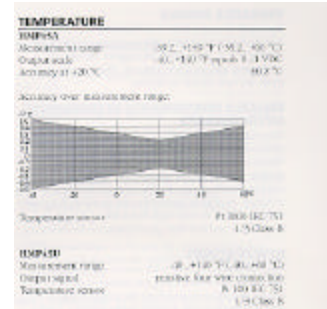
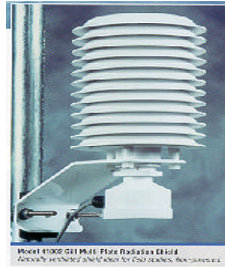
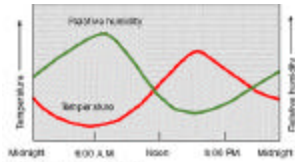


Comparing CAU and NOAA Relative Humidity and Temperature

INTRODUCTION

In the Research Experience for Undergraduates/ Earth System Science program we did research on many different meteorology instruments. I worked with the data that was collected on July 9 through July 16 of this year from which one of my peers collected the data. In doing this research, I compared the relative humidity and temperature with Clark Atlanta University and NOAA sensors.

Relative humidity is the amount of moisture that the air contains compared to how much it could hold at a given temperature. There are two ways in which relative humidity can change. One is that the relative humidity will either increase or decrease the amount of water vapor in the air. The saturation point or 100% relative humidity takes place when the air can no longer hold anymore water. Relative humidity tends to change if the moisture or temperature change. Temperature is a measure of the average kinetic energy of the individual atoms or molecules composing a substance. The relative humidity can be its highest point when the temperature is at its lowest point.



HMP 45 Relative Humidity and Temperature Probes

COLUMN NAME:	CORRECTED RH
Number of rows:	768
Number of valid points:	768
Number of missing points:	0
Number of negative values:	0
Number of positive values:	768
Number of zero values:	0
Minimum value:	64.29000000
Maximum value:	110.90000000
Inter range value:	46.61000000
Median:	97.30000000
Sum of row value:	72549.3600000
Sum of absolute value:	72549.3600000
Arithmetic mean:	94.46531250
Geometric mean:	-NAN
Quadratic mean:	95.39013039
Harmonic mean:	92.42328621
Absolute mean:	94.46531250
Sum of squares:	6988244.71800
Variance:	175.81063093
Standard deviation:	13.25936013
Absolute deviation:	11.54759603
Standard error:	0.47845595

PURPOSE

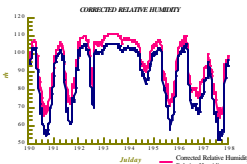
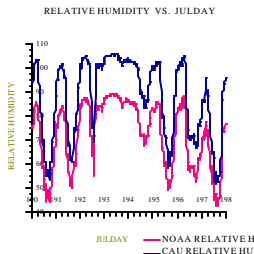
The purpose of this project was to collect data from the relative humidity and temperature sensors for two different sensors to determine if they measure the exact same data. Clark Atlanta University (CAU) and NOAA both have relative humidity and temperature sensors that are HMP 45 on the roof the Science Research and Technology Building.

RESULTS

The results of this project is that eventhough the two sensor are located only 15 feet apart the Clark Atlanta University sensor has a higher relative humidity than NOAA's sensor. Clark Atlanta University relative humidity sensor records a higher relative humidity than the NOAA relative humidity sensor. The temperature for CAU and NOAA are almost alike.

CONCLUSION

We concluded that even though the two sensors are just 15 feet apart on top of the roof of the Science Research and Technology building, we believe that there was something that made the related humidity of the two so different. We came to the conclusion that the drainage pile on top of the roof of the Science Research and Technology Building have something to do with the extremely high relative humidity measurement taken by CAU sensor.



Data and analysis

Because the temperature for both sensors are basically the same thing. The only things we can determine from the relative humidity sensors are that the measuring of the data is that there is water vaporization.

