1. Obtain/enter the data
   a. This has already been done for you

2. Organize the data in a meaningful way
   a. In our case: Organize the values of wind speed by column or row, one column/row for each day

3. Calculate statistics
   a. Since we want to look at day-to-day variability, we have organized data by columns/rows according to date. Now calculate statistics for each column/row of data (i.e. each day)
   b. Statistics:
      i. Mean: =AVERAGE(“data range”)
      ii. Standard Deviation (SD): =STDEV(“data range”)
      iii. Median: =MEDIAN(“data range”)
      iv. Mode: =MODE(“data range”)
      v. Variance (SD²): =VAR(“data range”)
      vi. Minimum: =MIN(“data range”)
      vii. Maximum: =MAX(“data range”)
      viii. Number in sample (n): =COUNT(“data range”)
      ix. 95% Confidence Interval: =CONFIDENCE(0.05, SD, n)

4. Decide how you want to graph the data
   a. Let’s do bar graphs of the mean for each day and with standard deviation error bars (an often reported error statistic)
   b. Graphing:
i. Under the insert menu, choose a type of Chart (Column)

ii. Once created, right hand click inside the chart space and chose select data

iii. Now you can select what you want to graph (day means in our case)

iv. Horizontal (Category) axis labels are the labels for each bar (each day in our case). Select the proper labels (the label for each column/row in your organized data)

v. Error Bars: Go to Layout menu, click error bars, more error bar options, custom (specify values), and select error bar range (same for + and – error bars)

5. General tips:

a. Notice that Excel automatically matched the proper labels (days) and error bar values (standard deviations). So long as you organized your data well (same rows/columns for the labels data and statistics of each sample or in this case day), Excel will match things up like this (cool huh?)

b. Right click is your friend. Whenever you want to change how a graph looks, what data you are graphing, etc. you can almost always find the option you need by right clicking on the graph or individual plotted values (bars, error bars, points, etc). This saves you the trouble of searching through the excessive number of options in menus at the top of the screen

c. Trying to calculate a statistic? Click on an empty cell where you want the calculation, then notice the $fx$ symbol just above the spreadsheet (but below the menus). Click it and you will have at you disposal the functions for calculating any available statistic, and also a lot of other cool functions you may want to use, as you become a more advanced user.