# *Importing the Data from the Magellan SporTrak*

Data (e.g. landmarks and tracks) can be downloaded from the **Magellan SporTrak** unit using a personal computer with Windows. To do this requires third party software such as **Topo!GPS** and an **accessory cable**. The steps to download data using **Topo!GPS** are:

1. **Install** the **Topo!GPS** software on to a Windows computer. Follow the instructions with the software. After installing it, open it, and click on **"Preferences"**, then **"Coordinate Display"** and select **"Degrees,Degrees"** and **"NAD27 Datum"**.
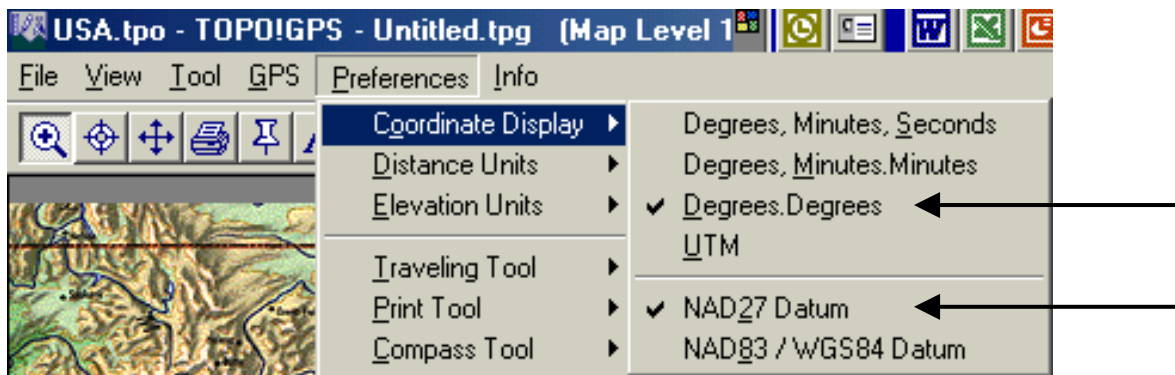
2. **Connect** the **accessory cable** to the back of the **SporTrak GPS** unit and to the **serial port** on the back of the computer. Make sure the **SporTrak** unit is **on**. If **Topo!GPS USA** is not already up and running on the computer, start it. When you start it, select **"USA.tpo"**, click on **"Open"**. If you receive a warning about a missing CD, press "**Cancel**" and then "**OK**" to continue.
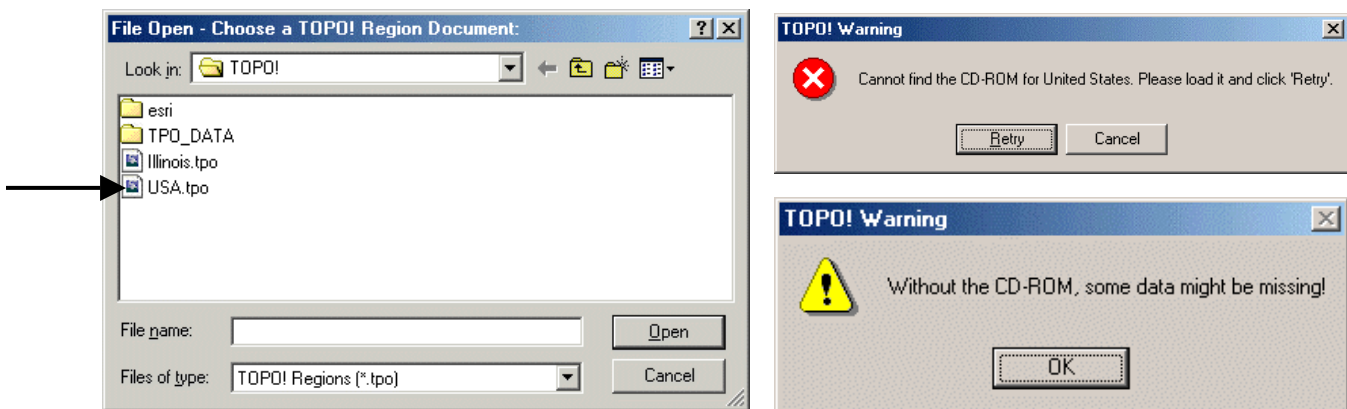
3. Across the top of **Topo!GPS USA** is a list of pull down menus. Select "**GPS**", and then select **"Change GPS Settings…"** It is good to check the settings!


4. Press "**Change GPS Settings**" and make sure "**Max # Characters for Waypoint Name**" is set to **10** and click "**Ok**". Verify that "**Magellan**" is the selected GPS unit type. Press **"Test GPS Connection**". If, after several moments, a message appears "No response....", make sure the GPS unit is on, etc. If this is successful, press "**OK**".
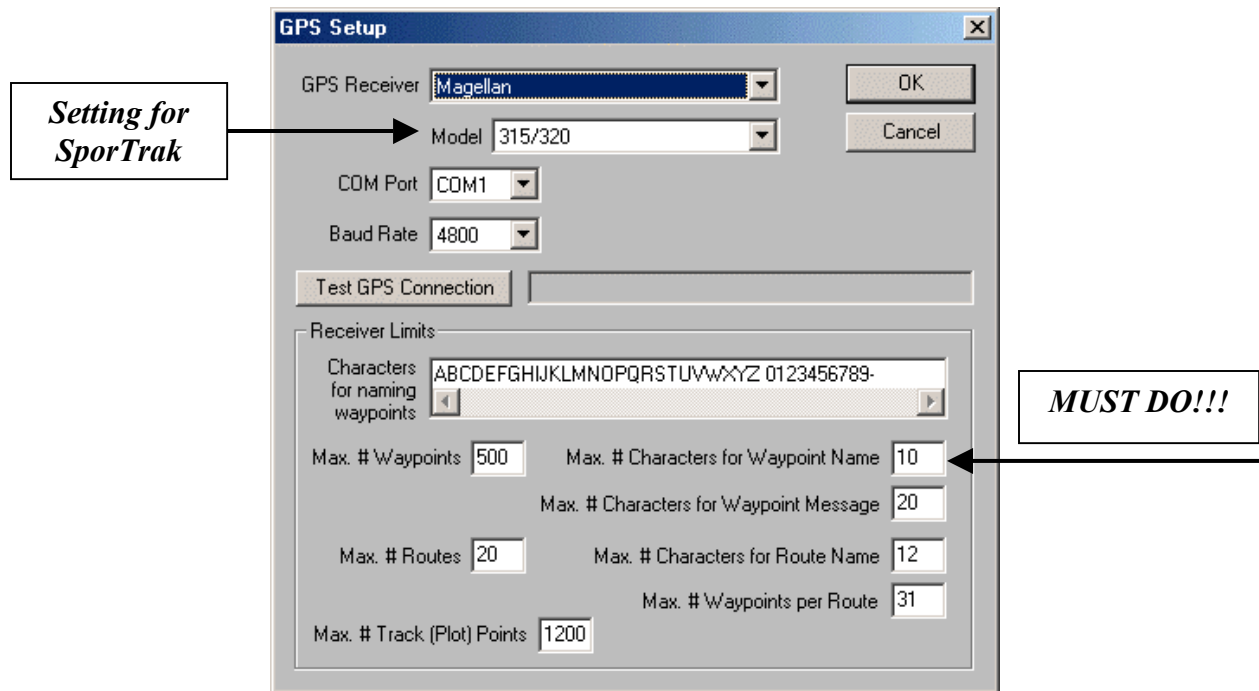

5. Import Data from the unit - The purpose of downloading landmark information is to be able to load this data into mapping packages for viewing as well as using it in other units for the class. To download, do the following:

   a. Across the top of **Topo!GPS USA** is a list of pull down menus. Select "**GPS**", and then select **"Import (from GPS or .txt.) Wizard"**
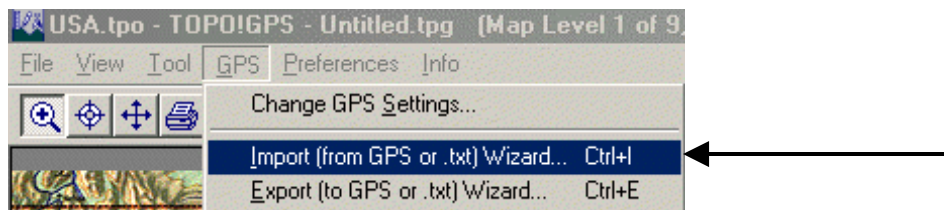
b. An **Import Wizard** panel should appear. Make sure that "**In a GPS receiver that is now connected to the PC "** is selected, and press "**Next**".
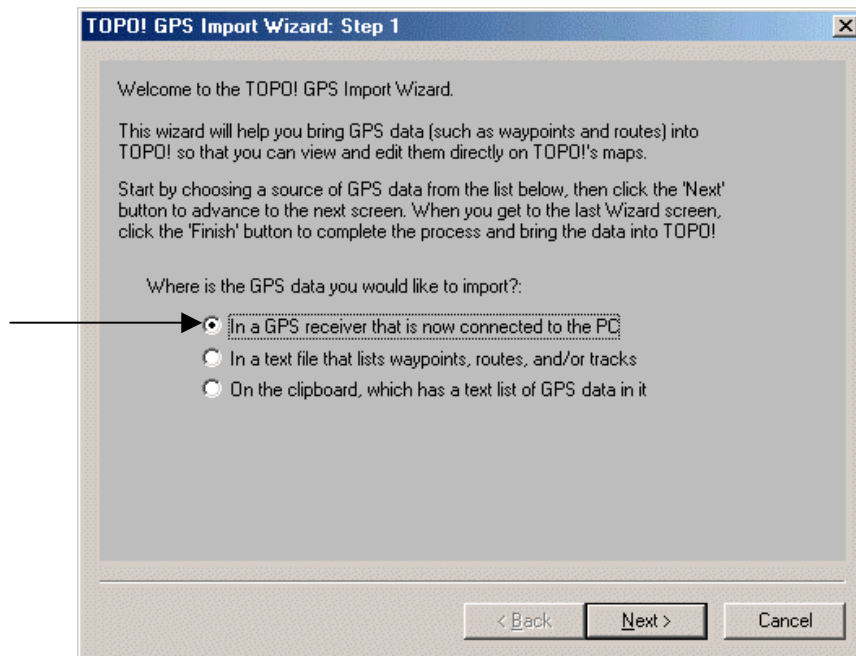
c. From the next panel, select "**Waypoints**". **Waypoints** are another term for landmarks**.** Make sure the **map datum** is **NAD27.** Be patient, a lot of landmarks may be downloaded. Press "**Finish**" when the window appears. The landmarks should finally appear as a list at the bottom.
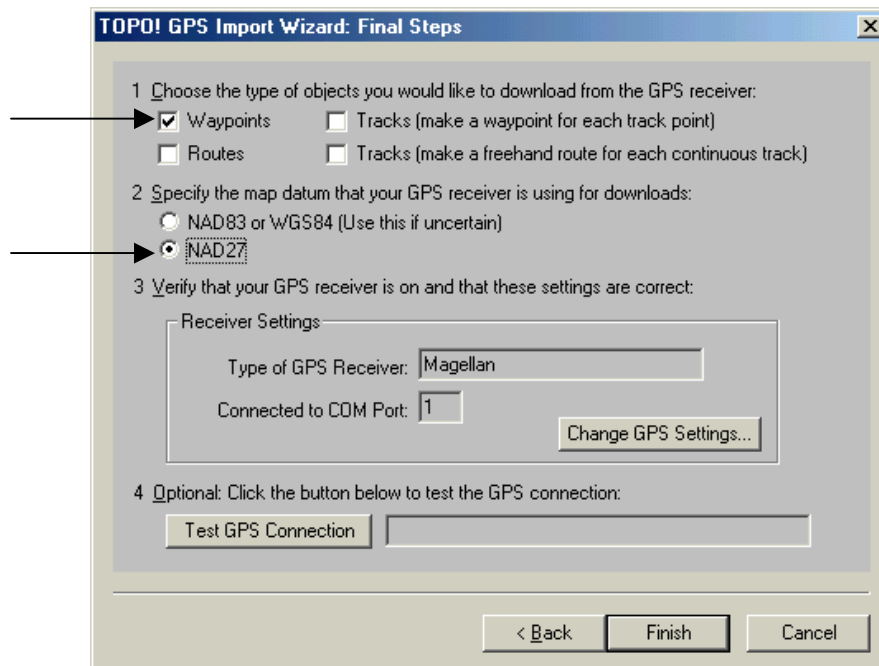
Example of a download for landmarks at the bottom of the program:

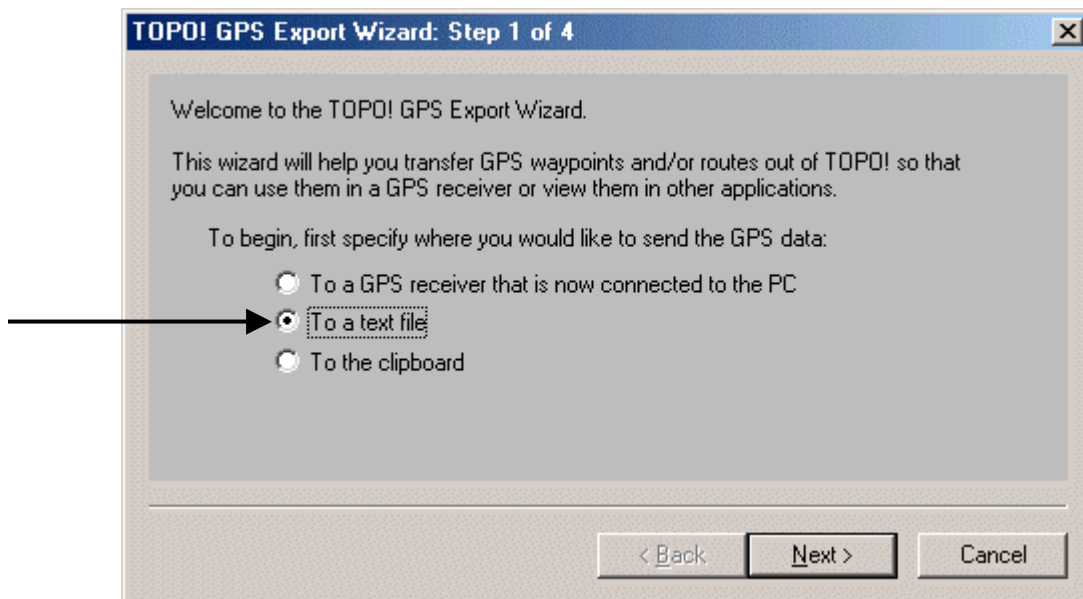| Name	Latitude	Longitude	Elevation	Local Date & Time	In Region
All Waypoints in File					
SANDEG	32.70912° N	117.23195° W	312 ft.	02/10/02 04:18:17 PM	Yes
EDHOME	41.74812° N	87.99535° W	735 ft.	02/10/02 04:18:17 PM	Yes
MCDON	41.75260° N	87.96452° W	748 ft.	02/10/02 04:18:17 PM	Yes
MOM	41.77162° N	87.89382° W	738 ft.	02/10/02 04:18:18 PM	Yes
65S	44.12485° N	90.52128° W	1083 ft.	02/10/02 04:18:18 PM	Yes
JEFFER	41.75482° N	88.04123° W	728 ft.	02/10/02 04:18:18 PM	Yes
GATEMA	41.71877° N	87.97837° W	699 ft.	02/10/02 04:18:18 PM	Yes
WARREN	44.12417° N	90.53133° W	689 ft.	02/10/02 04:18:18 PM	Yes
WLZ00	33.09525° N	116.99698° W	407 ft.	02/10/02 04:18:19 PM	Yes
EAGAN	44.85867° N	93.16640° W	892 ft.	02/10/02 04:18:19 PM	Yes
DELAWI	43.09983° N	88.67307° W	892 ft.	02/10/02 04:18:19 PM	Yes

6. **Export Data to a file -** to be used with an **Excel** spreadsheet or a text editor like **Notepad**.

   a. From the top of **Topo!GPS USA**, select "**GPS**", and then from this pull down menu, select "**Export (to GPS or .txt) Wizard**".
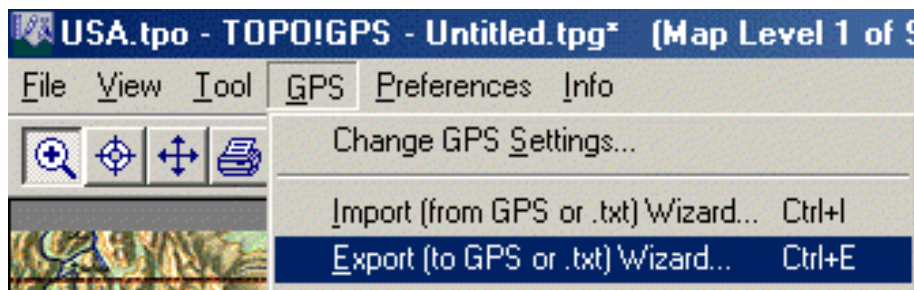
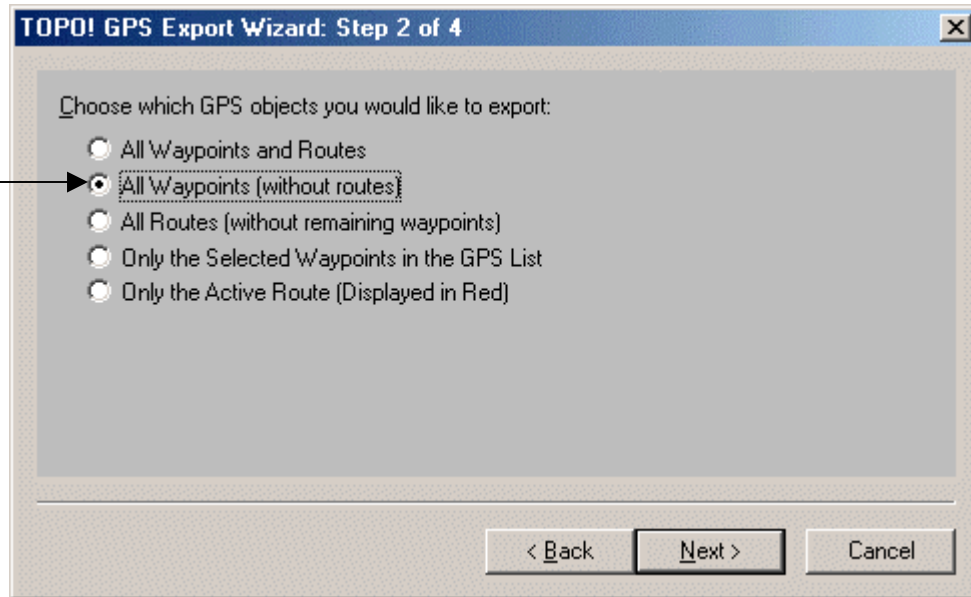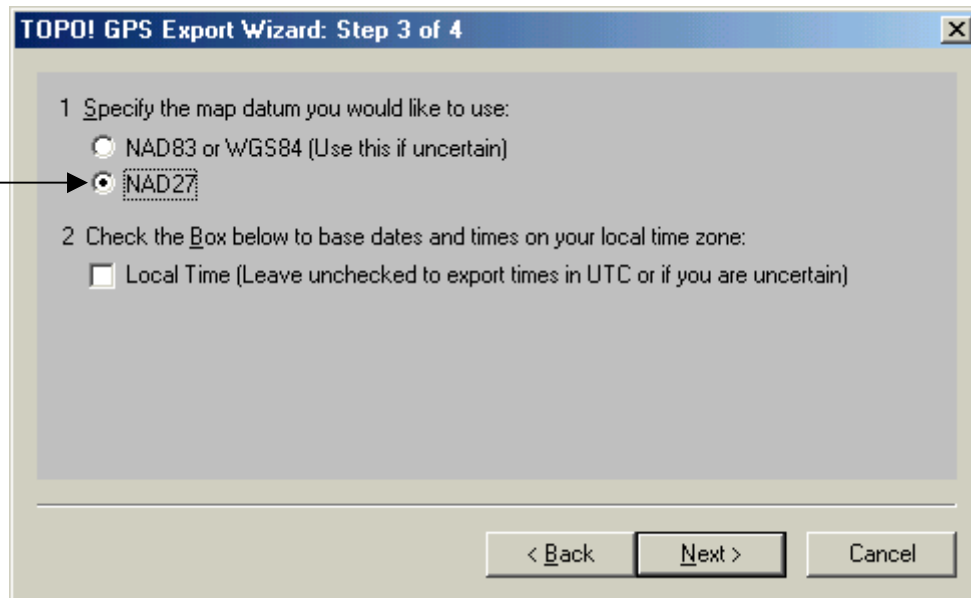   b. A **Wizard** panel should appear. Make sure that "**To a text file**" is selected and press "**Next**".

c. Make sure that "**All Waypoints without routes**." is selected and press "**Next**".

d. Make sure that "**NAD27**" is selected and press "**Next**".

e. Make sure "**Comma Delimited Text**" is selected and press "**Finish**".
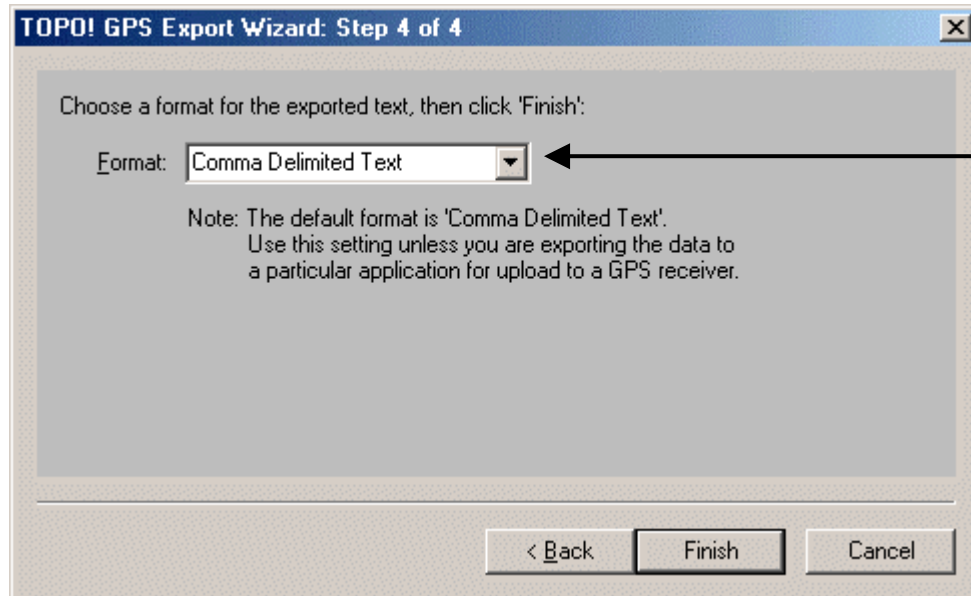
f. You will then be **prompted** for a directory and file name. Select a name for the landmarks. You can "**Save**" it to your **Desktop** or **Project** folder. It is suggested to place it in your **Project** folder in case you need to work with it again.
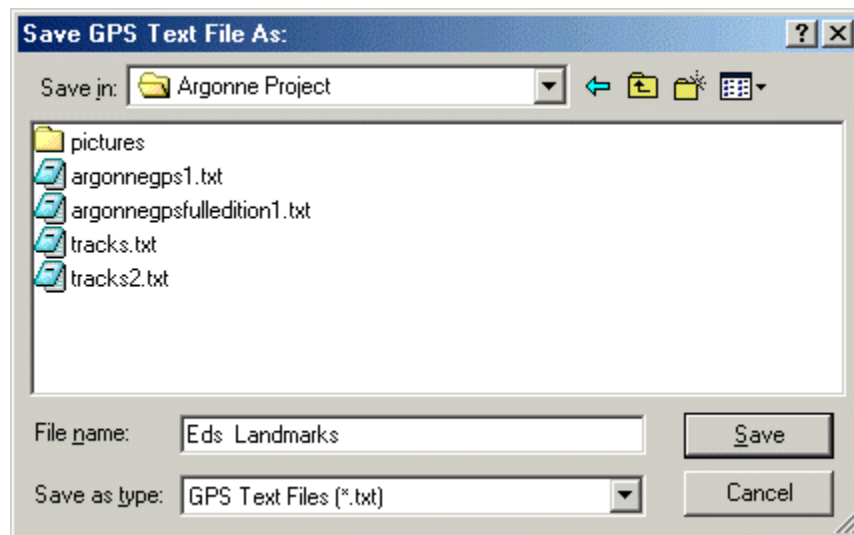
You just downloaded the landmarks from the GPS unit to your computer. You now need to prepare it in EXCEL next.

Setting Up GPS Landmark Data in an Excel Spreadsheet

Landmark information created by the **SporTrak GPS** unit can be loaded into **HAARGIS** or **ArcVoyager**, where it can be added as a layer of information with other mapping data. The steps are as follows:
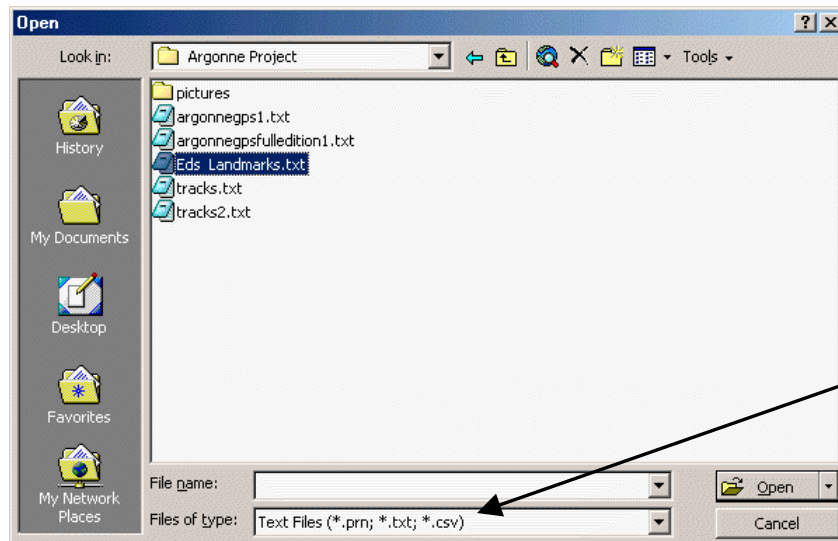
a.   The first step is to turn the landmark data downloaded off the GPS unit into a format that can be read.

b.   **Open** the landmark data file into a spreadsheet such as **Excel**. Go to "**File**", "**Open**" and change "**Files of type:**" to "**Text Files**" and locate the file you downloaded from the GPS unit and click on "**Open**".

c.   A "**Text Import Wizard**" will open with the data from your table. Select "**Delimited**" and change "**Start Import at row**" to "**2**" and click on "**Next**".
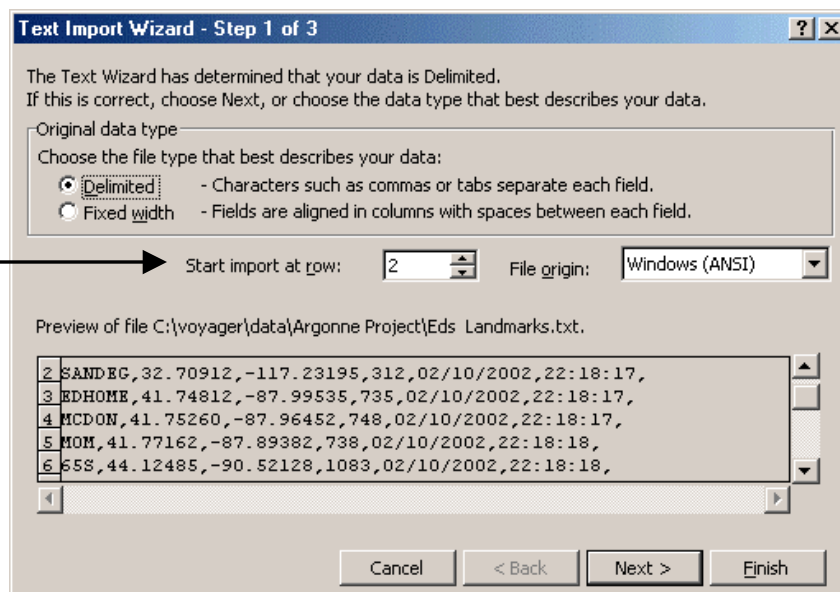
d.   In the next panel, change "**Delimiters**" to "**comma**" **ONLY** (**uncheck Tab**) and click on "**Next**". Your panel should look like:
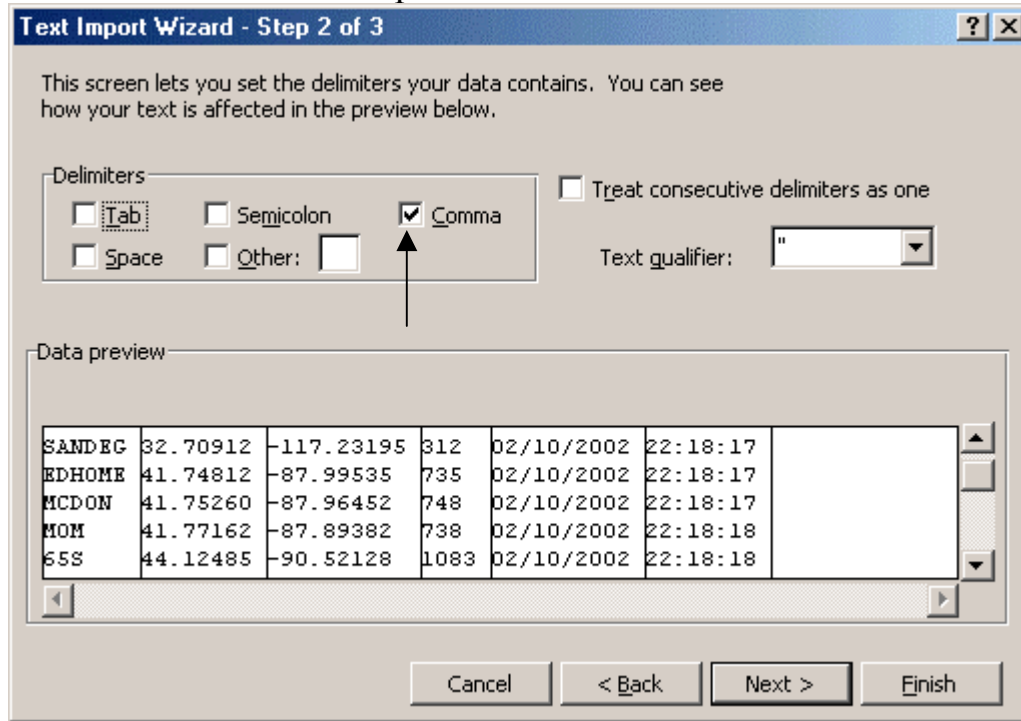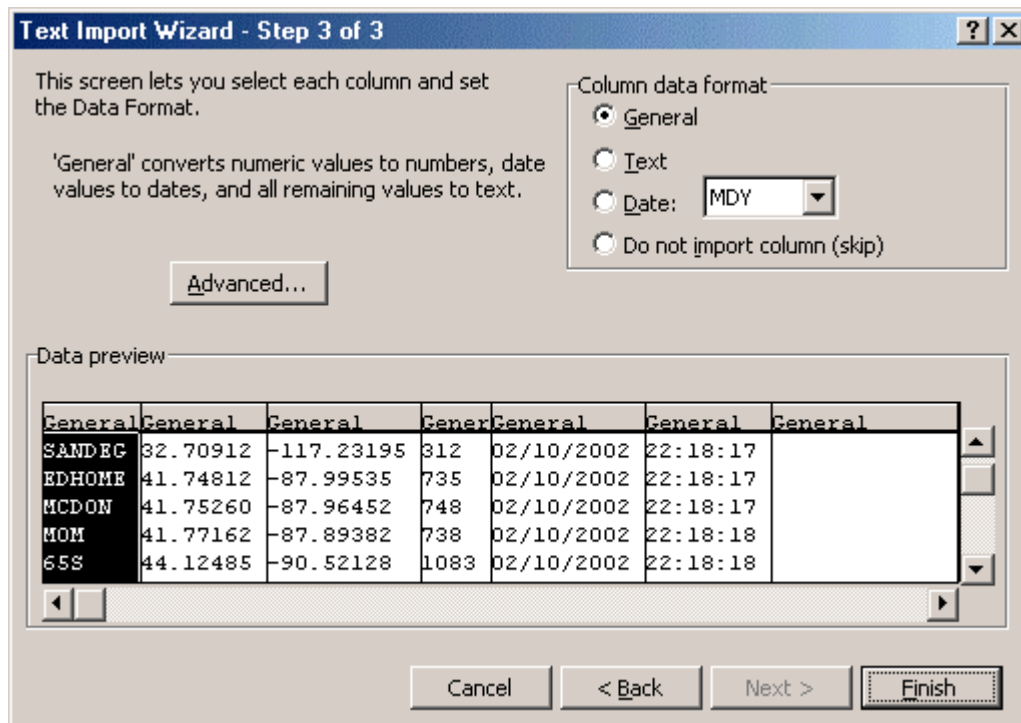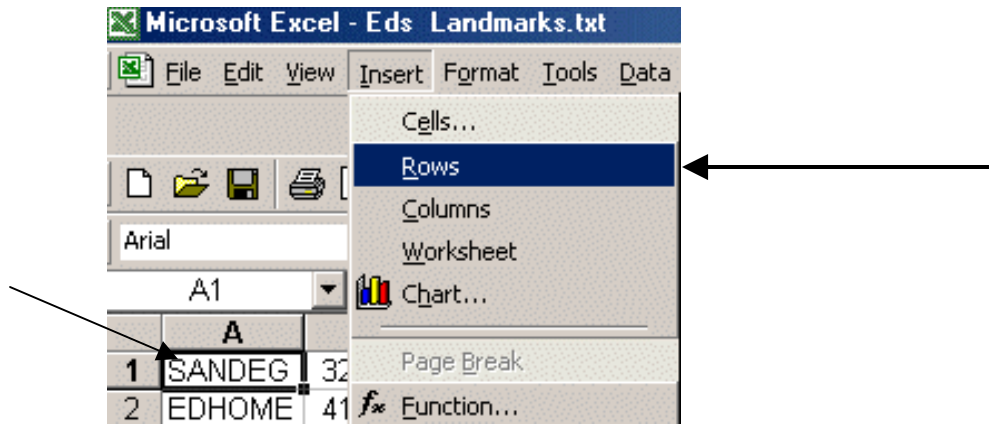

e.   If it looks correct, click on "**Finish**". The new table will appear in your spreadsheet.

f.   Now you need to insert a row at the top of the table. Click on cell **"A1"**, **"Insert"** and select **"Rows"**.

g.   An empty row will appear at the top. Now label the cells. If you downloaded the data from a **Magellan SporTrak**, the cells should be labeled in this order across the table: **Name, Latitude, Longitude, Elevation, Date, Time** if you want to add another column(s) for comments, you can at this point. You can also add additional columns with other data as well. ***Just remember to label the columns.***

	A	B	C	D	E	F	G	H
1	Name	Latitude	Longitude	Elevation	Date	Time	Link	Comment
2	SANDEG	32.70912	-117.232	312	2/10/2002	22:18:17		
3	EDHOME	41.74812	-87.9954	735	2/10/2002	22:18:17		
4	MCDON	41.7526	-87.9645	748	2/10/2002	22:18:17		
5	MOM	41.77162	-87.8938	738	2/10/2002	22:18:18		
6	65S	44.12485	-90.5213	1083	2/10/2002	22:18:18		
7	JEFFER	41.75482	-88.0412	728	2/10/2002	22:18:18		
8	GATEMA	41.71877	-87.9784	699	2/10/2002	22:18:18		
9	WARREN	44.12417	-90.5313	689	2/10/2002	22:18:18		
10	WLZ00	33.09525	-116.997	407	2/10/2002	22:18:19		
11	EAGAN	44.85867	-93.1664	892	2/10/2002	22:18:19		
12	DELAWI	43.09983	-88.6731	892	2/10/2002	22:18:19		
13								

At this point, you can easily change the names of the landmarks to what you want. In doing this in the first column, the names you change will show up as labels on the maps if you use the label option. If you noticed, I changed the names from Landmark numbers to actual names.

h.	Save the resulting spreadsheet as a **tab delimited text file**. Go to "**File**", "**Save as**" and select "**Text (TAB Delimited).txt**" and give it a DIFFERENT name. I suggest adding **EXCEL** in the name. This will help to identify the right file to use in **HAARGIS** or **ArcVoyager**.
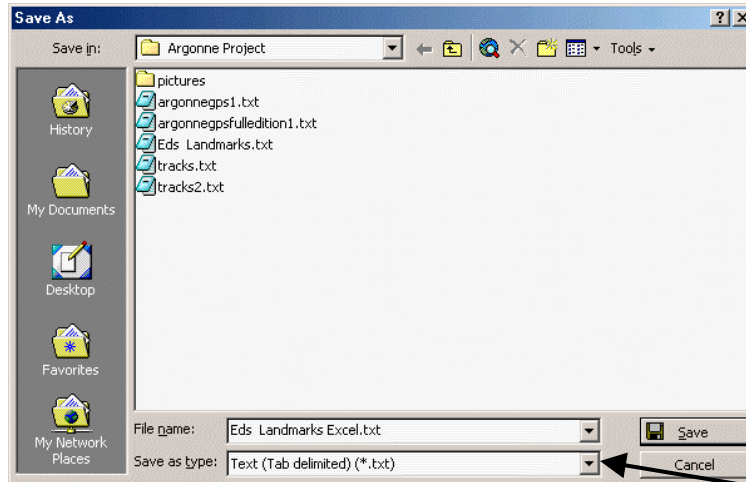
i.	When you click on "**Save**", a warning window **may** pop up.
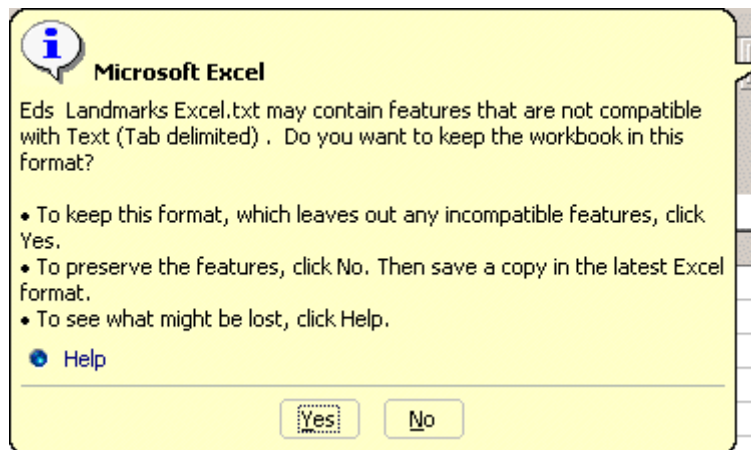
j.	Click on "**Yes**" and you can close Excel at this point if you want to.

This message is from Office 2000, different versions may have different messages when you save the file!

How To Reopen a File For Corrections & Modifications

To **"Re-open"** the text file you created for your **"Landmarks"**, you must do the following.

1.   Open **"Excel"** and from **"File"** select **"Open"** and change the **"Files of type:"** to **"Text Files (*.prn; *.txt; *.csv)"**. Now go to your **"Project"** folder and select the text file that has your **"Landmarks"** in it. Select it and click on **"Open".**
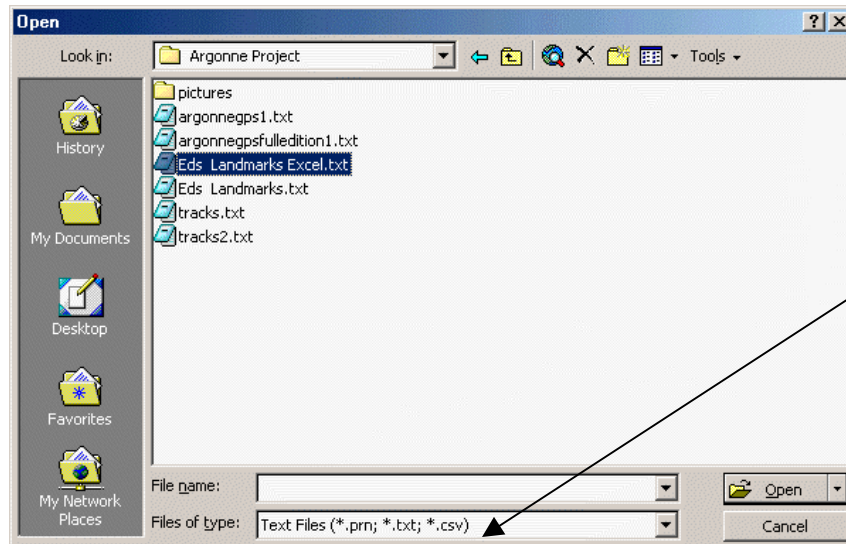
2.   When you open the file, you will get the following screen.
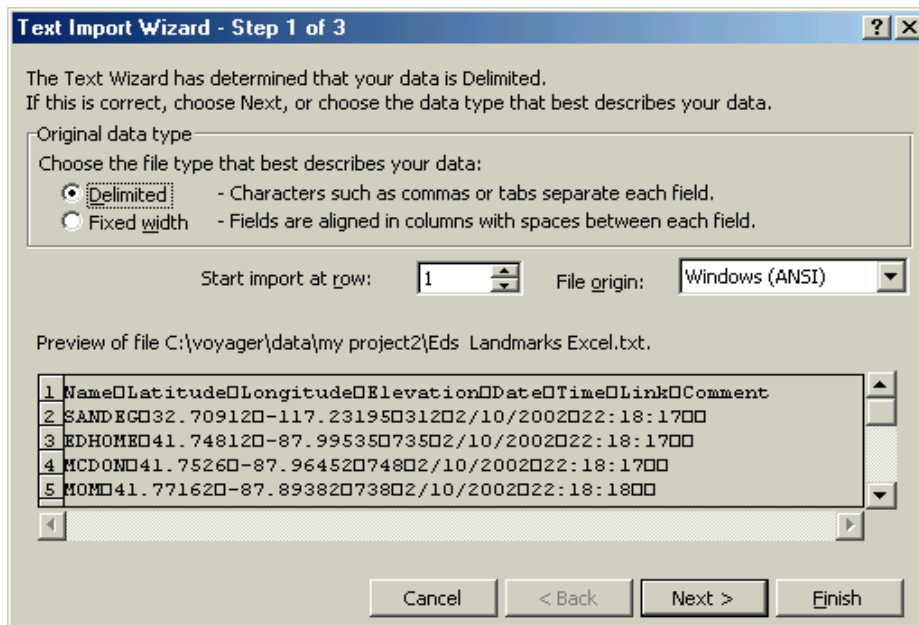
3.   Click on **"Next".**

4. You will get the following screen. Make sure **"Tab"** is checked and click on **"Next"**.
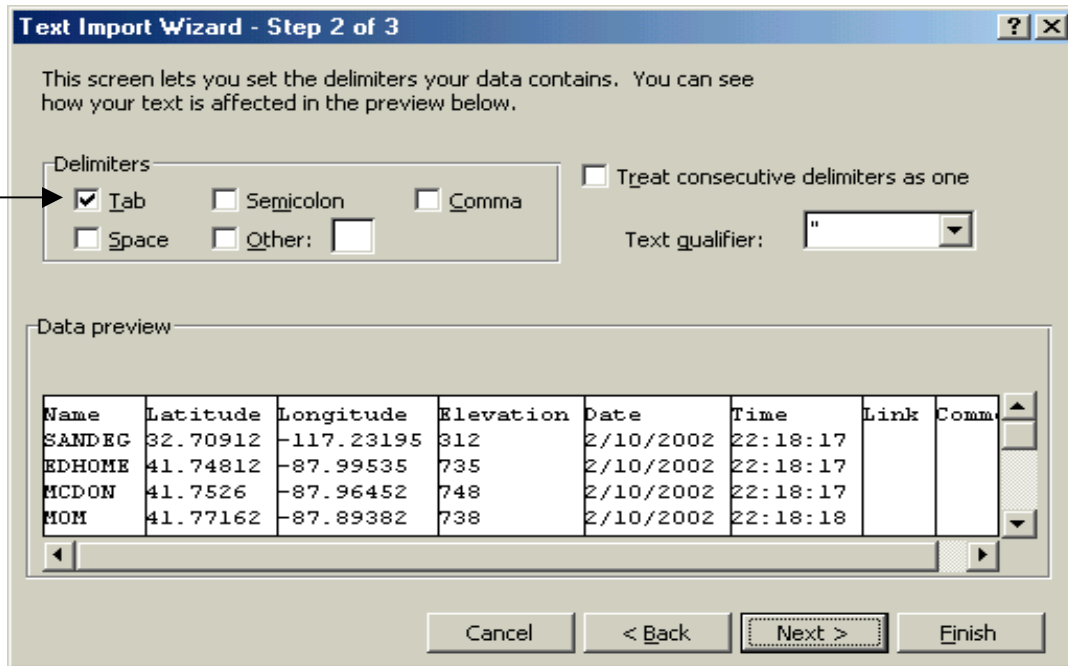
5. The next screen will appear, if everything looks ok, click on "**Finish**
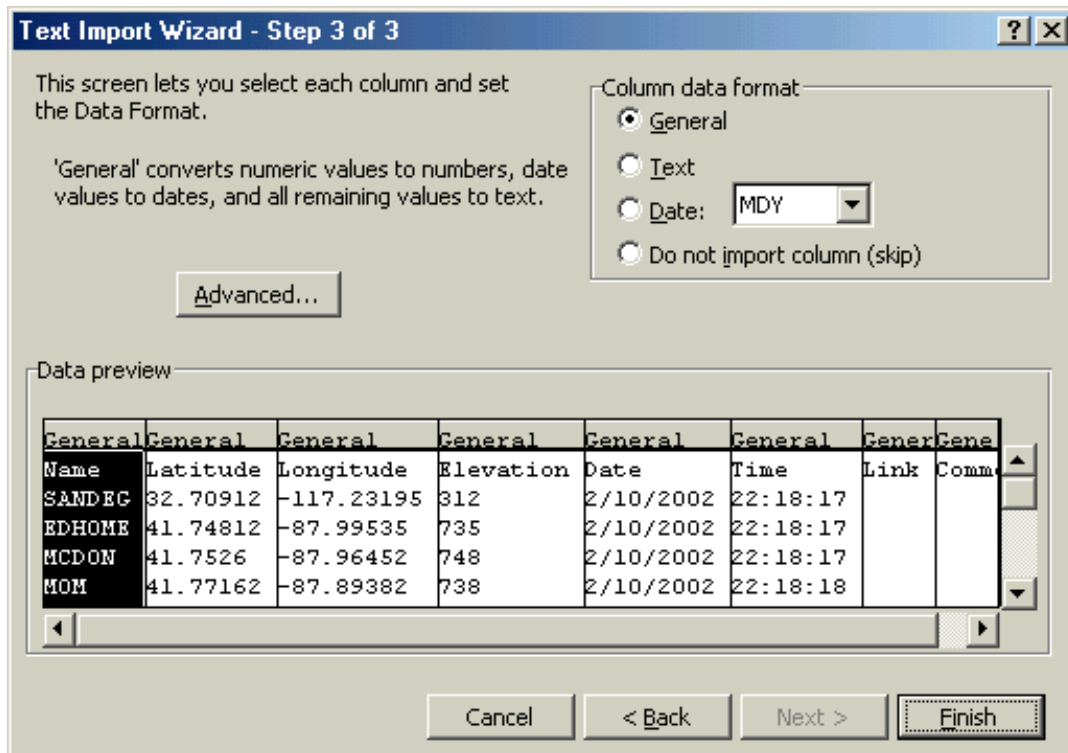
6. The program will reopen in **Excel**.

	A	B	C	D	E	F	G	H
1	Name	Latitude	Longitude	Elevation	Date	Time	Link	Comment
2	SANDEG	32.70912	-117.232	312	2/10/2002	22:18:17		
3	EDHOME	41.74812	-87.9954	735	2/10/2002	22:18:17		
4	MCDON	41.7526	-87.9645	748	2/10/2002	22:18:17		
5	MOM	41.77162	-87.8938	738	2/10/2002	22:18:18		
6	65S	44.12485	-90.5213	1083	2/10/2002	22:18:18		
7	JEFFER	41.75482	-88.0412	728	2/10/2002	22:18:18		
8	GATEMA	41.71877	-87.9784	699	2/10/2002	22:18:18		
9	WARREN	44.12417	-90.5313	689	2/10/2002	22:18:18		
10	WLZ00	33.09525	-116.997	407	2/10/2002	22:18:19		
11	EAGAN	44.85867	-93.1664	892	2/10/2002	22:18:19		
12	DELAWI	43.09983	-88.6731	892	2/10/2002	22:18:19		
13								

Now you can re-edit, add more information as well as the picture file names. Just **"Save"** the file to the **same file** and you are all set. When you hit **"Save"**, you **may** get this screen. Click on **"Yes"** and you file is saved.

> ⚠ **Microsoft Excel**
>
> The file Eds Landmarks Excel.txt already exists. Do you want to replace the existing file?
>
> [Yes]   [No]

When you click on "**Yes**", you **might** get the following screen.

> ℹ **Microsoft Excel**
>
> Eds Landmarks Excel.txt may contain features that are not compatible with Text (Tab delimited) . Do you want to keep the workbook in this format?
>
> • To keep this format, which leaves out any incompatible features, click Yes.
> • To preserve the features, click No. Then save a copy in the latest Excel format.
> • To see what might be lost, click Help.
>
> ● Help
>
> [Yes]   [No]

Click on "Yes" and you can now close Excel as well.

This message is from Office 2000,
different versions may have different messages when you save the file!

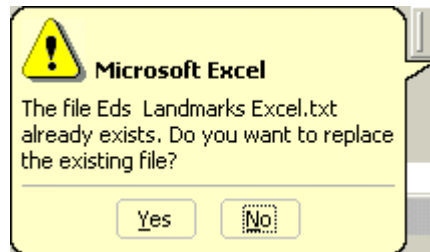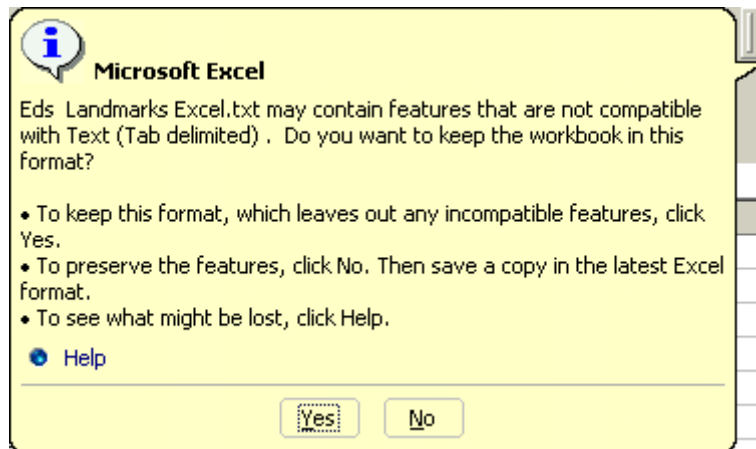## *To Set Up Data Using a Text Editor like Notepad*
This section is ONLY for those who DON'T have a Spreadsheet Program

1. The **first step** is to turn the landmark data downloaded off the GPS unit into a format that can be read. The only thing that needs to be done is:
    a. **Change the one line header information** that identifies what each column of information in the file is.
2. **Open** the downloaded data file into **Notepad** and print it out for reference.
3. If you downloaded the landmarks/tracks from a **Magellan SporTrak** unit, the data is in the following form in the file:
    site,latitude,longitude,elevation,date,time
4. You need to put the data in the proper form. You **MUST HAVE** the first three columns. You can either edit the file OR you can create a new text file to use with **HAARGIS** or **ArcVoyager**. For this example, I am going to create a new file from the data. The data I downloaded from the GPS unit is below in the original form.

    > TOPO! GPS Data Format Deg NAD83 ElevFeet UTC-Time
    > SANDEG,32.70912,-117.23195,312,11/24/2001,12:52:46,
    > EDHOME,41.74812,-87.99535,735,11/24/2001,12:52:46,
    > MCDON,41.75260,-87.96452,748,11/24/2001,12:52:46,
    > GATEMA,41.71877,-87.97837,699,11/24/2001,12:52:47,
    > WARREN,44.12417,-90.53133,689,11/24/2001,12:52:47,
    > ***(site,latdecimal,longdecimal,elevation,date,time)***
    > ***is the ORDER for the data from the unit.***

5. You must change the first **row** for the file to work. In the **new** file, *type:*
    SITE,LATITUDE,LONGITUDE,ELEV,DATE,TIME,COMMENT
    (Notice, NO spaces between columns and commas are used between the columns).

7. If you want to, enter the elevation, time, date and some comment if you want.

    > SITE,LATDEC,LONGDEC,ELEV,DATE,TIME,COMMENT
    > EDHOME,41.7481,-87.9953,735,03/06/2001,01:24:35,Ed's House
    > MCDON,41.7526,-87.9645,748,03/06/2001,01:24:35,McDonalds
    > LITCH,39.1812,-89.6752,807,03/06/2001,01:24:36,Litchfield Ill
    > JEFFER,41.7548,-88.0412,728,03/06/2001,01:24:36,Jefferson Junior High
    > GATE,41.7188,-87.9784,699,03/06/2001,01:24:36,Argonne's Gate

7. **Save** the resulting text file in a folder and name you can recognize.

My Notes for Importing Data from the Magellan SporTrak

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