

An Investigation into the Atmospheric Conditions of Castleknock College

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St. Vincent's Castleknock College

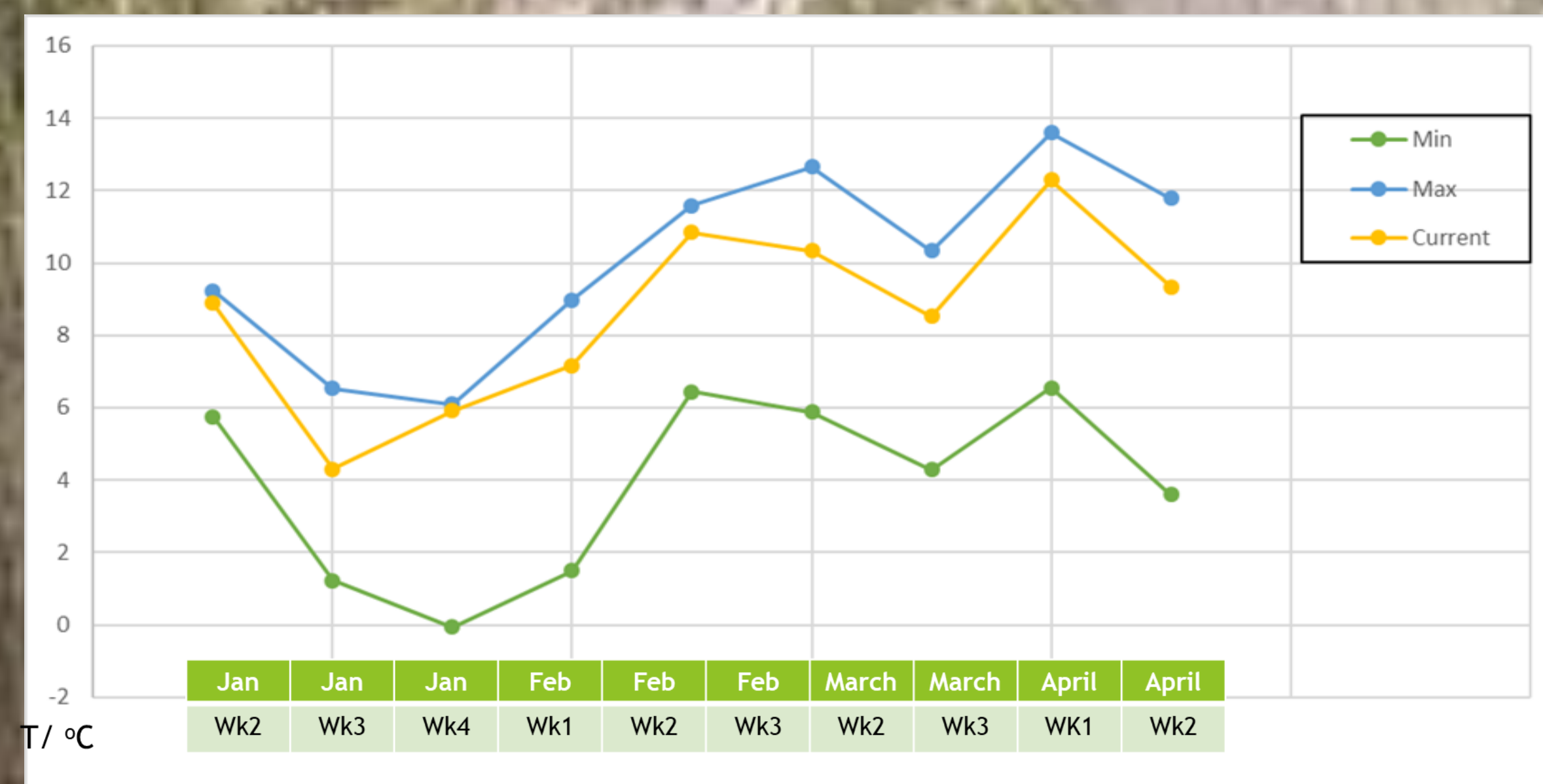


Temperature

The temperature was taken using an Electronic Thermometer in a Stevenson's Screen.

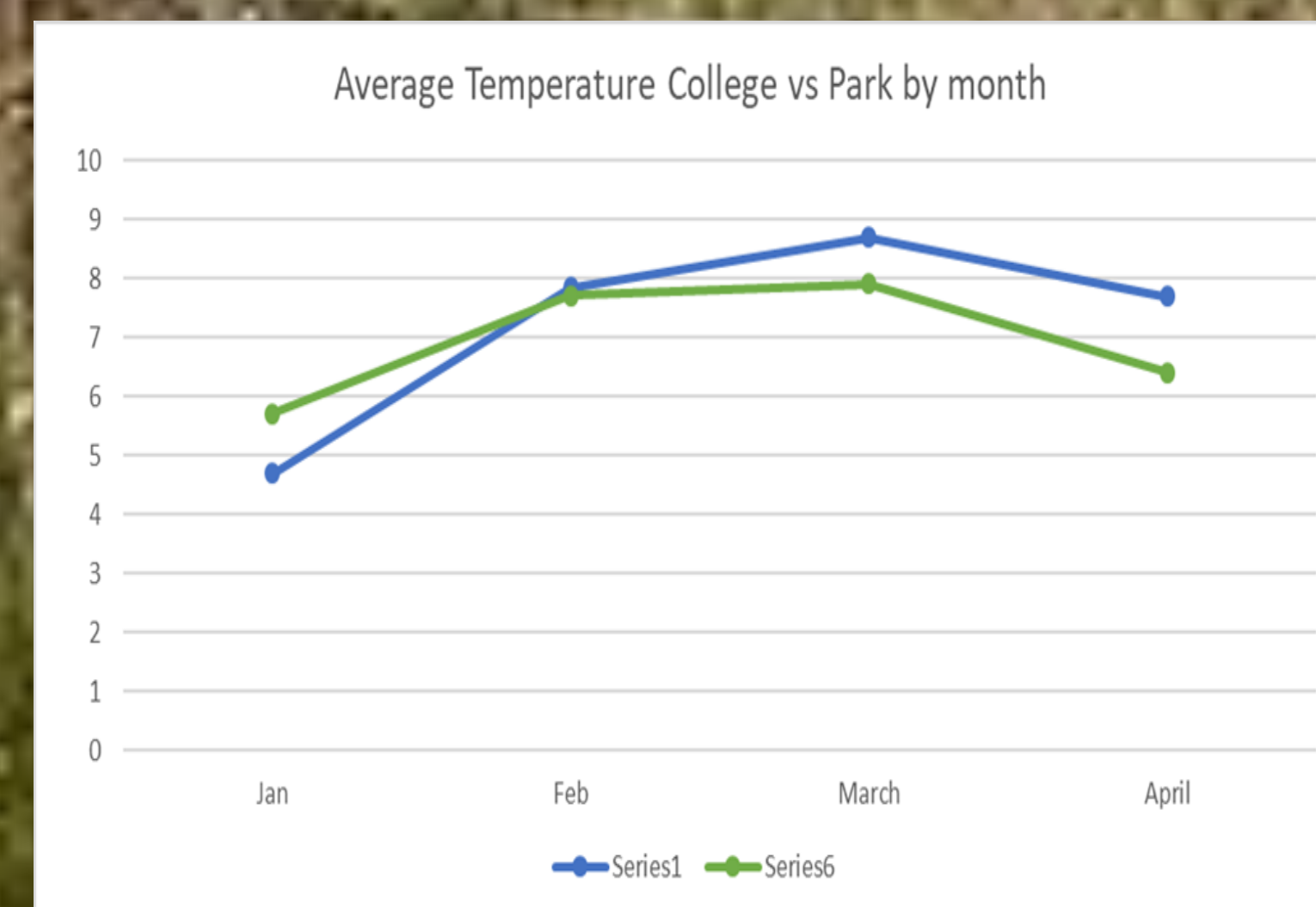
It was placed in a shaded area to stop heat from the sun changing the results.

We took readings of the Current temperature at solar noon, as well as the Maximum and Minimum temperature measured since the previous readings



We then took the averages of our readings and compared them to the data gathered by the weather station in the Phoenix Park.

As you can see while our findings are very similar, they aren't quite the same even though we're in close proximity to each other.

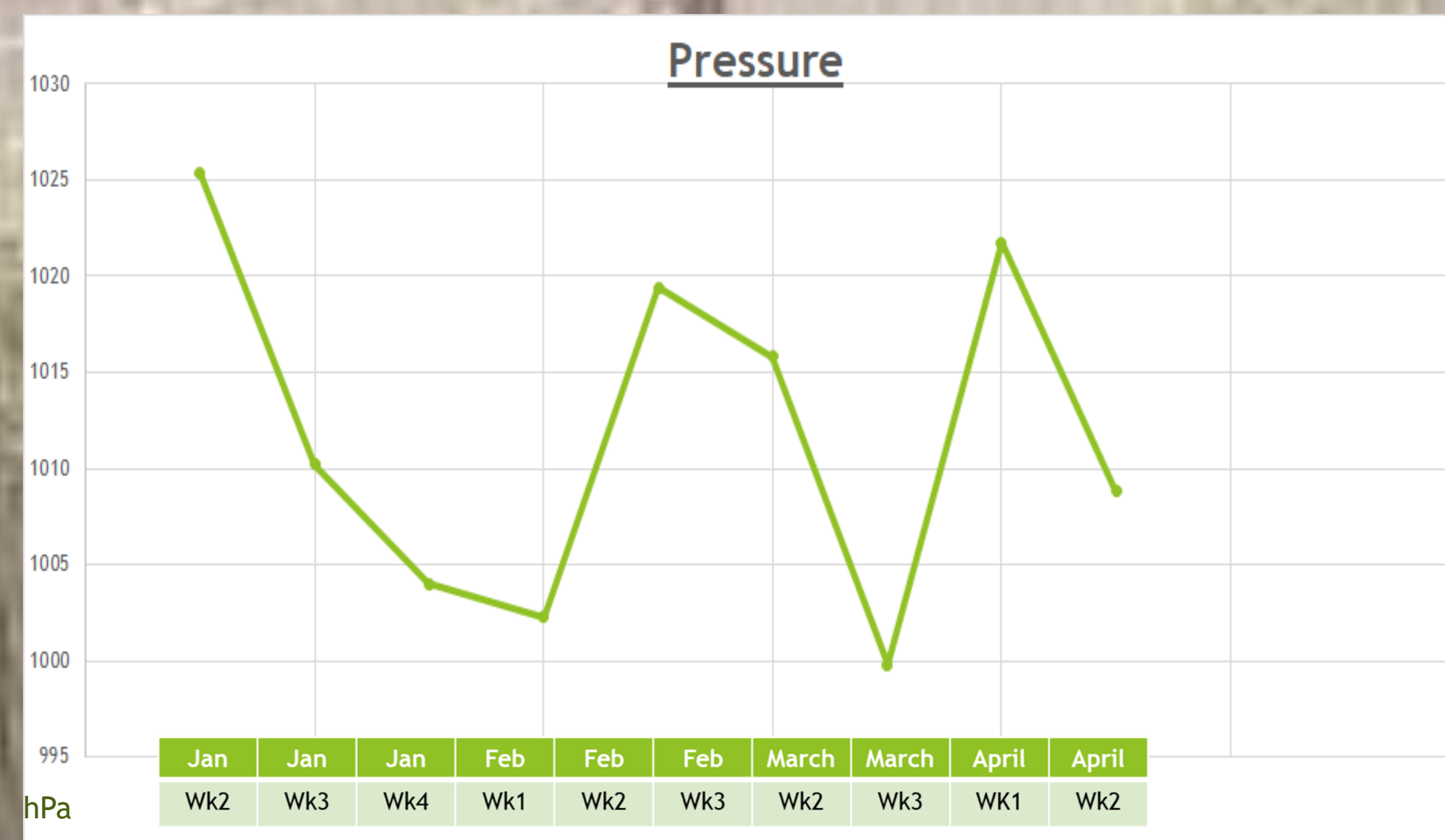


Pressure

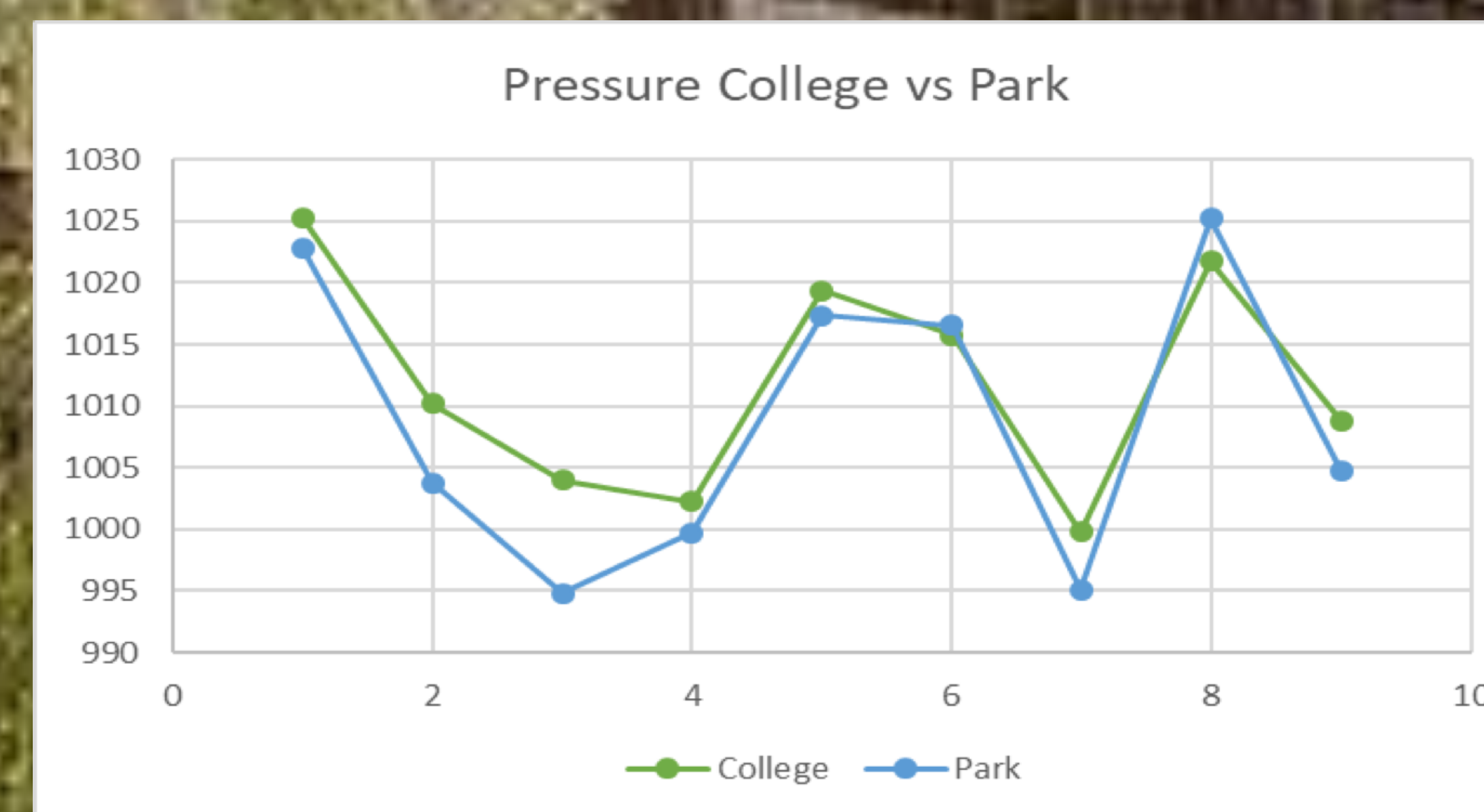
The pressure was measured using an Electronic Barometer in a Stevenson Screen.

It was also placed in a shaded area to stop heat from the sun affecting the results.

Each point is the average pressure for that week,

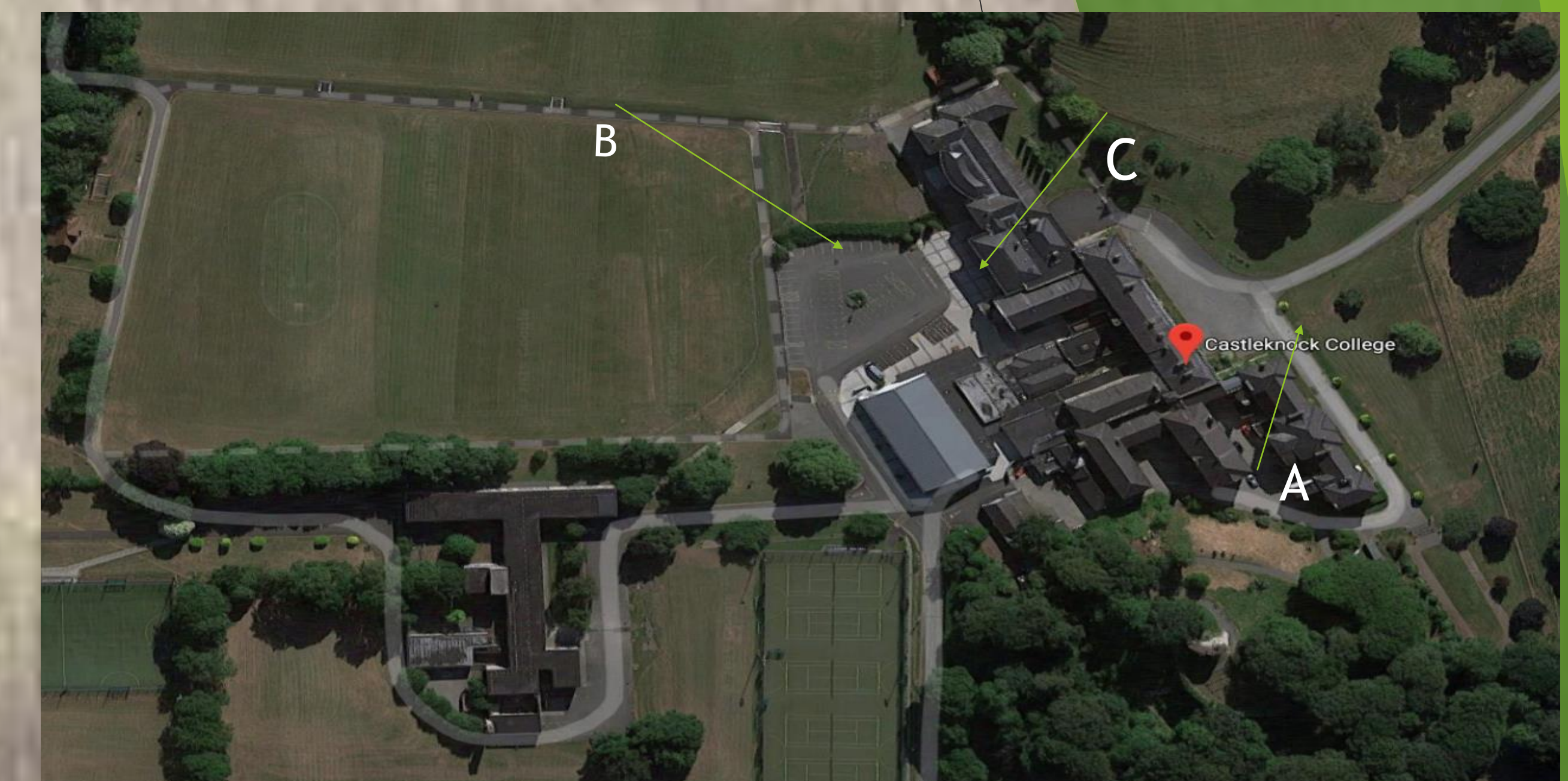


There is another weather recording station in the Phoenix Park to which we compared our results. You can see that our results are similar, as was expected.



Nitrogen Dioxide

We placed three Nitrogen Dioxide detector across the school grounds. 'A' as placed on the far side of the school with very little car traffic. 'B' was placed in the middle of the drop off car park in the school. 'C' was placed near the carpark on a drain pipe.



The Results were as followed
 A: 22.2 $\mu\text{g}/\text{m}^3$
 B: 23.84
 C: 24.25

NO2 concentration	Description
50+	Extremely Bad
45 to 50	Very Bad
40 to 45	Bad
35 to 40	Substandard
30 to 35	Mediocre
25 to 30	Average
20 to 25	Pretty Good
15 to 20	Good
10 - 15	Very Good
0 - 10	Excellent

These results were surprising as we had expected B to be highest. We believe that Nitrogen dioxide got trapped at C.

We were also surprised at the results as the M50 is less than half a km from the school. The M50 rating is always above 50 and at certain points over our testing it was nearly three times higher

Some of the negative effects of Nitrogen dioxide are Respiratory problems, it can increase the frequency and severity of Asthma attacks, and can cause inflammation of the lining of the lungs. Which can lead to coughing, wheezing, colds, flu and bronchitis.

Some of the things that humans can do to stop the increase risks of Nitrogen dioxide are building up bike infrastructure to keep cars off the road, limit the amount of fertilizers used by farmers and implement national fuel quality standards.

