Dr. Glenn Juday has done considerable research at the University of Alaska Fairbank to learn how climate affects tree ring growth. He has been studying white spruce trees near the Tanana River basin for many years. Some of the trees he studies date back to the 1930's.

Your task is to take the data from 1950 through 1994 in the attached spreadsheet (http://vathena.arc.nasa.gov/curric/land/global/trdata.xls) and perform the following steps:

Using Excel:

   Use Excel's average function to complete cells G4 through G48 with the average ring growth for Trees 1, 2, 3, 4, and 5 for each year.

   Create a scatter chart that demonstrates the effect temperature has on the average tree ring growth. Add a trend line to the scatter chart. Display the trend line equation and R2 value. Include a title, labeled axis, and a legend.

   Create a second scatter chart that demonstrates the effect precipitation has on the average tree ring growth. Add a trend line to the scatter chart. Display the trend line equation and R2 value. Include a title, labeled axis, and a legend.

   Insert a new row for year 2006. If predictions are that precipitation will be 23.45 centimeters for 2006 (completely made up), use Excel's forecast function to show what the average tree ring growth could be expected for the year.

Using your favorite Internet search tool, research the NOAA website to find the article from where the attached spreadsheet was downloaded from.

Using Word give short answers to the following questions; as always good spelling and complete sentences are important:

1. List the URL of the website along with title of the article.

2. Other than age what other information can be derived from growth patterns.

3. Of the two factors of climate; temperature and precipitation, explain which has the greater correlation to tree ring growth?

4. What is the definition of Dendroclimatology?