

The Effect of Barometric Pressure on Birds

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Introduction

I decided to study the effect of barometric pressure on the number of birds coming to the feeders. Barometric pressure is the pressure exerted by the atmosphere. At the level of Tualatin Valley Junior Academy, atmospheric pressure is equal to about 15 pounds per square inch, or 29.9 inches of mercury. This is equivalent to 101.3 kilopascals, the pressure unit meteorologists now use. I thought that falling pressure, which means a storm is coming, might influence fewer birds to come to the feeders.

Materials and Methods

I observed the birds at the feeders by Downy Creek in a wooded area. There was a variety of birdseed in the feeders. I collected data (daily barometric pressure and number of each type of bird) for about a half hour for 12 days.

Results

I saw 19 bird species at the feeders, with Dark-eyed Juncos being the most common. The greatest number of birds observed was 67 and the smallest number was two. On seven days the pressure was rising and on the other five the pressure was falling. The largest sighting of birds was associated with falling pressure and the smallest sighting was

associated with rising pressure. In addition, the average number of birds observed during falling pressure was 35.4, and the average number during rising pressure was 27.7 (Figure 1).

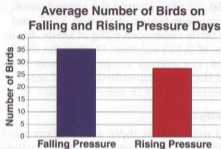


Figure 1

Analysis

There appears to be no direct relationship between falling and rising pressure and the number of birds sighted. Even though there were more birds

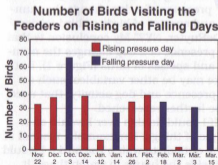


Figure 2

sighted on falling pressure days, this was probably not significant. When individual days are compared for the number of birds sighted and falling or rising pressure, there appears to be no pattern at all (See Figure 2).

Discussion and Conclusion

These are not the results I expected. I thought that falling barometric pressure would be associated with fewer birds at the feeders. I thought that fewer birds would come to the feeders during times of weather change. There might be several reasons for no definite pattern in my data. It might take more days of observation for a pattern to emerge. Or, it could be that the days of falling pressure during my observations were not significant enough in weather change to affect the birds. Or, the noise generated by student observers could have affected the birds' feeding behaviors. Future research could take these ideas into consideration.

Bibliography

- Aldridge, Bill. *Science Interactions*. Westerville, OH: Glencoe, 1993.
Bijl, Willem van der. "Barometer". *Multimedia Encyclopedia*. Grollier Interactive Inc., 1997.
Clench, Mary H. *Multimedia Encyclopedia*. Grollier Interactive Inc., 1997.
Schultz, Beth. *The New Book of Popular Science, Volume 4*. Danbury, CT: Grollier, 1996.