Data Patterns Quick Guide

Access data via http://monitormywatershed.org/browse; see
https://wikiwatershed.org/help/sensor-help/ for guidance on usage of MonitorMW

Conductivity and Water Depth

Conductivity can spike due to inputs of contaminants e.g., road salt in winter during snowmelt

Usually conductivity goes down as water depth goes up (dilution of stream water with rain water)
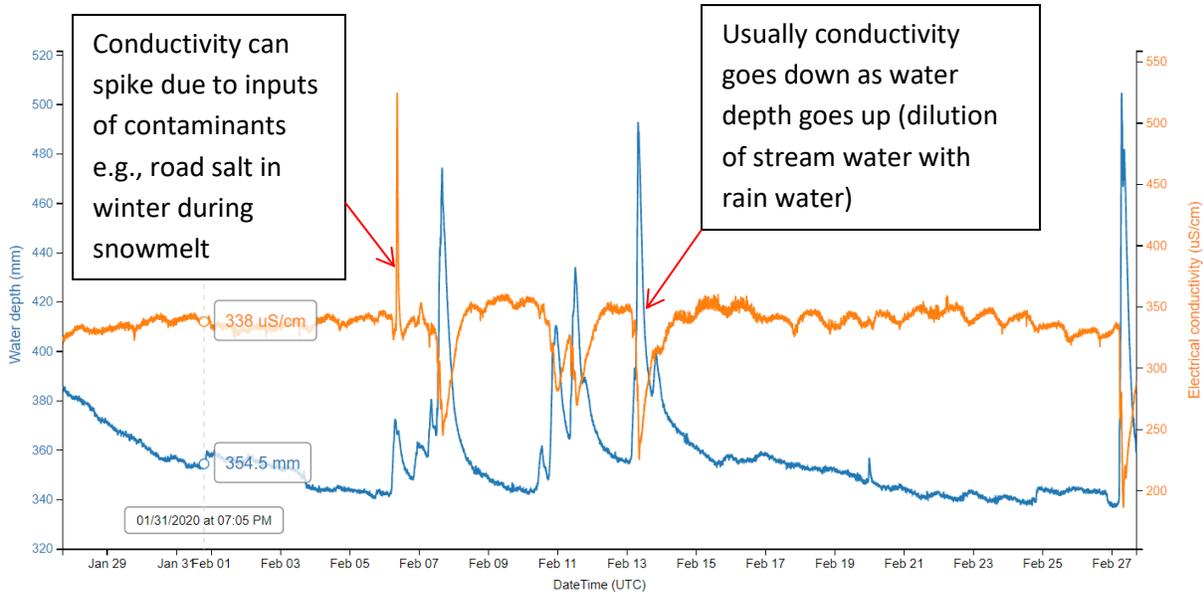
Turbidity and Water Depth

Turbidity goes up during storms as sediment is washed into stream and mobilized from stream bed and banks

Sensor fouling = bad data (instantaneous spikes and gradual increases)

Sensor cleaning removes fouling, clean sensor = good data
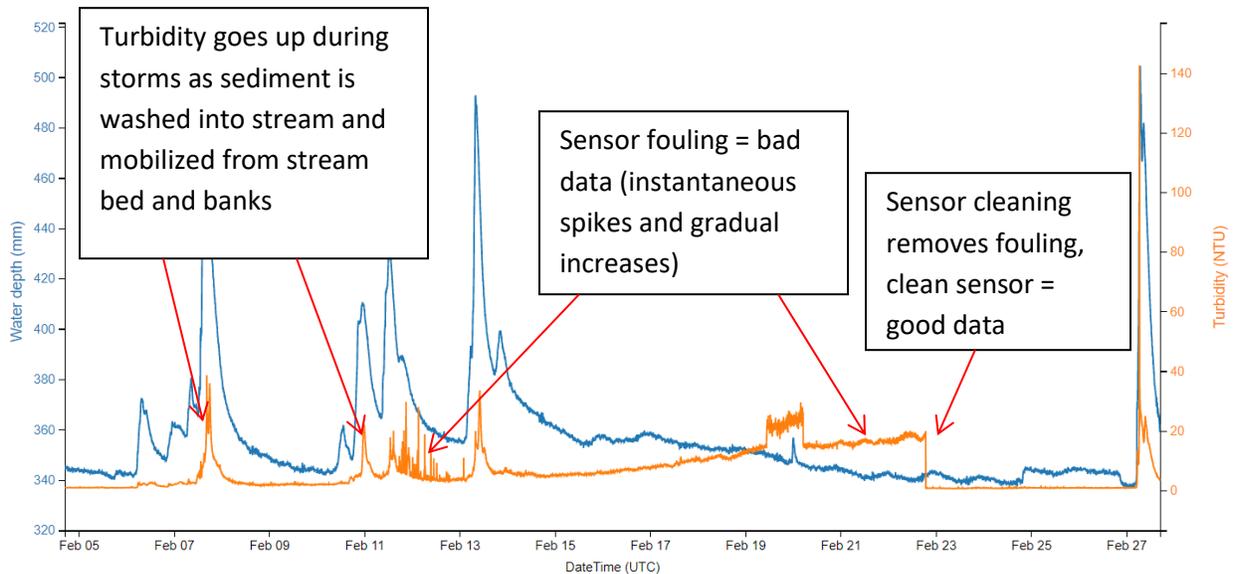
Data Logger Battery Voltage and Water Temperature

Battery charges during the day and declines at night

Water Temperature goes up during the day and goes down at night

4.124 V

3.6 degC
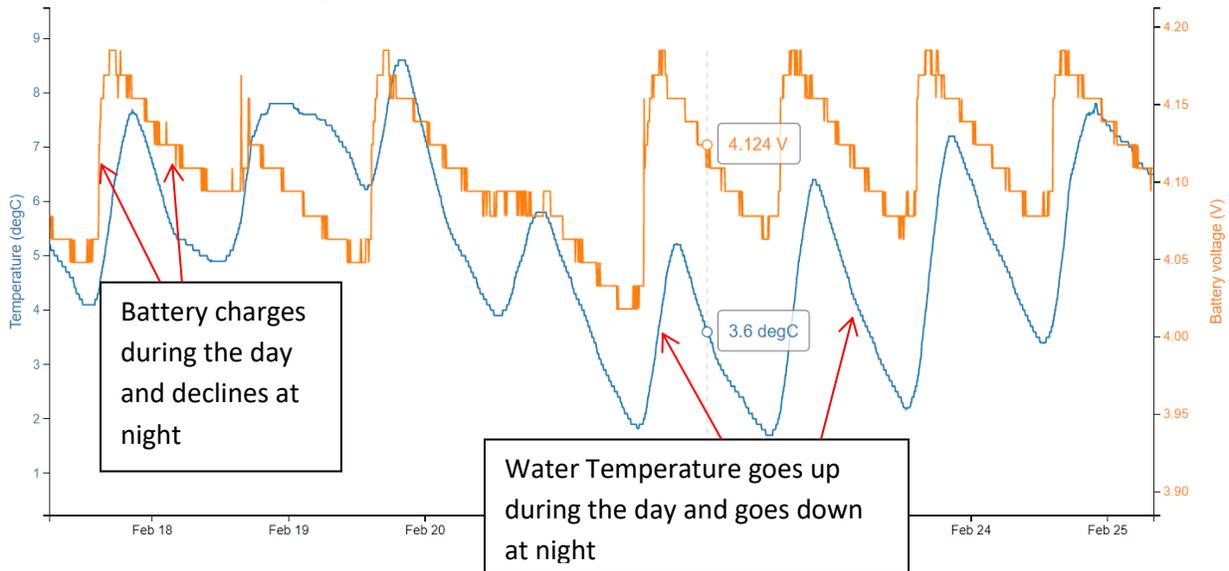
Conductivity (Electrical Conductivity)
- A measure of the ability of water to pass an electrical current, expressed in microsiemens per centimeter (µS/cm).
- Directly related to the concentration of dissolved inorganic ions, such as calcium, chloride and magnesium, which enter the water through erosion of rocks and soils, as well as various human impacts such as urban runoff and agriculture.

Water Temperature
- Measured in degrees Celsius (in Monitor My Watershed) or degrees Fahrenheit.
- Important threshold for trout is 20-22°C (~70°F).
- Streamside shade from trees and cool groundwater and springs can have dramatic effects on stream temperature.

Water Depth
- Measured in millimeters or inches using a pressure transducer, which measures water pressure. The deeper the water, the more pressure it exerts.
- During dry conditions water depth will usually remain stable. During rain and snow melt water depth will increase. In areas with lots of impervious surfaces (e.g., urban areas) water depth will be "flashy", increasing and decreasing quickly in response to immediate runoff of water from the land. In forested watersheds water depths will rise and fall more gradually during/after a rain event.

Turbidity
- Turbidity measures the ability of light to pass through water. The higher the turbidity the cloudier the water.
- Measured in Nephelometric Turbidity Units (NTU) turbidity is primarily affected by sediments and other material suspended in the water column.
- Sediment pollution can degrade habitat for benthic macroinvertebrates, smother spawning beds and fish eggs, reducing juvenile fish survival and decrease fish growth rates.