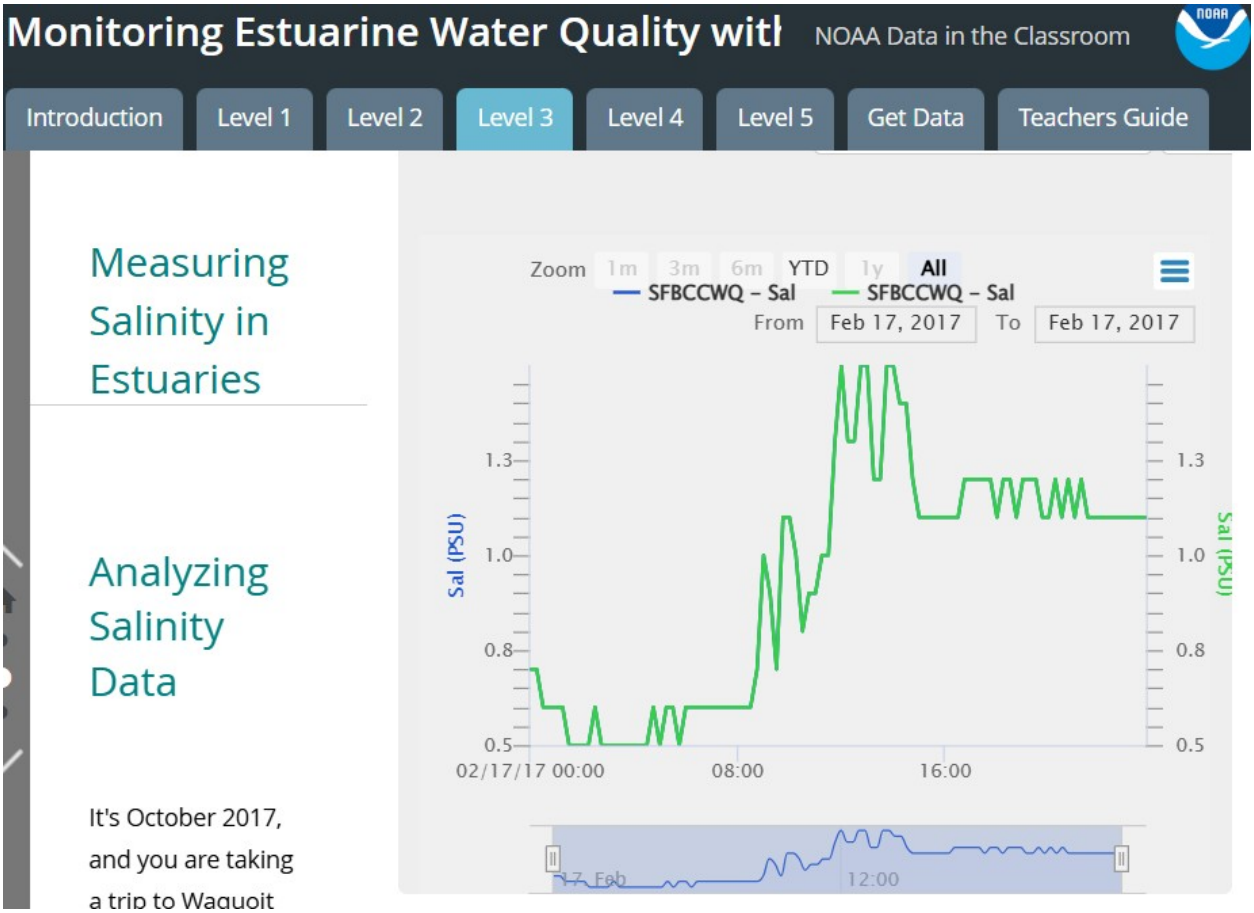
Monitoring Estuarine Water Quality: Mini Lab Reflection and Evidence

Taking part in the mini labs acting as a student helped me as an educator in regards to learning what content is necessary to prepare the students for these lessons. Having a strong foundation of certain concepts is key in aiding in the online tools used to enhance the students' understanding of the concepts. The min lab that I selected was incorporating ocean data to enhance knowledge of Water Quality in Estuary. Becoming familiar with the online tools will greatly aid if an educator chooses to use the NOAA data in the classroom. Pacing is also something that stood out to me. How long the labs took to complete as a teacher. I would consider this when designing lessons utilizing this resource.



Spawning of the Atlantic

To begin to do this, you will need to predict when these fish will migrate into the freshwater reaches of an estuary to spawn. To get started, select an estuary where Atlantic Sturgeon are found by clicking here. Then, complete Part 1 of the worksheet, provided by your

BACK

Atlantic S t Sheet

Acipen hus

Diet: bottom invertebrates including mussels, worms, and shrimps

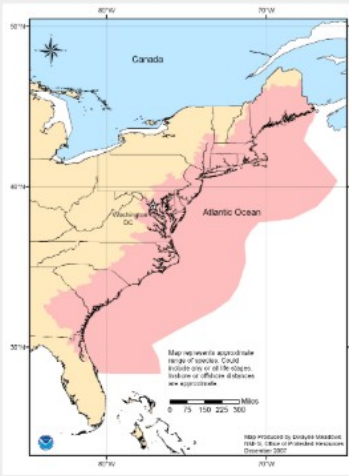
Average Lifespan: up to 60 years in the wild

Size: 4.25 meters (14 feet) max.

Weight: to 360 kilograms (800 lbs)

Location: Atlantic sturgeon are found in the following areas:

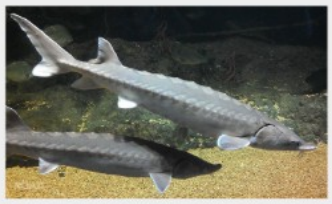
East Coast Region *or* Estuary	State
Wells	Maine
Great Bay	New Hampshire
Waquoit Bay	Massachusetts
Naragansett	Rhode Island
Hudson River	New York
Jacques Cousteau	New Jersey
Chesapeake Bay	Maryland and Virginia
Delaware Bay	Delaware
North Carolina	North Carolina
North Inlet and ACE Basin	South Carolina
Sapelo Island	Georgia
Guana Tolomato Matanzas	Florida

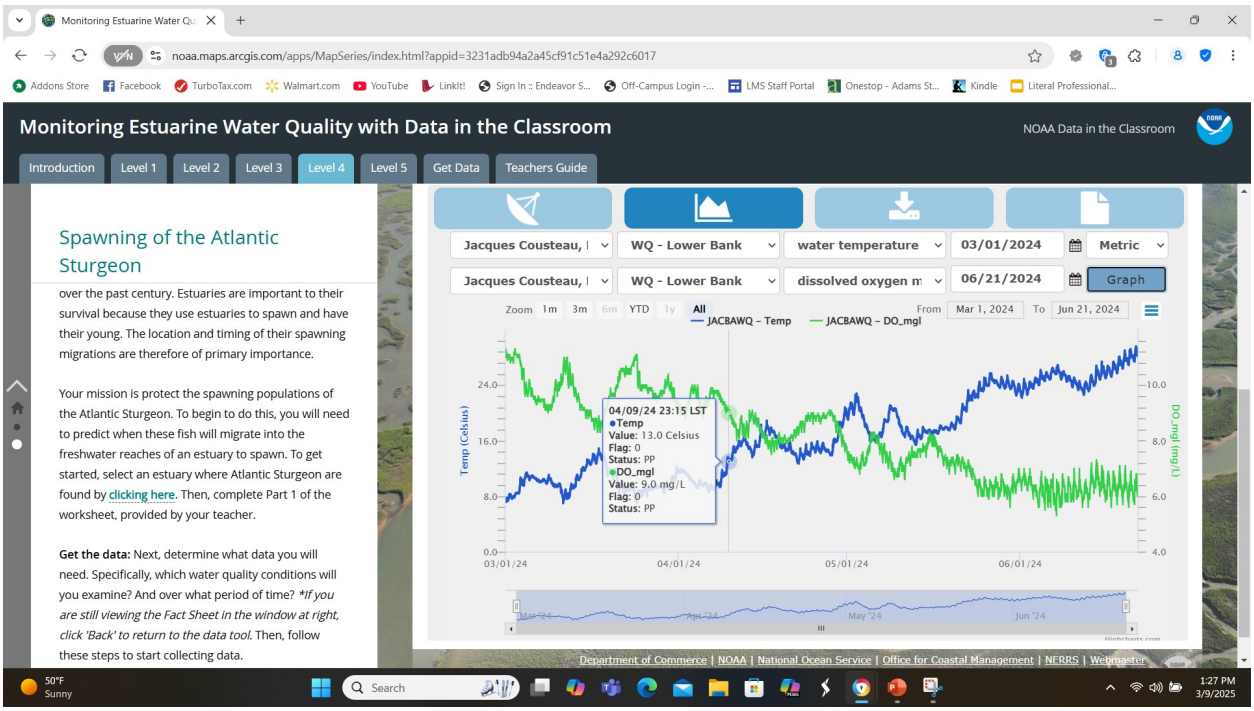


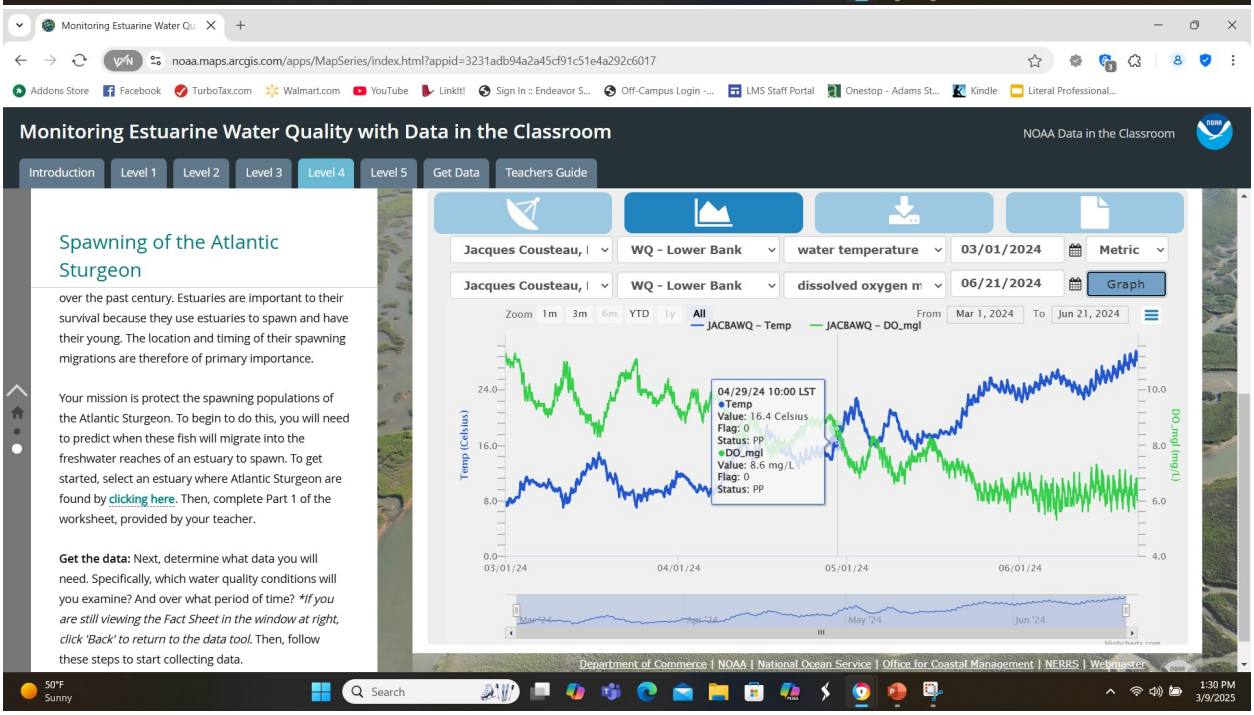
Range of the Atlantic Sturgeon

When moving from the ocean into estuaries to spawn, Atlantic Sturgeon respond to the following water quality conditions:

Water quality parameter	Optimal conditions
Water temperature	13 – 17 °C
Turbidity	low
Water Flow	0.5 to 1 meter per second
Salinity	33 PSU
Dissolved Oxygen	High (above 3.5 mg/L) and ideally above 5 mg/L




Monitoring Estuarine Water Quality with Data in the Classroom
NOAA Data in the Classroom
Introduction
Level 1
Level 2
Level 3
Level 4
Level 5
Get Data
Teachers Guide
Spawning of the Atlantic Sturgeon
over the past century. Estuaries are important to their survival because they use estuaries to spawn and have their young. The location and timing of their spawning migrations are therefore of primary importance.
Your mission is protect the spawning populations of the Atlantic Sturgeon. To begin to do this, you will need to predict when these fish will migrate into the freshwater reaches of an estuary to spawn. To get started, select an estuary where Atlantic Sturgeon are found by clicking here. Then, complete Part 1 of the worksheet, provided by your teacher.
Get the data: Next, determine what data you will need. Specifically, which water quality conditions will you examine? And over what period of time? *If you are still viewing the Fact Sheet in the window at right, click 'Back' to return to the data tool.* Then, follow these steps to start collecting data.
Jacques Cousteau, I
WQ - Lower Bank
water temperature
03/01/2024
Metric
Jacques Cousteau, I
WQ - Lower Bank
dissolved oxygen m
06/21/2024
Graph
Zoom 1m 3m 6m YTD 1y All
From Mar 1, 2024 To Jun 21, 2024
JACBAWQ - Temp
JACBAWQ - DO_mgl
04/09/24 23:15 LST
Temp
Value: 13.0 Celsius
Flag: 0
Status: PP
DO_mgl
Value: 9.0 mg/L
Flag: 0
Status: PP
Temp (Celsius)
DO_mgl (mg/L)
03/01/24
04/01/24
05/01/24
06/01/24
Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NERRS | Webmaster
50°F
Sunny
Search
1:27 PM
3/9/2025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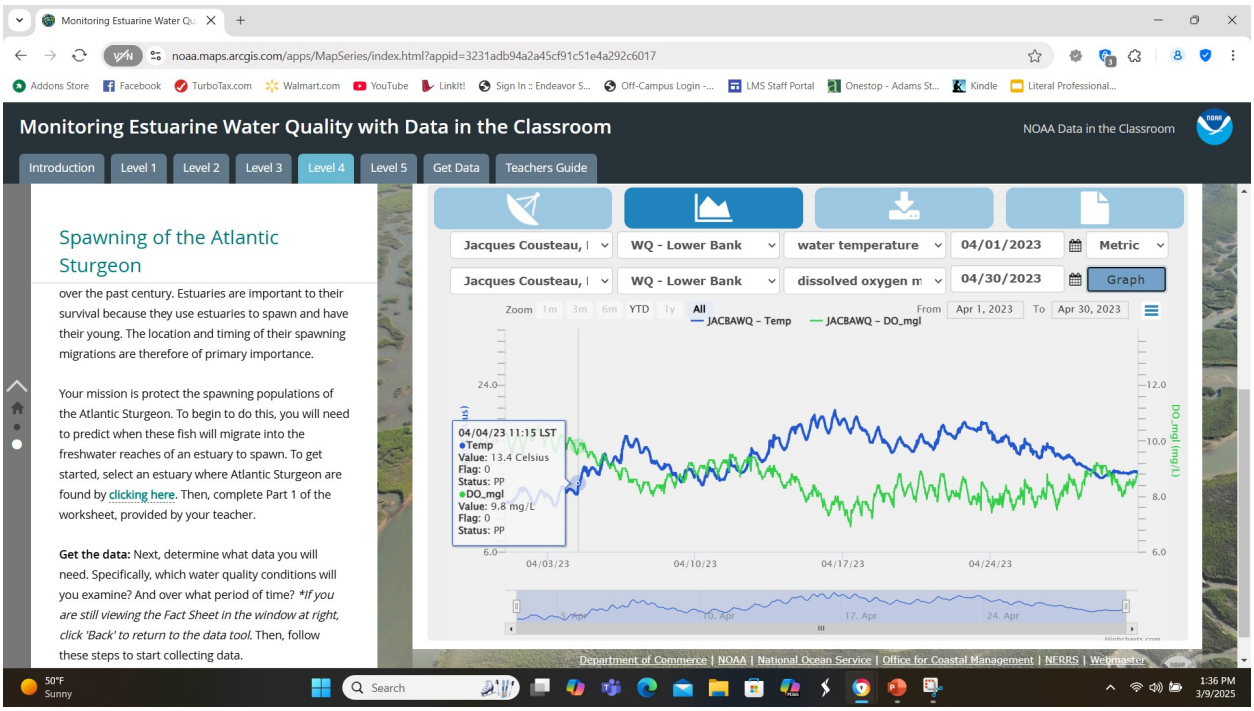
Metric
Jacques Cousteau, I
WQ - Lower Bank
dissolved oxygen m
06/21/2024
Graph
Zoom 1m 3m 6m YTD 1y All
From Mar 1, 2024 To Jun 21, 2024
JACBAWQ - Temp
JACBAWQ - DO_mgl
04/29/24 10:00 LST
Temp
Value: 16.4 Celsius
Flag: 0
Status: PP
DO_mgl
Value: 8.6 mg/L
Flag: 0
Status: PP
Temp (Celsius)
DO_mgl (mg/L)
03/01/24
04/01/24
05/01/24
06/01/24
Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NERRS | Webmaster
50°F
Sunny
Search
1:30 PM
3/9/2025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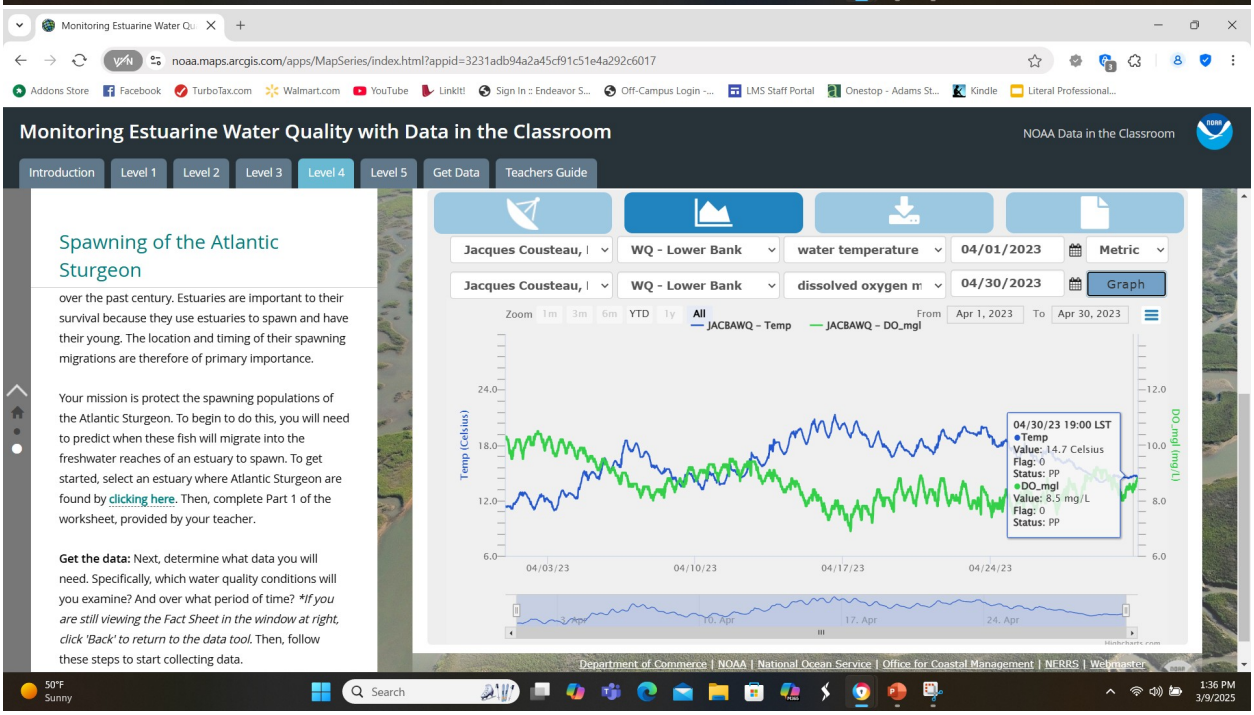
water temperature
04/01/2023
Metric
Jacques Cousteau, I
WQ - Lower Bank
dissolved oxygen m
04/30/2023
Graph
Zoom 1m 3m 6m YTD 1y All
From Apr 1, 2023 To Apr 30, 2023
JACBAWQ - Temp
JACBAWQ - DO_mgl
04/04/23 11:15 LST
Temp
Value: 13.4 Celsius
Flag: 0
Status: PP
DO_mgl
Value: 9.8 mg/L
Flag: 0
Status: PP
DO_mgl (mg/L)
04/03/23
04/10/23
04/17/23
04/24/23
Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NERRS | Webmaster
50°F
Sunny
Search
1:36 PM
3/9/2025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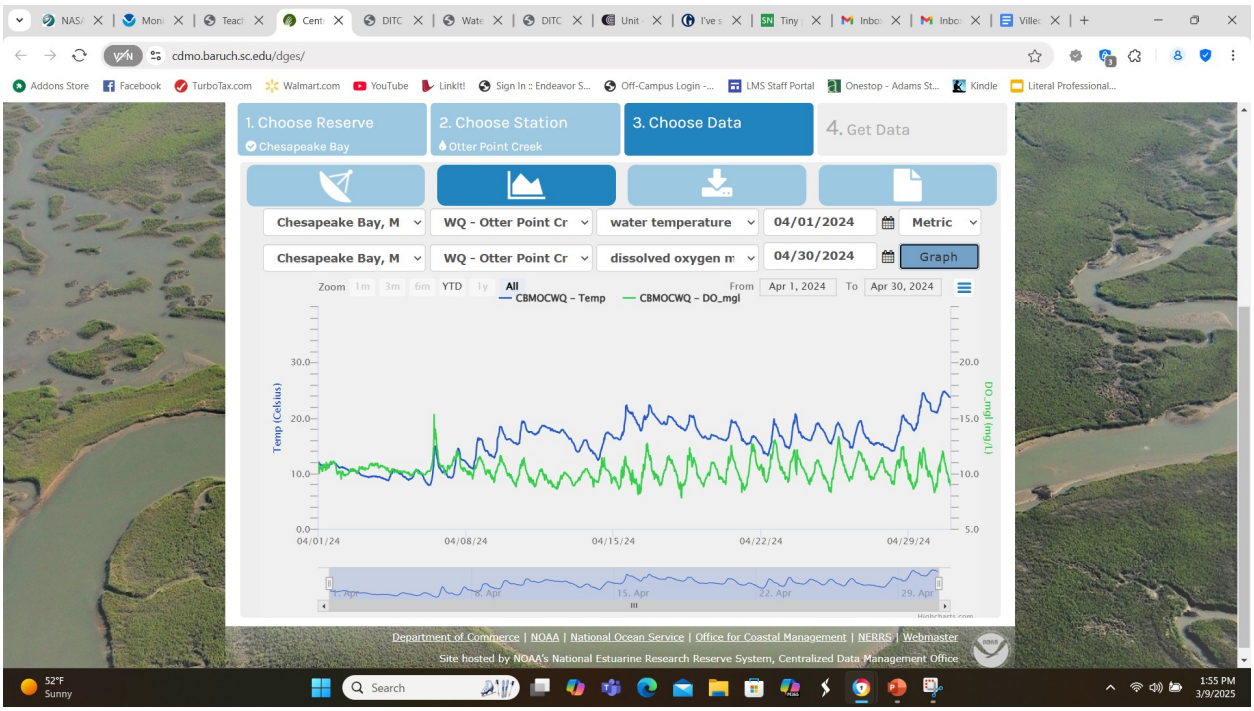
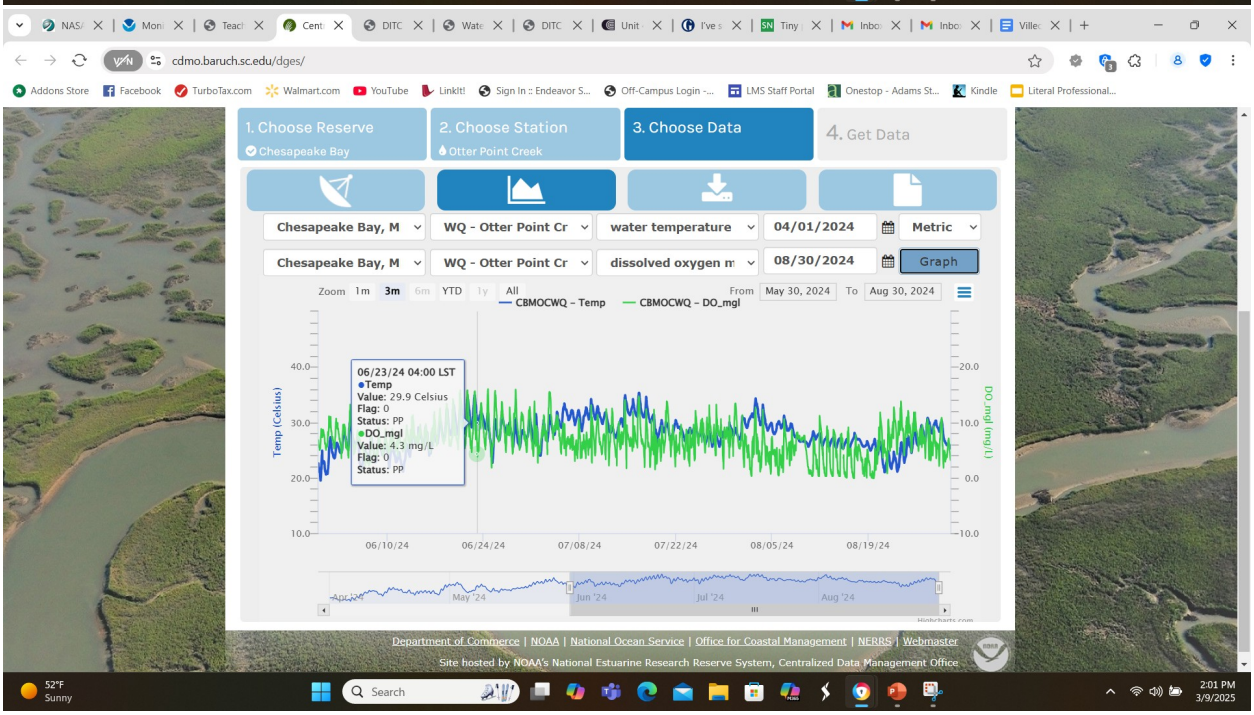
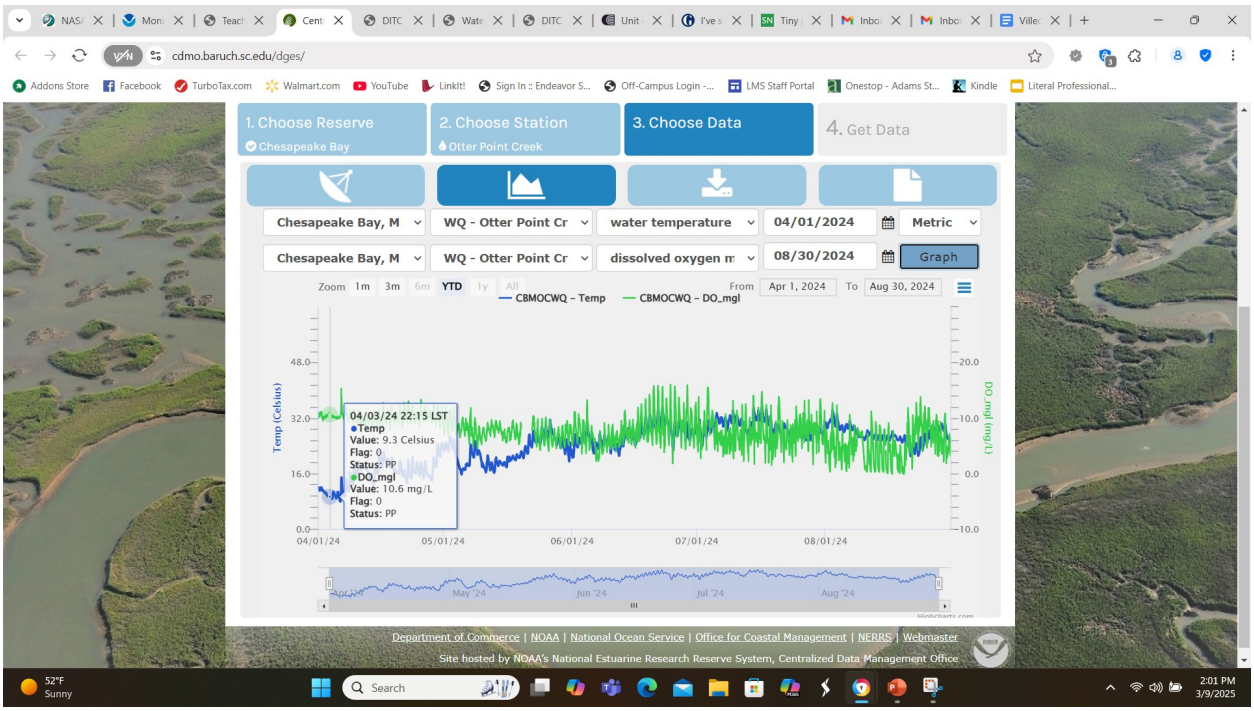
water temperature
04/01/2023
Metric
Jacques Cousteau, I
WQ - Lower Bank
dissolved oxygen m
04/30/2023
Graph
Zoom 1m 3m 6m YTD 1y All
From Apr 1, 2023 To Apr 30, 2023
JACBAWQ - Temp
JACBAWQ - DO_mgl
Temp (Celsius)
04/30/23 19:00 LST
Temp
Value: 14.7 Celsius
Flag: 0
Status: PP
DO_mgl
Value: 8.5 mg/L
Flag: 0
Status: PP
DO_mgl (mg/L)
04/03/23
04/10/23
04/17/23
04/24/23
Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NERRS | Webmaster
50°F
Sunny
Search
1:36 PM
3/9/2025


cdmo.baruch.sc.edu/dges/
1. Choose Reserve
Chesapeake Bay
2. Choose Station
Otter Point Creek
3. Choose Data
4. Get Data
Chesapeake Bay, M
WQ - Otter Point Cr
water temperature
04/01/2024
Metric
Chesapeake Bay, M
WQ - Otter Point Cr
dissolved oxygen m
04/30/2024
Graph
Zoom 1m 3m 6m YTD 1y All
From Apr 1, 2024 To Apr 30, 2024
CBMOCWQ - Temp
CBMOCWQ - DO_mgl
Temp (Celsius)
DO_mgl (mg/L)
04/01/24
04/08/24
04/15/24
04/22/24
04/29/24
Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NERRS | Webmaster
Site hosted by NOAA's National Estuarine Research Reserve System, Centralized Data Management Office
52°F
Sunny
Search
1:55 PM
3/9/2025


cdmo.baruch.sc.edu/dges/
1. Choose Reserve
Chesapeake Bay
2. Choose Station
Otter Point Creek
3. Choose Data
4. Get Data
Chesapeake Bay, M
WQ - Otter Point Cr
water temperature
04/01/2024
Metric
Chesapeake Bay, M
WQ - Otter Point Cr
dissolved oxygen m
08/30/2024
Graph
Zoom 1m 3m 6m YTD 1y All
From May 30, 2024 To Aug 30, 2024
CBMOCWQ - Temp
CBMOCWQ - DO_mgl
06/23/24 04:00 LST
Temp
Value: 29.9 Celsius
Flag: 0
Status: PP
DO_mgl
Value: 4.3 mg/L
Flag: 0
Status: PP
Temp (Celsius)
DO_mgl (mg/L)
06/10/24
06/24/24
07/08/24
07/22/24
08/05/24
08/19/24
Department of Commerce | NOAA | National Ocean Service | Office for Coastal Management | NERRS | Webmaster
Site hosted by NOAA's National Estuarine Research Reserve System, Centralized Data Management Office
52°F
Sunny
Search
2:01 PM
3/9/2025


cdmo.baruch.sc.edu/dges/
Addons Store
Facebook
TurboTax.com
Walmart.com
YouTube
LinkIt!
Sign In :: Endeavor S...
Off-Campus Login -...
LMS Staff Portal
Onestop - Adams St...
Kindle
Literal Professional...
1. Choose Reserve
Chesapeake Bay
2. Choose Station
Otter Point Creek
3. Choose Data
4. Get Data
Chesapeake Bay, M
WQ - Otter Point Cr
water temperature
04/01/2024
Metric
Chesapeake Bay, M
WQ - Otter Point Cr
dissolved oxygen m
08/30/2024
Graph
Zoom 1m 3m 6m YTD 1y All
From Apr 1, 2024 To Aug 30, 2024
CBMOCWQ - Temp
CBMOCWQ - DO_mgl
Temp (Celsius)
DO_mgl (mg/L)
48.0
32.0
16.0
0.0
20.0
10.0
0.0
-10.0
04/03/24 22:15 LST
Temp
Value: 9.3 Celsius
Flag: 0
Status: PP
DO_mgl
Value: 10.6 mg/L
Flag: 0
Status: PP
04/01/24
05/01/24
06/01/24
07/01/24
08/01/24
Apr '24
May '24
Jun '24
Jul '24
Aug '24
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52°F
Sunny
Search
2:01 PM
3/9/2025