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The weather in 1982 and 1983

Abstract

The 1983 weather in Kansas upset carefully laid plans and confounded the best management techniques. Yet the averages for 1982 and 1983 appear very similar. In Manhattan, the average temperatures were 54.04 F for 1982 and 54.06 for 1983. Precipitation totals were 32.88 in. for 1982 and 35.74 in. for 1983. However, those who watched their crops dry up in the summer of 1983 after delayed planting because of wet fields, and suffered with their livestock through heat stress in July and August and cold stress during December know differently. Neither our crops nor our livestock ever experience "average" weather. They experience the extremes of weather, and growth and gain are at the mercy of the variability. We can get a better picture of the last two years' weather by looking at the actual daily values and comparing them to the normal-or average-for that time of the year.

Keywords

Cattlemen's Day, 1984; Kansas Agricultural Experiment Station contribution; no. 84-300-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 448; Beef; Temperature

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The Weather in 1982 and 1983

L. Dean Bark¹

The 1983 weather in Kansas upset carefully laid plans and confounded the best management techniques. Yet the averages for 1982 and 1983 appear very similar. In Manhattan, the average temperatures were 54.04 F for 1982 and 54.06 F for 1983. Precipitation totals were 32.88 in. for 1982 and 35.74 in. for 1983. However, those who watched their crops dry up in the summer of 1983 after a delayed planting because of wet fields, and suffered with their livestock through heat stress in July and August and cold stress during December know differently. Neither our crops nor our livestock ever experience "average" weather. They experience the extremes of weather, and growth and gain are at the mercy of the variability. We can get a better picture of the last two years' weather by looking at the actual daily values and comparing them to the normal—or average—for that time of year. Figure 36.1 and 36.2 shows the 1982 and 1983 data for Manhattan.

Let's start by explaining the charts, drawn by the KSU computer using data from the extensive files of the Agricultural Experiment Station's Weather Data Library. First, notice the three smooth curves in each diagram. They represent the average conditions, based on 70 years of data. The top two curves show the average maximum and minimum temperatures. They reach a low point in mid-January and peak in mid-July. The lower smooth curve is the average accumulated precipitation. It starts at zero on January 1st and increases throughout the year. It climbs slowly at first because little precipitation is received from January through March. The larger amounts of rain received from April through September (75-80% of our annual total) are shown by the steeply climbing curve. The curve levels out again as the winter dry season returns in October.

Using the average curves for comparison, we now can look at the actual daily temperatures. Note the low temperatures in January and early February of 1982 were followed by relatively warm temperatures from late February through April. Most of the rapidly fluctuating ups and downs are the usual day-to-day temperature variations that occur in a continental climate. In 1983, the 100 F temperatures in July and August are evident, as are the record breaking lows in December that almost drop off the chart.

The cumulative precipitation curves are even more interesting. Although both years end with about the same total, the way it was received was quite different. A horizontal line is a dry period and a vertical jump means precipitation on that day. The many small rains in 1982 kept the accumulated total near average all year. In 1983, the heavy rains through June and again in October and November were separated by a devastating dry period.

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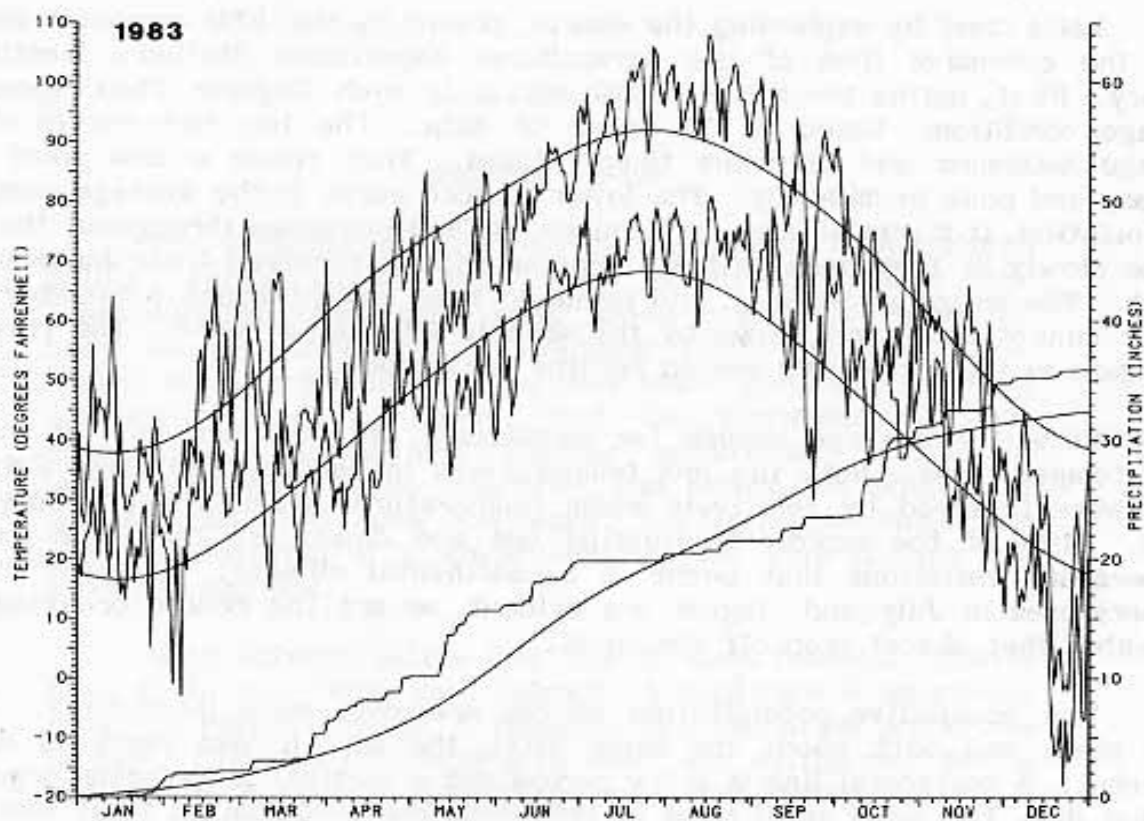
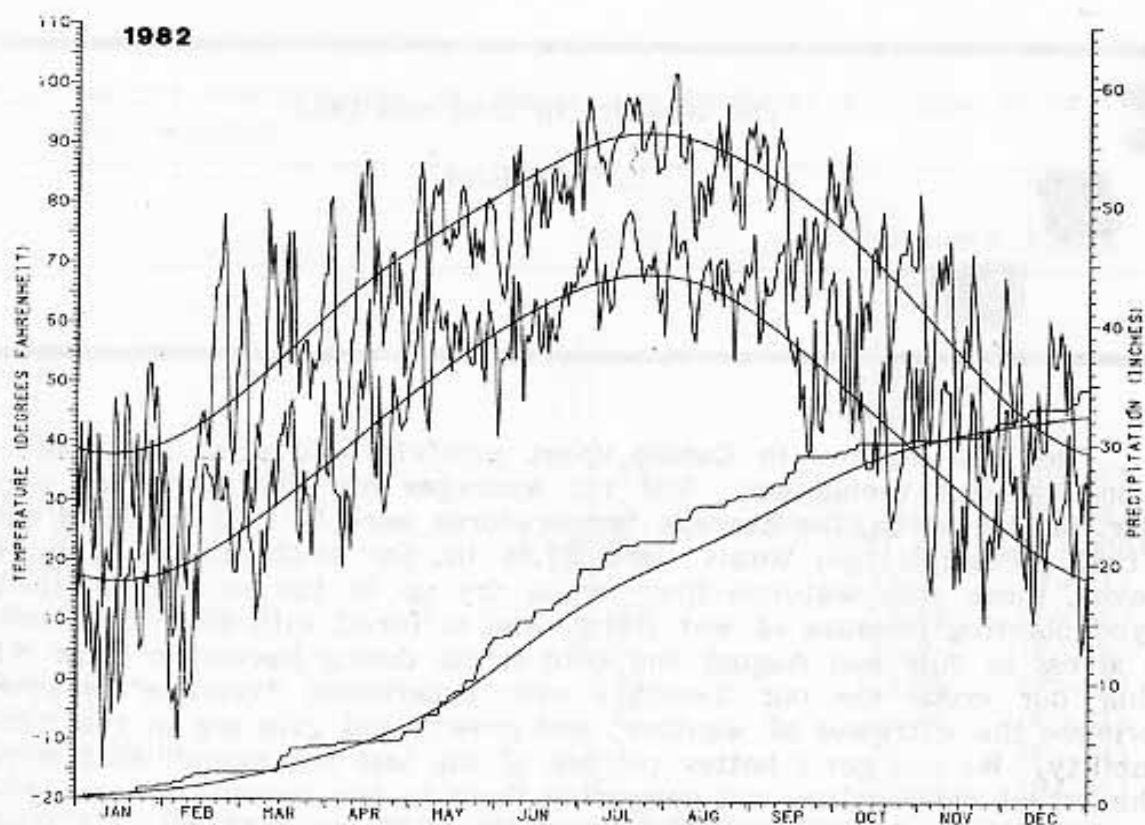


Figure 36.1. 1982 and 1983 temperature and precipitation for Manhattan, Kansas. Kansas Agricultural Experiment Station Weather Data Library.