Homework 8 (Mini Project 3) Due May 23rd

In this homework you will select three snow-fed river basins on the windward side of the Sierras or Cascades . You have flexibility in what you choose (suggestions are: American River, Feather River and Chehalis River). For each basin you select, make sure you have stream flow data from a USGS gauging station somewhere downstream.
Next, one specific recent year (during 2002-present) and the period spanning October to May.

Next, you access the meteorology portal from the GIOVANNI website and extract MERRA snow depth data for the three river basins for the period specified.
Next, for USGS stream flow data, access the waterdata site - http://waterdata.usgs.gov/usa/nwis/rt (note: you don't have to use this site if you already have the flow data you need). The site needs a little playing about, but you can identify stream gauges downstream for your river basins and extract the flow data.

Your Homework should address the following:
A) Now plot the stream flow and snow depth data on the same axes for each basin.
B) What is the average time lag between snow fall and (rise in) stream flow?
C) Do all basins respond in similar fashion? If not, why?
D) Finally, how would you use the monitoring of snow depth during winter to forecast a) water supply b) spring flooding (e.g. rain on snow) c) hydropower generation? [in 500 words or less]