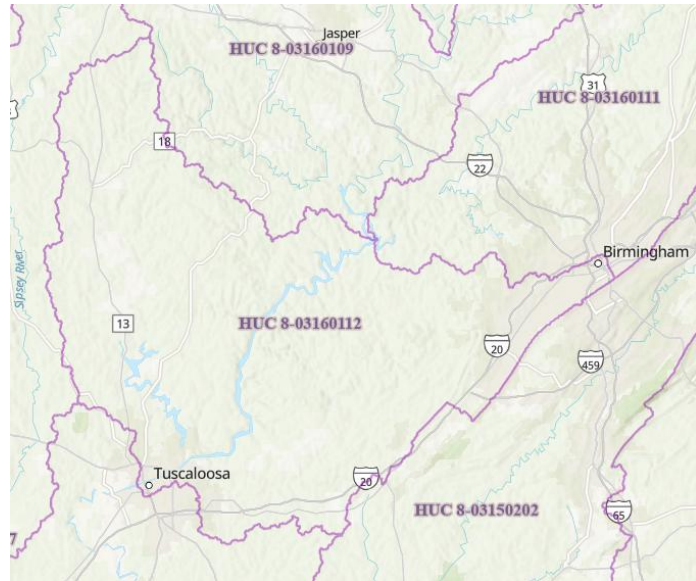


Baseflow Estimation: Digital Filter Assignment

Name:

Date:

A portion of the Black Warrior River is a part of the following basin: HUC 8-031601120. You are going to act as a hydrologist **estimating the proportion of baseflow to total flow in the river**. Complete the following task and then answer the discussion questions. Questions will be discussed in class following completion of the exercise.



Assignment: Apply the Eckhardt digital filter to streamflow data from February 12th, 2025. Streamflow data can be accessed here: https://waterdata.usgs.gov/monitoring-location/02465000/?agency_cd=USGS#dataTypeId=continuous-00060-0&period=P7D&showMedian=true

References Values:

<i>BFI max</i>	
Perennial River	0.8
Seasonal River	0.5
Perennial River with hard rock formations	0.25

<i>Recession Coefficient (α)</i>	
Perennial Rivers	0.92-0.98
Mixed Flows	0.85-0.92
Intermittent Streams	0.50-0.85

Questions:

- Which variables would be the most difficult to obtain?
- How would you validate your calculated baseflow results?
- Would higher amounts of rain automatically mean more contributions to baseflow?
- What level of confidence do you have in the variable values you chose for the calculations?