

## Excel Macro Utility for CE-QUAL-W2

This Excel was written by Jeffrey Gregory, P.E., Civil Engineer, USACE, Nashville District and updated by Scott Wells, PSU.

The Excel macro, “w2tools\_examples.xlsm”, can be used to develop and write out input files for the CE-QUAL-W2 model. This can be especially useful if the model user develops an Excel workbook with separate tabs for the different input files for the model.

For example, consider the input file for wind sheltering using the new free format (or csv) formatting option. You develop a workbook for this as shown below. The coloring in the workbook is optional and is just an aid to developing your work.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	\$wsc input file												
2	Segment #s												
3	JDAY	1	2	3	4	5	6	7	8	9	10	11	12
4	1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
5	1400	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													

Now one opens “w2tools\_examples2.xlsm” and ‘Enables Macros’. Once this file is opened, the user will notice that the sheet now has a header termed “Add-Ins”. Clicking this header one obtains the following options as shown below: “Modify Selection”, “Export Selection”, or “Run EXE”.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	\$wsc input file												
2		Segment #s											
3	JDAY	1	2	3	4	5	6	7	8	9	10	11	12
4	1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
5	1400	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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The user then selects by highlighting the portion of the file to export or modify. By selecting “Export Selection” then “Any selection to csv format”. The file is written as a free-format csv file with the file name based on the worksheet name, i.e. in this case “wsc.npt”. There are many other export file formats that can be used that are compatible with CE-QUAL-W2. Also, the worksheets in the “w2tools\_examples.xlsm” generally show how to use the different macro features. These sheets are only used to show examples of the use of the Add-In macros.

This set of tools also allow you to modify a selection by multiplying, adding, interpolating data gaps, rounding, and transposing. Select the area of the spreadsheet that you want to modify, then select Add-Ins, Modify Selection, and one of the tools, such as Interpolate (either the X column or the Y column of a 2 column selection).