Getting Down with Data: Using Local Data in Your Classroom

Developed by: Jennifer Holmes, Delaware National Estuarine Research

Revised by: Kristen Sharpe and Caleb Todd, Chesapeake Bay National Estuarine Research

Reserve – VA

Task #1: Acclimating to the Website

What is SWMP?

Go to cdmo.baruch.sc.edu!

On the homepage, click the tab that says "About CDMO", then click "Overview". Look over the information and try answering the three questions below.

- Question 1: What does SWMP stand for?

- Question 2: What is the role of SWMP within NERRS?

- Question 3: List the three phased components of SWMP!

What do the SWMP Parameters measure?

Go back to the homepage. Once there, click on the tab that says "About Data" located in the blue bar at the top of the page.

In the drop-down menu, click "SWMP Parameters" and answer the following questions!

- Question 1: What is the difference between DO_pct and DO_mgl?

- Question 2: What does TotPAR measure?

- Question 3: What unit is nitrite measured in?

Task #2: Looking at data through SWMP

Real-time Data

Go to the homepage and click "View/Download Data". From there you will be able to launch "Real Time Data Application".

Through this application, you will see the names of several NERRS sites across the country, which you are able to access real-time data for.

> *Scroll until you see CBVSPWQ – Sweethall Pier. Click "View Realtime Data from CBVSPWQ" – from here you will be able to see several different data points.*

Try answering a few questions about the Real Time data at Sweethall Pier!

- Question 1: What is the date and time of the data being reported?

- Question 2: What is the current water temperature level in degrees C and F?

- Question 3: What is the current salinity reading?

Task #3: Graphing Data

Go back to the homepage and click "View/Download Data". From there you can launch "Data Graphing and Export System".

Through this application, you can look at a longer and wider range of data over the course of several years.

> *On the Reserve Map you can select Chesapeake Bay – VA.*
> *Select CBVSPWQ – Sweethall.*
> *Click on the "Graph Data" Icon in the top row.*
> *From there, click "Select Parameter" in the top row, and select Salinity.*

- Question 1: Why does the salinity vary so much each day?

> *You can repeat the same process in the second row – and select "Dissolved Oxygen %". Select the Start Date of 2/17/2020, and an End Date of 3/03/2020. Then, click "Graph"*

- Question 2: Are there any interesting trends that you see in the data?

- Question 3: Do you think that these two parameters influence each other?

Take a few minutes and practice with the graphing tool, using different parameters and stations!

Task #4: Interpreting Data

Go back to the homepage and click "View/Download Data". From there you can launch "Data Graphing and Export System".

Let's take a look at the effect of Tropical Storm Melissa on the Bay last year.

On the Reserve Map you can select Chesapeake Bay – VA.

> *Select CBVSPWQ – Sweethall.*
>
> *Click on the "Graph Data" Icon in the top row.*
>
> *From there, click "Select Parameter" in the top row, and select Salinity.*
>
> *You can repeat the same process in the second row – and select "Depth".*
>
> *Select the Start Date of 10/9/2019, and an End Date of 10/14/2019.*
>
> *Then, click "Graph"*

- Question #1: What happened to the water depth and salinity at Sweethall Marsh during the peak of the effects of tropical storm Melissa? Why?

- Question #2: Why does the salinity decrease much more drastically after the peak of the storm effects, while the water depth has a more-slight stabilization?