

Index:

App.R

1- 20: Libraries needed

22-28: Links needed

32-69: Clean and format the data

71-80: Melt datasets

81-101: Add month and year columns

102-109: Combine datasets

110-127: Making an hour column in SONDE data

127-182: Color coding the SONDE data based on EPA guidelines

183: SUD data cleaning begins

185: SUD links needed

190-193: Select columns needed

194-200: Make a year column

202-207: Make a month column

210: OESS data

217-230: Make a monthly column for OESS and select columns needed

238-252: Make tab sections

253-451: Overview tab (About us, water quality variables, pictures of wetlands, project summary)

452-588: Water quality trends tab

589-613: Boxplots tab

615-691: Descriptive models tab

707-760: Water quality definitions on the overview tab

762-811: code and plots for comparisons between water quality variables according to EPA standards

814-855: Monthly comparisons between sites

860-877: Daily comparisons between sites

881-890: Hourly comparison between sites

902-919: Boxplot code and plots for each variable by month

921-953: Descriptive model code and plots for each variable by month

959-981: Mean and standard deviation plots for average rainfall (OESS data)

988-1012: Mean and standard deviation for maximum temperature (OESS)

1016-1038: Mean and standard deviation for minimum temperature (OESS)

1041-1072: SUD VPD average code and plot

1074-1094: SUD Solar total average code and plot

1096-1131: Code and plot for total rain at OESS and SUD compared

1133-1145: Code for average water quality variables per month and site, pre and post aerator

ANOVA TESTS

Anova_tests.R

1-18: Links and libraries necessary to run the code

20-80: Clean the data

81-82: Combine the datasets

88-99: pH ANOVA test and code

101-111: Turbidity ANOVA test and code

115-124: Conductivity ANOVA test and code

128-136: Dissolved oxygen ANOVA test and code

140-148: ORP ANOVA test and code

150-160: Specific Conductance ANOVA test and code

164-172: NitraLED ANOVA test and code

176-185: Water temperature ANOVA test and code

189-198: NH₄⁺ ANOVA test and code

202-211: NH₃ ANOVA test and code

CONTINUING DATA INPUTS ON THE DASHBOARD:

Note: We received a copy of the original Masterfile and, therefore, your future inputs will not appear on the dashboard until the links are replaced. Once these links have been replaced, the data should update as you put it into the google doc. We have formatted the code for that specific style of data input so it is important to keep inputting the data in the same way.

Daily Weather data from the SUD:

Step 1: Open up the dashboard code

Step 2: Scroll to line 24

Step 3: Locate the link to google docs

Step 4: Paste your link to the Masterfile where that link currently is

- Your link should replace that original link
- Make sure your link is inside quotations (it should appear the same color as the original link)
- Make sure the link is sharable to anyone (this is done in google docs). This will cause an error if it is not

Step 5: Run the code

Hourly Weather data from the SUD:

Step 1: Open up the dashboard code

Step 2: Scroll to line 187

Step 3: Locate the link to google docs

Step 4: Paste your link to the Masterfile where that link currently is

- Your link should replace that original link
- Make sure your link is inside quotations (it should appear the same color as the original link)
- Make sure the link is sharable to anyone (this is done in google docs). This will cause an error if it is not
- It is important that you copy the link from the *Hourly Values* tab of this document

Step 5: Run the code

SONDE Data for Wetland Basin 3:

Step 1: Open up the dashboard code

Step 2: Scroll to line 26

Step 3: Locate the link to google docs

Step 4: Paste your link to the Masterfile where that link currently is

- Your link should replace that original link
- Make sure your link is inside quotations (it should appear the same color as the original link)

- It is important that this link is specifically for the *wetland basin 3* tab on the google sheets
- Make sure the link is sharable to anyone (this is done in google docs). This will cause an error if it is not

Step 5: Run the code

SONDE Data for Lagoon C:

Step 1: Open up the dashboard code

Step 2: Scroll to line 28

Step 3: Locate the link to google docs

Step 4: Paste your link to the Masterfile where that link currently is

- Your link should replace that original link
- Make sure your link is inside quotations (it should appear the same color as the original link)
- It is important that this link is specifically for the *lagoon C* tab on the google sheets
- Make sure the link is sharable to anyone (this is done in google docs). This will cause an error if it is not

Step 5: Run the code

OESS Rainfall Data:

*Since we received this document from you directly, you wouldn't have to replace this link so long as this is the document you continue to input data on. If it is not, please follow the steps below.

Step 1: Open up the dashboard code

Step 2: Scroll to line 189

Step 3: Locate the link to google docs

Step 4: Paste your link to the Masterfile where that link currently is

- Your link should replace that original link
- Make sure your link is inside quotations (it should appear the same color as the original link)
- Make sure the link is sharable to anyone (this is done in google docs). This will cause an error if it is not

Step 5: Run the code

** If you receive an error when trying to run the dashboard, run lines 1-232 individually by placing your cursor anywhere on line 1 and pressing command and enter simultaneously until you reach line 232