Exercise 2.2
Time in GIS

Background:

In this exercise, you will visualize the Atlantic hurricane Alberto's pathway.

Step 1: Download data

1. Download the exercise data (lab2.2) from here: http://mapsdev.lib.purdue.edu/neh1/data
2. Extract the zip file and save them on your local computer.
   (extracting zip file: right click on the downloaded zip file, then click "extract all". Save all the file to your local computer. Recommend you save to C:\temp\lab22, or save to your thumb drive.)

Step 2: Preparing the map

1. Find the folder where you saved your files, double click on "hurricanes2000" mxd file to open it in ArcMap.
1. Add hurricane Alberto layer: Click "Add Layer" button, browse to your downloaded data, find the folder "simple". (If you cannot find the folder, it means that you have to "connect" your folder for ArcMap. To connect your folder, in the "Add Data" dialog, click the "Connect to folder" button ( ), browse to the folder you want to connect, and click "OK".) In this folder, there is a geodatabase called "Hurricanes". Double click on this geodatabase, there is a layer called "atlantic_hurricane". Add this layer to the map.

Add data button

Step 3: Checking into time field

1. Right click on the "atlantic_hurricane" layer, and click "Open the attribute table" to bring up the attribute table of your hurricane layer. Notice that there are fields of "Year", "Month", "Date", and "TIME" as text field type.
   There is also a field "DateTimeT" as a text format time field which combines all the year, month, date, and time information. Another field is called "DateTimeD" which is in "date" format. This is

the field we will use for this time animation exercise.
2. Observe how often this data is collected (time interval). (answer: 6hrs)

Step 4: Enabling Time Layer

1. Right click on your "atlantic_hurricane" layer in Table of content. Bring up the "properties" dialog box, and click on "Time" tab.
2. Check "Enable time on this layer".
3. Click the calculate button to calculate layer time extent.
4. Define the "Time Step Interval" as the interval you observed in Step 3.2.
5. Keep everything else as the default, and click "OK".

Step 5: Using Time Slider

1. Bring up your time slider by clicking on

2. In the time slider, click on the first button to enable time on map.
3. Click on the play button to check how your current time animation looks like on the map.
4. To adjust the visual effect, bring up the "option" dialog box by clicking on the second button in time slider.
5. In the first tab "Time Display", make sure that the time step interval is as defined in your step 4.
6. Enable "show time on map display". Adjust the appearance as you like.
7. You can check other tabs as you like. In this exercise, you will use the default value.
8. Click on the play button to check your animation. Due to the computer performance, this process might not be smooth. But after you export it into a video file, it should look much better.

Step 6: Export video

1. Click the third button on time slider to export video.
2. Save it as an avi file.
3. It might take a while to generate the video. Play the video to observe your time animation.