

Understanding TSS

Total Suspended Solids is a term for the material floating in a water sample. It's related to turbidity, but the relationship isn't direct. Turbidity is a measure of the water's optical clarity. But clarity can be low because of large particles or small ones, heavy material or light. Fast-moving water can support bigger, heavier matter. So it might be less clear than slow water with fewer particles. In slow water, those heavy particles just sink to the bottom.

Calculating TSS from Turbidity

It's sometimes useful to estimate TSS based on turbidity. To do so, one must first come up with a number that captures the relationship between TSS and turbidity. In other words, it's important to figure out whether TSS is 80% of turbidity NTUs, or 60%, or 45%. The next step is to multiply turbidity NTUs by the appropriate percentage. The relationship between turbidity and TSS is different for every water sample. So the correlation coefficient—the number used to calculate TSS—is unique to each sample.

Getting Accurate Coefficients

Samples and lab analyses are necessary for accurate correlation coefficients. But TSS measurements based on turbidity are just estimates. The only way to get a precise measure of TSS is to filter, dry, and weigh the material in a water sample according to EPA Standard Methods #160.2.

Calculating Coefficients

To obtain a conversion factor for TSS estimates in VuSitu or Win-Situ, follow the steps below. See [EPA Standard Methods #160.2](#) for more details about measuring TSS.

- 1 Take a turbidity reading from the sample.
- 2 Filter the sample.
- 3 Evaporate the filtered sample.
- 4 Weigh the remaining solids in grams.
- 5 Multiply the weight in grams by 1000 to obtain mg/L or ppm. The result is TSS.
- 6 Divide TSS by turbidity NTUs to get the correlation coefficient, also called the conversion factor.



Correlation coefficient =
TSS ÷ turbidity (in NTUs)

Using Coefficients

Enter the coefficient in VuSitu or Win-Situ to get TSS estimates from turbidity readings.



TSS conversion factor in VuSitu