

You may work with one partner on this assignment, submitting one report with both names, provided that both students contribute substantially to the work. Word-processed reports are preferred to hand-written ones. Integrate computer output into your report as appropriate.

Old Faithful?

Tourists from around the world flock to Yellowstone National Park to see Old Faithful geyser, in large part because of its reputation for predictability. Data on times (in minutes) between eruptions were recorded in 1978 and in 2003. Datafiles can be accessed from the “Data and Applets” link on our course website. [*Hint*: Users of both R and Minitab will want to follow instruction in Investigation 3.2 for accessing the datafiles and for producing the following graphics and calculations.]

- a) Produce (and submit) dotplots and boxplots for comparing the distributions of inter-eruption times between these two years. Be sure that the dotplots are on the same scale.
- b) Calculate (and report) the mean and standard deviation of the inter-eruption times for these two years. Also calculate the five-number summary of the eruption times for these two years.
- c) Comment on how these two years compare with respect to the *center* of the distributions of inter-eruption times. Discuss implications for tourists of how they compare.
- d) Comment on how these two years compare with respect to the *variability* (spread) of the distributions of inter-eruption times. Discuss implications for tourists of how they compare.
- e) Examine (and submit) histograms for comparing the distributions of inter-eruption times between these two years. Comment on a feature of shape that the histogram reveals but the boxplot did not. Also compare the two years on this feature.