NCDC Website—www.ncdc.noaa.gov
The NCDC site is available for free only on a computer with an .edu domain. You can access the site from any computer, but if the computer doesn't have an .edu domain, you will be prompted for payment. You should be able to use any computer on campus that has an .edu domain and get the data for free. Sometimes while you are trying to get data, you will get asked if you want the data put in a shopping cart (they will want you to pay for it). **NO NO don't pay for it.**

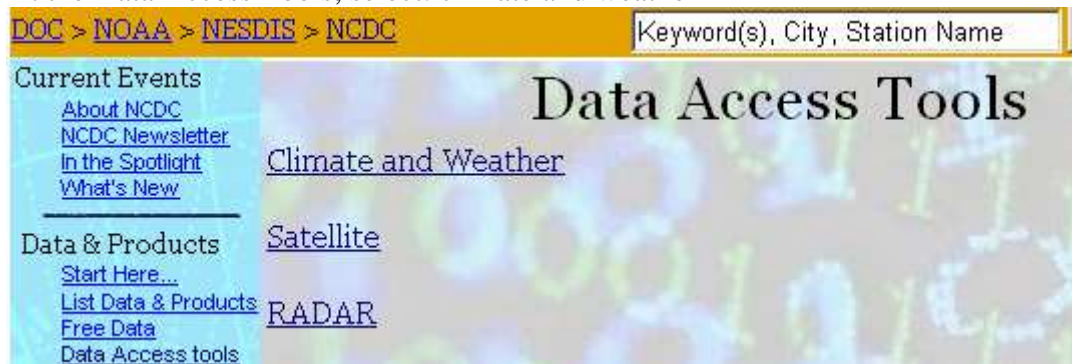**The data is free from a campus .edu domain computer.**

Instructions:

On the homepage www.ncdc.noaa.gov choose: Weather/Climate Events, Information…

On the Weather/ Climate Resources page, on the left bar select Data Access tools

At the Data Access Tools, select: climate and weather

From Climate and Weather page, select Global Surface Data

The Global Surface Data URL as of 1-23-09 is:
http://cdo.ncdc.noaa.gov/CDO/cdo

At the Global Surface Data page, select country

Climate Data Online

Sample Output:
ASCII Space Delimited
Printable Web Form

Info / Help

Search Options:
Country
Geographic Region
Data Set/Product
Station Name
Map Services

Then select a country from the list. For this handout I will use Malawi.
Highlight the country you want to select then click Access Data/Products

Country Options

Climate Data Online

Sample Output:
ASCII Space Delimited
Printable Web Form

Info / Help

Macau
Macedonia
Madagascar
Malawi
Malaysia
Maldives

Access Data/Products

From this page, highlight the dataset you want which is:
Surface Daily Monthly Global on the right side of the screen then click access data

DataSet/Product Options

Climate Data Online

Sample Output:
ASCII Space Delimited
Printable Web Form
Hourly Summary
Inventory
Map Analysis

Surface Data, Global Summary of the Day *
Surface Data, Hourly Global (Over 10,000 worldwide sites)
Surface Data, Monthly Global (Over 3,100 worldwide sites)
Surface Data, Monthly Global (Over 900 worldwide sites; GSN) *

Access Data/Products

From this page click continue. You will see that Malawi is selected

Retrieve data for:
- ○ Worldwide
- ○ Geographic Region Africa
- ● Country Malawi
- ○ Station Range (WMO IDs): [   ] to [   ]

[Continue] [Clear Selections] [Previous Page] [New Search]

From this page, click continue:

Surface Data, Monthly Global (DS3500)

Retrieve data for:
- ○ Entire Country
- ● Selected Malawi stations - Note: may be slow to load station list on next page

[Continue] [Clear Selections] [Previous Page] [New Search]

Then look at your list of stations, and select one
In this case, Lilongwe Airport is selected, then press continue

Surface Data, Monthly Global (DS3500)

Select Malawi stations (maximum of 100)

Station Name	WMO ID	Period of Record
Chileka......................67693		07/1991 to 12/2005
Lilongwe Int'L Airport........67586		01/1987 to 12/2005

Sort by Station ID

[Continue] [Clear Selections] [Previous Page] [New Search]

On this screen, you will have to make several changes. Under select date restrictions, you will have to change the from and to, to match the years you want. Select output format: delimited without station name. Select output format delimiter: comma Click on continue

Check and make sure you are asking for the data you need. Put your email address in the box. You also have to put a check mark in Inventory Review Click submit request

DS3500 - Surface Data, Monthly Global, Request Summary

Malawi / Selected Stations - includes 1 stations *(See selected stations below)*

Date Range (Year / Month):
1995/12 to 2005/12

Selected Output Format:
Comma Delimited, without station name

Selected Output Media:
FTP

Months of Data Available:
97 - View Inventory

Output File Size (bytes):
9501

☐ Inventory Review: I have reviewed the Inventory File to see if the elements/dates desired are included *before* ordering. Some time periods or elements may be missing.

IMPORTANT! Please enter a **valid** email address below so we can notify you when your request has finished processing.

E-mail Address: alevel@

This is the next screen you get. Usually the data comes through in about 1-2minutes, so you often don't have to check your email you can just click on the URL below the line that says: NOTICE!

DS3500 - Surface Data, Monthly Global, Request Verification

Your DS3500 - Surface Data, Monthly Global request - **CDO01040894** has been submitted for processing.

You will be notified by email at **allison.level@colostate.edu** when processing has completed for your request.

NOTICE! Click on the following URL to access your files:
http://www1.ncdc.noaa.gov/pub/orders/CDO945198961380.html

Click the URL.

This is the page that will have your dataset.

NOTICE!

From the time you submitted your request it may be several minutes (to several hours for larger volumes) before your data, data inventory and station list files are available. **For this reason it is recommended that you bookmark this web page for future reference and access to your files.** You will also receive email notification when your data files are ready.

This web page and the data files / web forms listed below will be available for **7 days**, after which they will be deleted from NCDC's web server.

File Contents	Access URL	File Size Estimate (bytes)
DS3500 - Surface Data, Monthly Global - Data File	http://www1.ncdc.noaa.gov/pub/orders/945198961380dat.txt	9501
DS3500 - Surface Data, Monthly Global - Inventory	http://www1.ncdc.noaa.gov/pub/orders/945198961380inv.txt	702
Station List	http://www1.ncdc.noaa.gov/pub/orders/945198961380stn.txt	549
DS3500 - Surface Data, Monthly Global format documentation	http://cdo.ncdc.noaa.gov/cdo/3500doc.txt	Not available

Notes:
*File sizes shown are calculated estimates, and in certain cases may differ significantly from actual file sizes.
*Click on the ftp links above to view the files / web forms in your web browser.
*To download the files / web forms to your local computer choose **File/Save As** or **Save Link As** from

The data file is the first file, the other files have other information you may need.
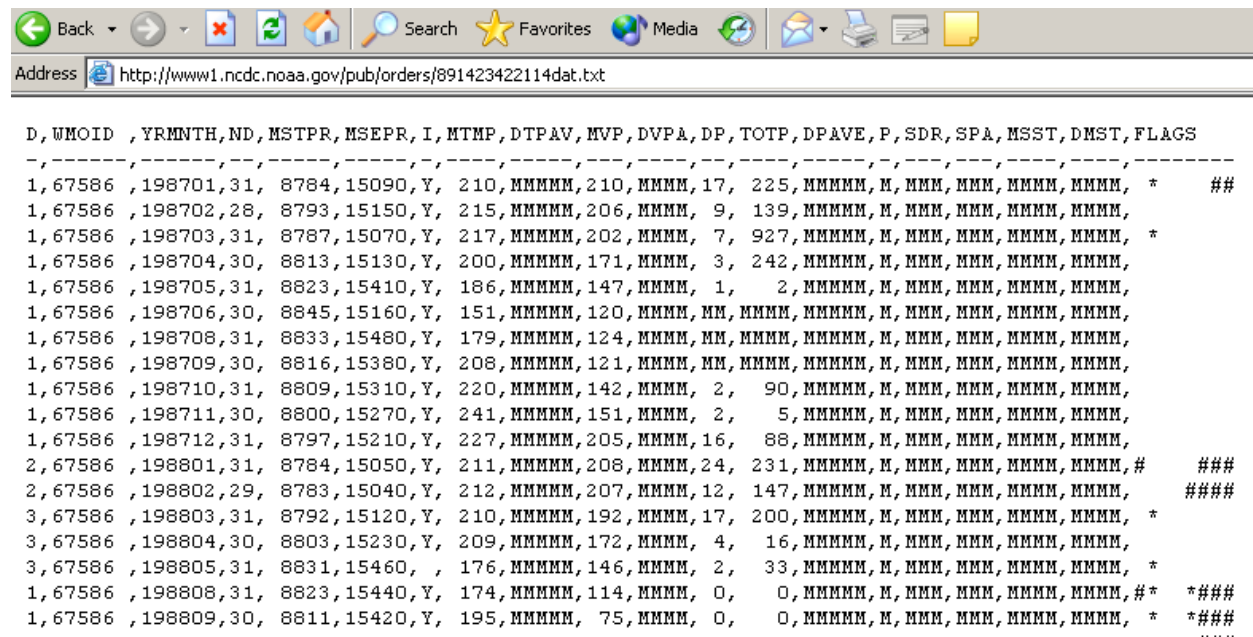File contents:

Surface Data, Monthly Global DATA FILE—this is your actual data, and it is this file you will want to save as a .txt file and then import into excel to create your spreadsheet.

Surface data, monthly global INVENTORY—this file gives station name and year and months of data available. This is helpful information to have

STATION LIST—just list's the name of the station. This isn't that helpful.

Global format documentation (file size—not available) but the file content IS AVAILABLE. You will want to click into this file, it gives the field names and descriptions. **THIS DOCUMENTATION IS VERY IMPORTANT.** From this you will be able to tell things like is the precipitation in inches or centimeters. Is the temperature in degrees F or degrees C.

If you click on the URL for the data file, this is what you will see:

You will need to save this data file, then import it into Excel. You will then have to do some manipulation of the data to complete your assignment.

How do you get the information from this file that was generated, into an excel spreadsheet.

First of all, you will be working with the file that is the top one and says DATA FILE.

Click into that file. You will see lots of numbers and columns.

Then go to the upper left corner of the computer to "file"
In the drop down menu, select save as
The window will pop up for you to save it to your computer's hard drive, a floppy, etc.
You can change the file name if you want, but save it as a .txt extension

Then open up excel and open up your file.

You will then be prompted in some screens and asked for information.

This first screen, towards the top the bullet will be in Fixed width
CHANGE the bullet to Delimited
Then click next

On this next screen:

it will come up with a checkmark in the TAB box,
UNCHECK this and put the checkmark in COMMA

On this last screen,
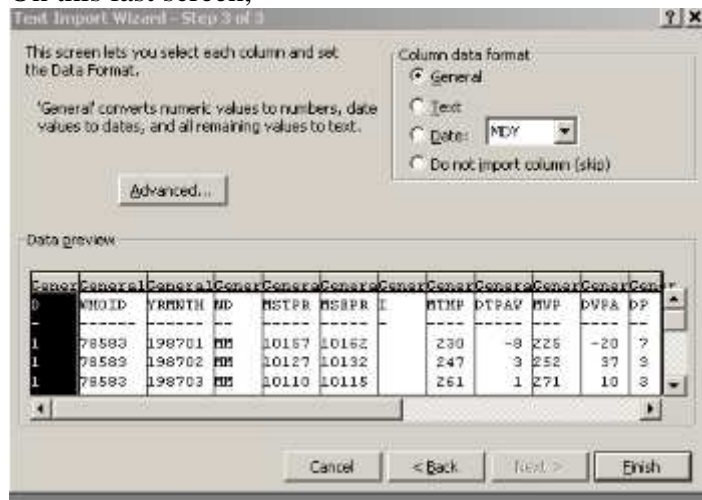
Click on finish.

All your data will now be in separate columns.
You will have to add a column for annual precipitation and then total the monthly amounts to get the annual precipitation amount.

You will also have columns for data you don't need. You can delete them after you MAKE SURE you don't need the data.
TOTAL PRECIPITATION (mm) is TOTP, this is monthly
For annual, you will have to add the monthly data

Your Excel file will now look like this.
You are not finished yet, you still have quite a bit of work to do.
MMMMM=missing data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
1	D	WMOID	YRMNTH	ND	MSTPR	MSEPR	I	MTMP	DTPAV	MVP	DVPA	DP	TOTP	DPAVE	P
2	-	------	------	--	-----	-----	-	----	-----	---	----	--	----	-----	-
3	1	67586	198701	31	8784	15090	Y	210	MMMMM	210	MMMM	17	225	MMMMM	M
4	1	67586	198702	28	8793	15150	Y	215	MMMMM	206	MMMM	9	139	MMMMM	M
5	1	67586	198703	31	8787	15070	Y	217	MMMMM	202	MMMM	7	927	MMMMM	M
6	1	67586	198704	30	8813	15130	Y	200	MMMMM	171	MMMM	3	242	MMMMM	M
7	1	67586	198705	31	8823	15410	Y	186	MMMMM	147	MMMM	1	2	MMMMM	M
8	1	67586	198706	30	8845	15160	Y	151	MMMMM	120	MMMM	MM	MMMM	MMMMM	M
9	1	67586	198708	31	8833	15480	Y	179	MMMMM	124	MMMM	MM	MMMM	MMMMM	M
10	1	67586	198709	30	8816	15380	Y	208	MMMMM	121	MMMM	MM	MMMM	MMMMM	M
11	1	67586	198710	31	8809	15310	Y	220	MMMMM	142	MMMM	2	90	MMMMM	M
12	1	67586	198711	30	8800	15270	Y	241	MMMMM	151	MMMM	2	5	MMMMM	M
13	1	67586	198712	31	8797	15210	Y	227	MMMMM	205	MMMM	16	88	MMMMM	M
14	2	67586	198801	31	8784	15050	Y	211	MMMMM	208	MMMM	24	231	MMMMM	M
15	2	67586	198802	29	8783	15040	Y	212	MMMMM	207	MMMM	12	147	MMMMM	M
16	3	67586	198803	31	8792	15120	Y	210	MMMMM	192	MMMM	17	200	MMMMM	M
17	3	67586	198804	30	8803	15230	Y	209	MMMMM	172	MMMM	4	16	MMMMM	M
18	3	67586	198805	31	8831	15460		176	MMMMM	146	MMMM	2	33	MMMMM	M
19	1	67586	198808	31	8823	15440	Y	174	MMMMM	114	MMMM	0	0	MMMMM	M
20	1	67586	198809	30	8811	15420	Y	195	MMMMM	75	MMMM	0	0	MMMMM	M
21	1	67586	198810	31	8796	15200	Y	221	MMMMM	140	MMMM	4	160	MMMMM	M
22	1	67586	198811	30	8803	15250	Y	216	MMMMM	149	MMMM	4	148	MMMMM	M

Follow the instructions from Dr. Tinsley on which columns you need, and how to manipulate the data to get the totals needed for your assignment.