CMC Water Quality Macro Guide

Last updated: 5.1.20

Introduction

This macro was developed by Jake Beley, a graduate student at Dickinson College, additionally functionality was added by Andy Fitch at the Chesapeake Bay Program. It is intended for use to convert water quality data in an excel spreadsheet from a horizontal format to the vertical format consistent with the Chesapeake Data Explorer's bulk upload template (updated 5.1.2020).

This macro consists of 5 tabs in order to enter data and supplementary information and then convert that data to a vertical format.

- formattedData tab – this tab is where you can find the final product of data translated to the vertical format. Copy all data and paste it into a new cvs file for upload.
- Home tab – includes the instructions and the button that converts the data on the data tab.
- Data tab – includes the water quality data arranged in a horizontal format to be converted.
- Codes tab – translates the column headers to the Data Explorer parameter codes
- Sites – translated the site ID to the unique Data Explorer site codes.

Data tab

The data tab of the macro contains the data to translate. Before converting your data, all QA checks should be completed and the data should be cleaned. All columns can appear in any order on the spreadsheet. Any blank cells will be removed during the data translation process and not included in the formattedData sheet.

Metadata columns - must contain values or the macro will not produce an output and the headings must stay as written.

- Source – the unique group code assigned in the Chesapeake Data Explorer. This should be listed on the rubric provided by your CMC service provider.
- Site – this is the site ID used to identify the site, this can be the site ID used by the individual group and not the unique station code assigned in the Chesapeake Data Explorer. The Sites tab will convert this ID to the unique station code.
- Date – sampling date formatted as mm/dd/yyyy
- Time – sampling time formatted as hh:mm:ss AM/PM

Depth column – optional, if left blank or removed, the depth will automatically populate as 0.3m. If populated, the macro will fill in the depth for each parameter in that row. So if your sampling event has multiple depths, each row needs to contain a unique depth and those associated parameters.

Parameter columns – all optional and should consist of the parameters associated with your sampling events. You can add or remove columns as needed to fit your dataset and these columns can appear in any order.

- Fill in the column headers with an easy to reference name for that parameter, can be anything you choose. Each column header must be listed in column A in the codes tab, and must be an exact match.
- If you have any duplicates, label the column headers with a different heading by adding a "b" or "2" for the duplicate sample (ex. Dissolved Oxygen and Dissolved Oxygen 2). Make sure both headings are listed in the codes tab and have the same water quality code listed in column B.
- If you have qualifier codes for any of your data, put the qualifier in a separate column and label it with the same header as the parameter and add Qualifier (ex. Dissolved Oxygen Qualifier). For duplicate samples you will need to add a qualifier for both columns and label the second column Dissolved Oxygen 2 Qualifier. **Do not include qualifier headers in the codes tab.**
- If you have problem codes for any of your data, put the problem in a separate column and label it with the same header as the parameter and add Problem (ex. Dissolved Oxygen Problem). For duplicate samples you will need to add a qualifier for both columns and label the second column Dissolved Oxygen 2 Problem. **Do not include problem headers in the codes tab.**
    - You can include both a problem code and qualifier code for a single parameter.

Station Conditions columns – all optional and should consist of any stations conditions recorded with your field data. You can add or remove columns as needed to fit your dataset and these columns can appear in any order.

- Fill in the column headers with an easy to reference name for that station condition, can be anything you choose. Each column header must be listed in column A in the codes tab, and must be an exact match.

Monitor information – optional, you can include information for one monitor per chuck of data being translated (ie. If you put more than one site in at a time to translate it will assign the same monitor code to all sites). Fill in the column headers with an easy to reference name for your monitor, can be anything you choose. This column header must be listed in column A in the codes tab, and must be an exact match. In order for this to be labelled as a "monitor" parameter type, you will need to change the macro code to your specific monitor code. To do this:

- Click on View in the navigation bar of the excel macro spreadsheet
- At the very right side of the bar, click Macros, which will drop down a menu, select View Macros
- Select the macro and click Edit, this will open up a new window with the code language for the macro
- Scroll down until you see this language, and change JUST ACB.ACB.Intern to your monitor code:

```
'Parameter Type
'this is dependent on Parameter Name and value, so insert toward the end
Select Case output.Cells(1, 8).Value
        Case "ACB.ACB.Intern"
                output.Cells(1, 7).Value = "Monitor"
```

Comments – optional, you can include any general sampling event comments (QA issues, sampling issues, etc) in this column. Fill in the column headers with an easy to reference name for your comments, can be anything you choose. Each column header must be listed in column A in the codes tab, and must be an exact match.

Codes tab

The codes tab of this macro converts the column headers in the data tab to the parameter codes needed for column H of the bulk upload template. This tab must always have two columns with Column A containing the parameter headers from the data tab (must be an exact match!) and Column B containing the associated parameter code that will appear in Column H of the template. This tab can include additional codes if needed, you will just see a warning appear on the Home Tab once you run the macro detailing the codes that appear on the codes tab but don't have an associated column header on the data tab.
- The parameter codes for your group can be found on the rubric provided by your CMC service provider.
- Include the same parameter code for any duplicate/replicate samples. Ex:

Heading	Parameter Code
Dissolved Oxygen 1	DO.1
Dissolved Oxygen 2	DO.1

- Include ALL parameter headings/codes, station condition headings/codes, monitor headings/codes and comments headings/codes.
- DO NOT include any problem or qualifier headings on this list.

Sites tab

The sites tab of this macro converts the sites listed in column B or under the "Site" heading in the data tab to the unique Data Explorer code for that site in order to upload the data. This tab must always have two columns with Column B containing the site ID listed on the data tab (must be an exact match!) and Column A containing the associated site code (usually formatted SOURCE.SiteID).
- The station codes for your group should have been provided to you by your CMC service provider.
- Just load in all of your sites and then you don't have to touch this again, it will just pull the sites listed on the data tab.

Home tab

Once you have your data, codes and sites tab all set up with your data set, go to the Home tab and click the convert data button in order to run the macro. When completed the final product will appear on the formattedData tab.

FormattedData tab

This tab contains the formatted data ready for data upload to the Chesapeake Data Explorer. Copy all of the data and paste it into a new excel sheet. Save this as a .csv file and log on to the Data Explorer to upload!

If you have any questions about the Macro and setting it up to translate your data, contact your CMC Service Provider!