

Meetings and Announcements

Very quiet at this time. I'm considering what we might offer for future horticulture tours.

Air Quality Index

Extensive forest fires in Canada have affected air quality there as well as in the northeastern US. In news reports, I have seen values for air quality index. For the following discussion, I refer to the textbook of Cooper and Alley, c. 1994, *Air Pollution Control*, pp. 57-58.

The air pollution index we see is most likely the Pollution Standards Index (PSI) that has been adopted by EPA to give a single number representing air quality. The advantage is its simplicity, a single number, and the disadvantage is its simplicity—it doesn't tell us what is going on, what specific pollutant or pollutants are elevated, nor does it give a quantitative value (concentration) for any pollutant.

PSI Value	Air Quality Descriptor
0-50	Good
51-100	Moderate
101-199	Unhealthful
200-299	Very Unhealthful
300 and above	Hazardous

There are six contributors to the PSI: total suspended particulates, sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and another for the product of the particulate x SO₂ concentrations.

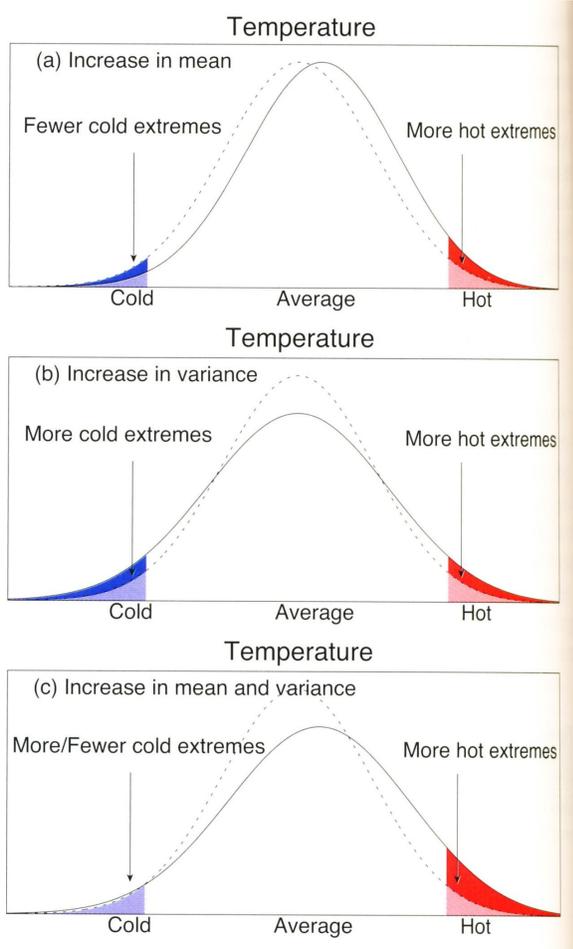
The calculation of the PSI begins with assignment of the index value for each pollutant based on its respective concentration (in effect a step function). Once the index values are assigned for each pollutant, the overall sum gives the PSI value. The calculation is not difficult given access to the data for concentration of each pollutant and the table for individual pollutant index value assignments based on concentration.

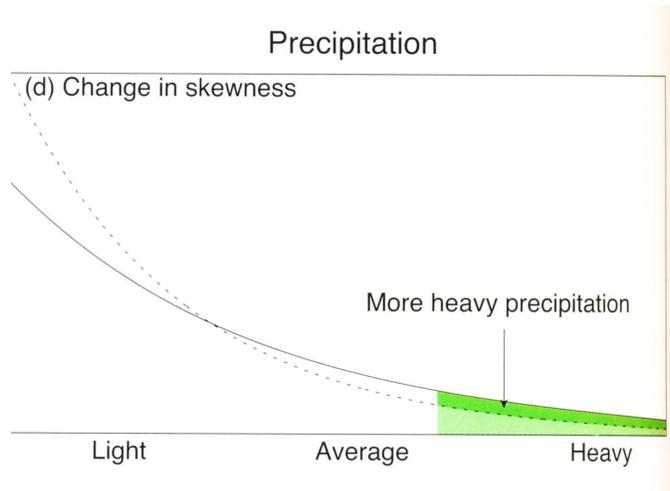
A high level of a single pollutant can drive the PSI value way up as can the combination of lower levels of several pollutants.

Climate Change

Much is in the news lately on this subject, including a diagram on the front page of today's (July 19) Wall Street Journal about this summer's weather in the northern hemisphere. Another recent article, July 14, page B10, was titled "Climate Change is Putting Insurers in a Difficult Spot." In talks and presentations I have given, I have focused on positive claims, those that can be established by data, rather than normative claims, what should be done. And in this latter area is much discussion. As I've said in the past, if climate change is real it will become more obvious, and I think we have arrived at that place. For example, we are seeing more high temperatures and high temperature records, with high latitudes more affected than mid-latitudes or those in the tropics. We are seeing more high-rainfall events, especially in the mid-latitudes. When these events affect insurance costs, it is further evidence of the reality of climate change.

I reproduce below figures from the Intergovernmental Panel on Climate Change (IPCC) 2013 report, p134. In the first set of figures, one notices an increase in mean temperature and variance. For precipitation, the lower figure, an increase in high rainfall events. In the news, we see these sorts of changes reported.





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