Obtaining and working with on-line Precipitation Data:

1. Get on-line (via Netscape, Internet Explorer, or some other browser).
2. go to http://cdo.ncdc.noaa.gov/dly/DLY?
3. Choose the state in which your watershed resides.
4. Select a station[1] in your watershed. The stations names often include the dates of available data[2]. You may want to select more than one station, especially if there is a lot of elevation change in your watershed – higher elevations produce more precipitation. If you choose a low elevation site, you may underestimate the total precipitation for your watershed. If you choose to use more than one precipitation station please list the stations and how you averaged your data.
5. You will then see all the information that was recorded for your station. Each month of recording is a separate file. The file names are indicated by YYYYMM (YYYY is the year and MM is the month). Example: 196104 contains the data for April, 1961. Make a note of the years for which precipitation data are available.
6. At this point, it is best to obtain your stream discharge data. After that, return to complete the precipitation data steps.

Continuation of precipitation steps:
7. First look at the data in Web Form to see what is contained in the file – read the column headings carefully to determine what you need.
8. Open an Excel file for these precipitation data. You'll need to get the total precipitation for each month of your water year and type this into your Excel file.
9. Make a graph of the precipitation which occurred in your watershed during the water year of your study.

At this point, you can return to the main assignment – however, if you want to preserve the daily precipitation data (to explore the length of time water stays in your watershed, investigate different storm events, or address other questions you may have), do the following steps:
10. To get the daily precipitation data without having to type all of these directly into Excel, you'll need to look at the data in ASCII, not Web, Form.
11. Once you have your data in ASCII form, copy and paste these data into a Microsoft word file to later export into Excel. You will have problems if you try to paste this directly into Excel.
    a. Copy all the data from the web page (shown in ASCII form)
    b. Paste this into a MS word document
    c. Save this document as a plain text file (.txt)
        i. Under "File" chose "Save As"

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[1] These are typically listed by geographic location (e.g., town name, airport, etc.). If you don't recognize, or are unsure of, the locations of the stations, you may want to also open a separate explorer window with a local map – e.g., http://maps.google.com/

[2] The station names often include the range of dates for which data are available. For example, 196807-196902 indicates data is available for that site from July 1968 to February 1969.

ii. Chose a name that indicates the year and month and save as type "Plain text". This will give it a .txt extension and the file can be read by Excel (and other programs)

12. Start Excel. Under the File menu, choose Open.
13. Open the text file that contains the precipitation data. It should be called something like "196104.txt"
14. choose the "Delimited" option and start importing the data at row #1. Click on Next.
15. Chose "Comma" as the delimiter (you can deselect "Tab"). This should put the data into columns similar to that which you saw when you viewed the data in webform.
16. click on Next again, and then Finish. You should have a file that contains all the precipitation data for the month separated into cells.
17. Make a graph of the precipitation which occurred during the year of your study. You can do this by cutting and pasting all your precipitation data into a single Excel file, and then making a line graph of the precipitation column (recall your first lab in which you graphed in Excel).