Objectives:

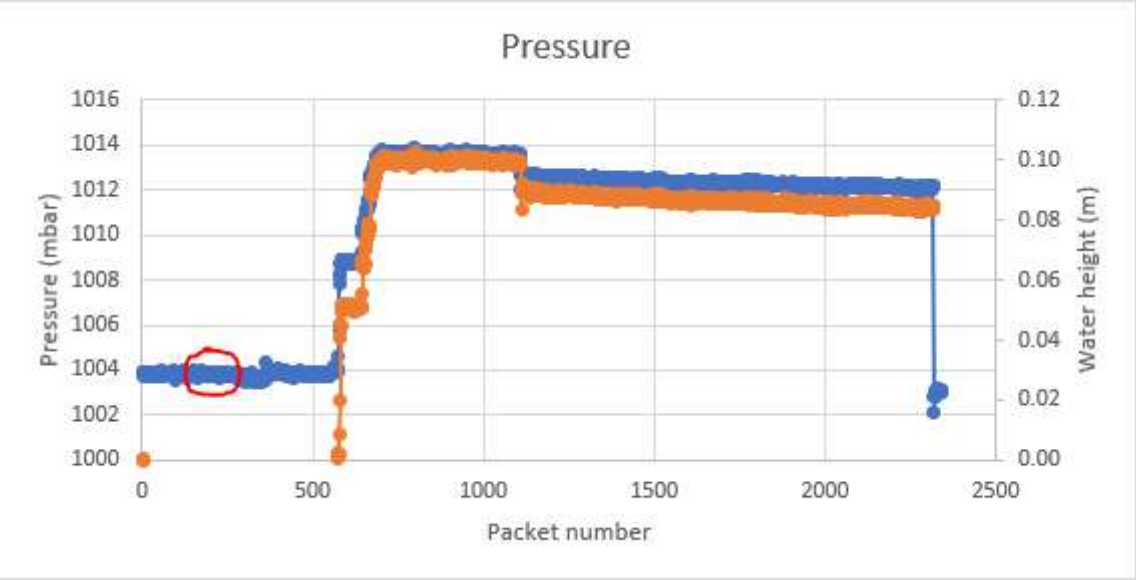
To use data collected from homework 2 to validate the pressure/temperature sensor on SmartRock

Supplies Needed:

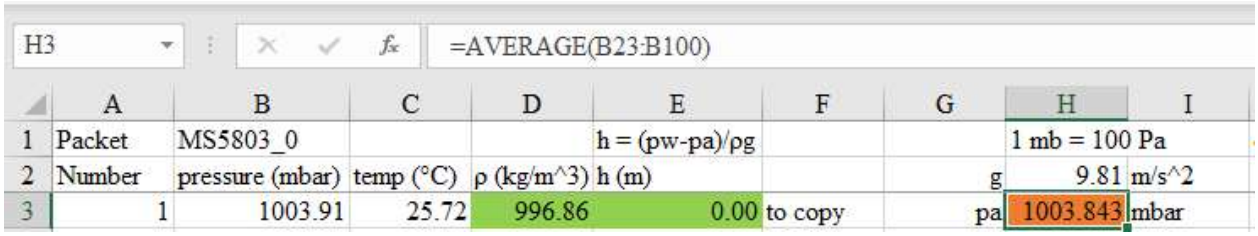
- Computer with HydroShare access
- Data in csv file taken on day 1 homework
- Microsoft Excel spreadsheet for calibrating pressure/temperature sensor

Procedure:

1. Open csv data file from Day 2's pressure/temperature test (ice bucket homework)
2. Click on the letter at top of column with Packet Number to select the whole column
3. Use CTRL+c to copy data
4. Open Pressure_temperature_example_CUAHSI_SmartRock__2020.xlsx spreadsheet, select cell A1, and use CTRL+v to paste
5. Copy ms5803 column from data file and paste in column B of worksheet
6. Copy temp column from data file and paste in column C of worksheet
7. Use graph to verify data with atmospheric pressure (should be first few values)



8. In cell H3, calculate average of rows with atmospheric pressure (e.g. =AVERAGE(B23:B100) in example))



	A	B	C	D	E	F	G	H	I
1	Packet	MS5803_0			h = (pw-pa)/ρg			1 mb = 100 Pa	
2	Number	pressure (mbar)	temp (°C)	ρ (kg/m^3)	h (m)		g	9.81	m/s^2
3	1	1003.91	25.72	996.86	0.00	to copy	pa	1003.843	mbar

9. Copy and paste formulas in green cells D3 and E3 into columns D and E for all rows where the SmartRock is submerged (e.g. starting D573 and E573 for this example spreadsheet)

Results and Troubleshooting:

- The Excel worksheet will present your data in graphs. You should see an increase in pressure when water and ice were added
- If the temperature reading is 20°C and pressure reading is 0: pressure/temperature sensor was not plugged in correctly for the test. Check 4 pin dupont cable for connection