Principles of Climatology (GEOG 31064)
Dr. Scott Sheridan

Lab 4 "Recent climate trends"

Tuesday, March 25, 2008
Due in class Tuesday, April 1, 2008

1. Temperature trends since 1976

Go to the website: http://www.cpc.ncep.noaa.gov/charts.shtml

Look at 5 maps, four for the seasons (Dec-Jan-Feb is "winter", and so on), and annual. Answer the following questions:

- What times of year have changes in temperature and precipitation been the greatest? The least?
- Where are they greatest? Where are they the least?
- Which is more spatially cohesive, temperature or precipitation? Why?

Also comment on why the trend maps begin in the year 1976 – you may need to look around on the internet to find this out.

2. Trend analysis of data

Go to the website: http://www.ncdc.noaa.gov/oa/climate/research/cag3/state.html

You can click on a state either in the image or in the list below to go to a state page.

First I'd like you to look at four different states: **North Dakota**, **Arizona**, **Florida**, and **Ohio**. For each of these states, look at the **mean temperature** and **precipitation** graphs for the whole period of record for 1895-2008. Look at **winter**, **summer**, and **annual**. Discuss the overall trends in each of these graphs. In the temperature record, do you see the three-part division of the 20th century the way we see in the global record?
(Note, to keep track of maps, you'll need to look at 4 states x 2 parameters x 3 seasons = 24. You can print these out if you want, but I'd recommend cutting and pasting into a Word file to make things easier and save ink.)

Next, focus in on Ohio's temperatures in winter. Note the temperature trend (in degrees per decade) observed when the entire period of record (1895-2008) is included. Now change the "First year to display" to 1976 (to correspond with part 1), and note the change in trend. Next, change the first year to 1980, and note the change in trend. Comment on the differences observed in the trend values based on the start dates. Discuss the implications the choice of a 'start date' has when considering Ohio's warming trend.