

Critical Zone Science: Water Transfers Through the Critical Zone

Calculating Tree-Scale Water Budget Grading Rubric: 20pts total

Question	Full credit (3 pts)	2 pts awarded	1 pt awarded	0 pts awarded
1	Student identifies two distinct assumptions and explains how it relates to calculating a water balance in a defined spatial area.	Student identifies only one strong assumption, or two assumptions but they may overlap; assumptions are poorly linked to calculating a water balance in a defined spatial area	Student identifies only one assumption; there are no links to calculating a water balance in a defined spatial area.	Student does not list any assumptions.
2 (2 pts)		Student lists the specific data needed from the data files that are provided.	Student lists some of the data needed or does not identify which data files they are.	Student does not list the data files.
For each Water Balance Step 1-4	Student uses the correct data, processes it in Excel or another program (if focus is on time series), and calculates the requested value, showing work and units.	Student uses some correct data, provides a value for the step (but may not be fully correct), or equation or units are not complete or clear.	Student provides a value for the answer, but it is unclear where that value came from, or no work is shown.	Student provides no answer.
Evaluation	Student compares the final value from the 4 steps of calculating the water balance to the larger catchment - the example uses fraction of areal extent and fraction of stream discharge. The answer includes written justification.	Student evaluates the answer in comparison to the discharge data, but the answer may not be complete. The answer includes some justification.	The answer is evaluated, but the student does not compare to the larger picture, or reasoning is not sound. The answer includes minimal or no justification.	Student does not evaluate the answer they provide, or reasoning is too convoluted for comprehension.