Dr. Nelson expects you to primarily analyze the data from official data acquisition runs, but you will have everything in case you wish to look at other flights.

Notes:

1. The .kml file is the Google Earth file. Just open Google Earth and then go File⇒Open. The .fdr file is the numerical data file. Open using Excel, File⇒Open⇒All Files⇒Delimited⇒Space

2. We will be recording: time from startup (ms), altitude (feet) and speed (mph) from pitot-static probe, voltage from Channels A and B of the dual channel A/D sensor, and the following from the GPS: coordinates, altitude (feet), speed (mph), course / heading (degrees), distance from start (feet), and time (UTC). I would just copy the data of note into a new spreadsheet and plot in Excel or Matlab.

3. Some groups' altimeter data from the pitot-static probe may be incorrect due to the open fuselages (despite the backup static port). Note, that it reads differential pressure so you must add South Bend's elevation to match GPS altitude if you have accurate readings. Use the GPS data only if necessary.

4. If the GPS loses its fix, it will keep repeating the same measurement until it reacquires a fix. This rarely happens but if there is a problem, check this.

4. For the G-Force sensor, first note that the data is multiplied by 100. Second, some groups mounted it in reverse (resulting in opposite signs). Finally, some sensors developed a large initial offset before flying. Subtracting the first reading (or the mean of the first few readings) if necessary when the plane was stationary should yield reasonable data.