Ecohydraulics
HYD254

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AUTOTUTORIAL 4: MORPHOLOGICAL UNIT MAPPING

Background: One of the meaningful applications of 2D model results is for mapping and analyzing the pattern of landforms in a river corridor.

Objective: Practice the steps involved in morphological unit mapping.

Materials: MUexample.zip file, ArcGIS, MS Word.

Homework assignment:

1) Read Chapter 7 of the textbook.

2) Follow the steps from Chapter 5 to create depth and velocity TINs using the provided 2D model output file.

3) See the file "MUformulas.docx" and look at the MU classification provided

    a) See if you can create Con() statements in ArcGIS to isolate the area of each MU. If you have trouble, take a look at the second page where they are provided for you, but try to do this on your own first (or look at one to get the idea and then do the rest on your own).
    b) Covert the MU rasters to polygons.

4) Calculate the relative percent area of each MU in the domain

5) Use Zonal Statistics in Spatial Analyst to calculate the mean depth and velocity for each MU.

6) Write up a brief summary of your work, including an MU map and a table with the calculated values form steps 4 and 5.

Helpful info:

Please read the README text file to get the latest updates and troubleshooting tips before starting the tutorial.