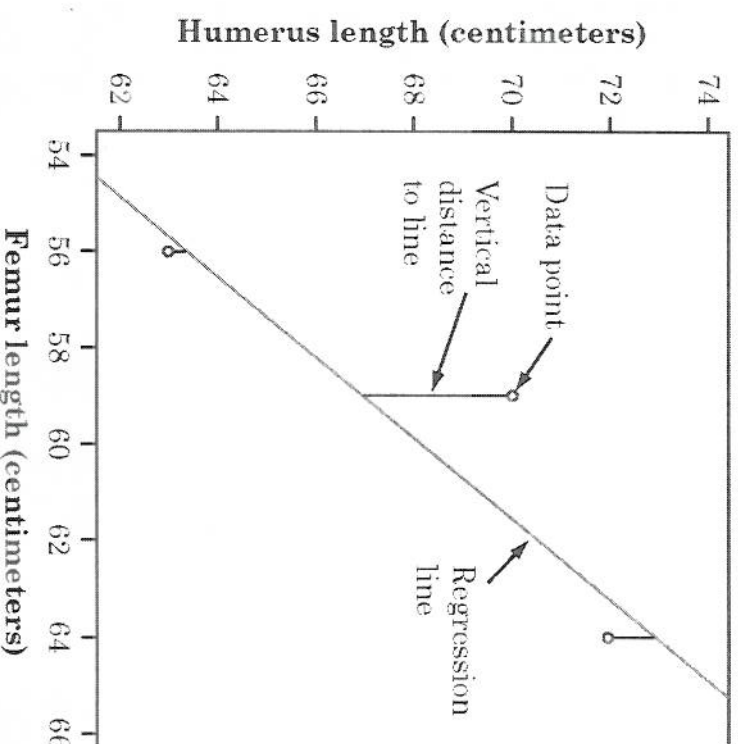


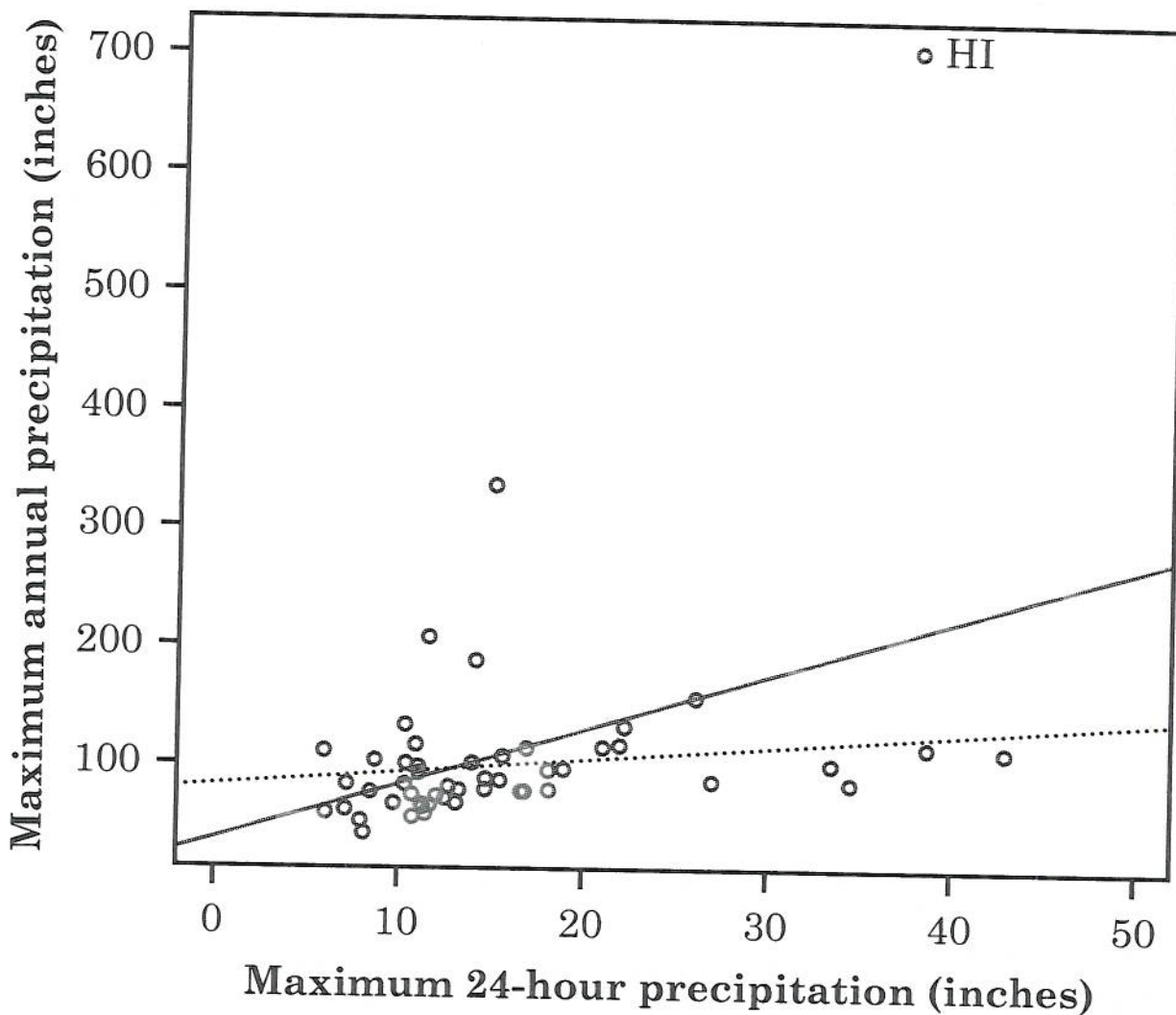
Least Squares Regression



A **least squares regression line** makes the vertical distances from the data points to the line small.

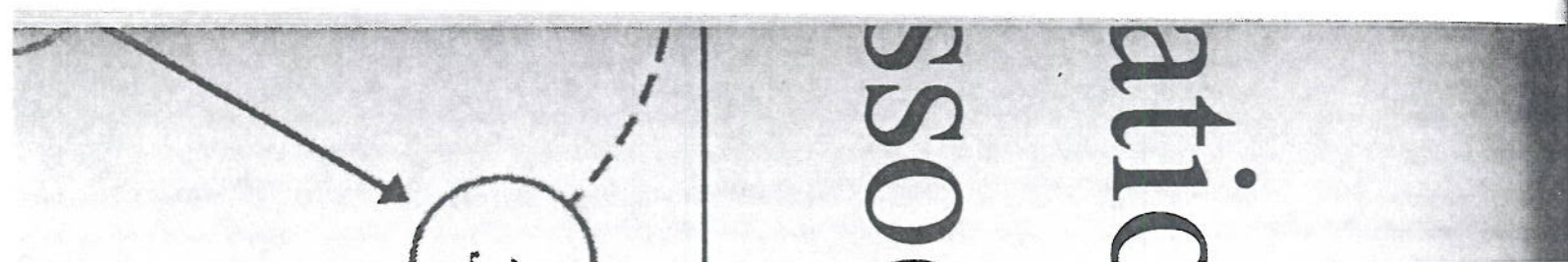
Return to

Maximum annual precipitation in each state against that state's record-high 24-hour precipitation. Hawaii is a high outlier, with a yearly record of 704.83 inches recorded at Kukui in 1982. The correlation for all 50 states in Fig. 5.4 is 0.408. If we leave out Hawaii, the correlation drops to $r = 0.195$. The solid line in the figure is the least-squares line for predicting the annual

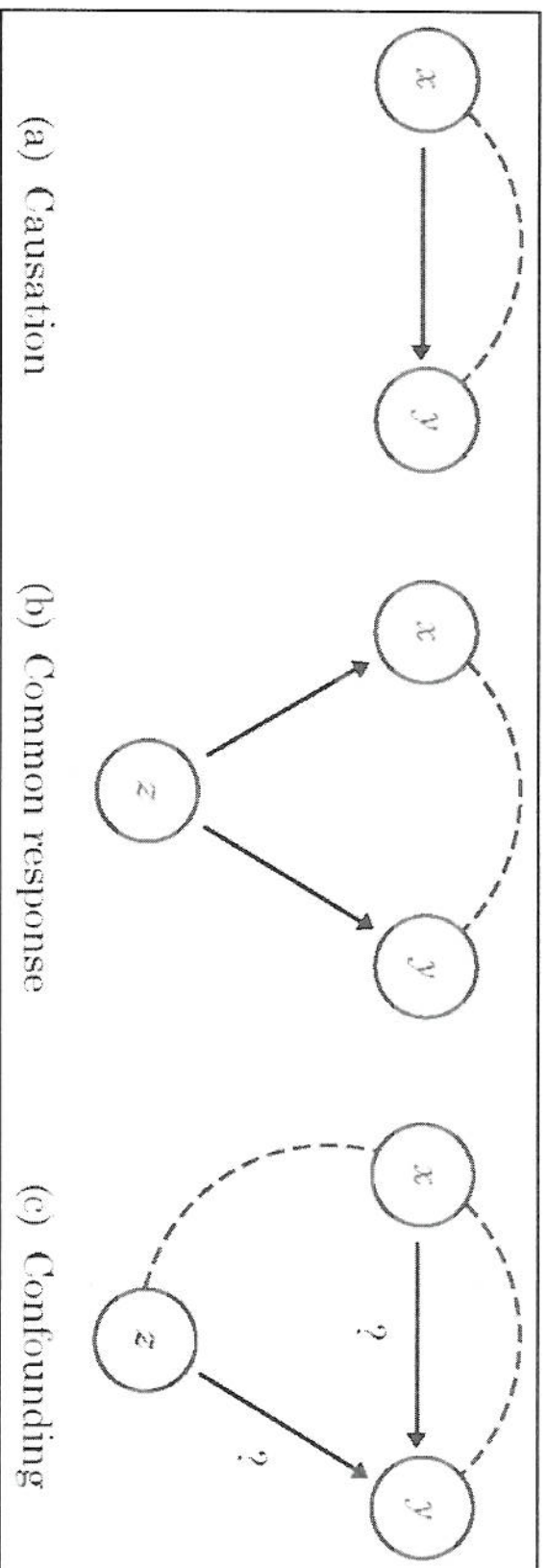


15.4 Least-squares regression lines are strongly influenced by outliers. The solid line is based on all 50 data points. The dotted line leaves out Hawaii.

↑ solid line



A few explanations for an observed association



A dashed line shows an association. An arrow shows a cause-and-effect link.

Variable x is explanatory, y is a response variable, and z is a lurking variable.

Return to