HW6: Geyser eruptions?
(assigned on Wed April 26, due by 4pm on Wed May 3)

You may work with in a group of as many as three students on this assignment, handing in one report with all names, provided that you all contribute to the work. You must submit a word-processed report, with computer output integrated into your report as appropriate.

The data in the Minitab worksheet OldFaithful.mtw (available from our course webpage under “data files”) contain times between eruptions (in minutes) of Old Faithful geyser in Yellowstone National Park in 1978 and in 2003.

a) Produce (and submit) a histogram of the inter-eruption times in 1978 (Graph> Histogram). Comment on what the histogram reveals about this distribution.

b) Produce (and submit) dotplots of the times between eruptions for the two years on the same scale (Graph> Dotplot> Multiple Y’s, Simple).

c) Calculate the means and medians of the inter-eruption times for both years, and also the standard deviations and IQRs (Stat> Basic statistics> Display descriptive statistics).

d) Comment on the question of whether the distribution of inter-eruption times seems to have changed noticeably between 1978 and 2003 by writing a few sentences comparing and contrasting the two distributions. Refer to both the graphs and statistics in your analysis.

e) In which year did visitors tend to have a shorter wait for the next eruption? Explain how you decide.

f) Which year showed more predictability (less variability) in how long a visitor would have to wait for the next eruption? Explain how you decide.

g) Based on these inter-eruption time data, in which year (1978 or 2003) would you have preferred to be a tourist at Old Faithful? Justify your choice based on the data and your analyses above.