

Temperatures Offset

Looking at the temperature data that I collected in comparison to the two data points daily taken from WeatherUnderground I noticed that some of the temperatures were off by 10+ degrees. Data to back that up is provided here (all fahrenheit):

- 73.2 to 63.1
- 44.4 to 65.3
- 45.5 to 41.5
- 66.7 to 48.8
- 45.8 to 46.1
- 60.6 to 53.1
- 53.9 to 44.9
- 59.9 to 53.1
- 45.1 to 38.6
- 52.3 to 48.9

There is one key possible reason for this that I've considered. That is that I didn't set up the sensor hardware to the exact specifications listed on the WunderWiki (WeatherUnderground's support site) for sensor placement. They have the following requirements for the temperature sensor:

- Never place it in direct sunlight
- Not blocked from wind
- At least 5 feet above rooftop or grass

In my case I had set up the temperature sensor literally years before learning those requirements and so here's how it was (and still is) set up for me:

- Attached on a long and thin cable
- Place just a foot or so outside one of my bedroom windows

So the sensor is in:

- Direct sunlight that may get amplified by the side of the house
- Blocked from some of the wind due to the house

All in all I feel as if the offset of data that was collected can be fully explained by the setup of the sensor. Some who read this may ask why I didn't re-setup my temperature sensor after learning the proper setup to mimic my online data. The reasons are simple:

- I had already started collecting data the incorrect way and wanted to stay consistent with the data collection
- I didn't have the resources (long enough cable, way to prop up the sensor, etc.) to place it in the proper setup.

This fully accounts for the dramatic offset in data that was collected. As I can't recreate the proper setup I'm stuck with the data that I already have, but that's not a problem. On average the collected WU temperatures are 2-20 degrees off either hotter or colder. So, I can just take that into account when I'm performing further analysis and attempting to answer the driving question of this project.