Space Weather Forecasting I

A. You’re Bart the meteorologist – with not much data to work with!

1. Based on the sunshine and precipitation graphs for Memphis, TN, make a prediction of tomorrow’s (July 18, 2007) weather. Only make predictions about conditions for which you have data.

B. You’re Lisa the space weather forecaster – with not much data to work with!

1. Based on the graph for the current solar cycle, (Cycle 23), make the following predictions for today;
   i. Will there be visible sunspots on the sun’s earthside surface? Explain your reasoning.
   ii. Based on this limited data, would you predict a high probability for a solar flare? A CME? Explain your prediction.
C. You’re BART the meteorologist – with the benefit of more data. You have a satellite (GOES) image of the US. This image is an actual photograph of cloud cover.

1. Based on this image, make a prediction of today’s (July 18, 2007) weather for Nashville TN. Only make predictions about conditions for which you have data.

D. You’re LISA the space weather forecaster – with the benefit of more data. The SOHO satellite provides pictures of the surface of the sun.

1. Based on the July 10 and July 12, 2007 solar images (from SOHO),
   i. Does this appear to be an active solar period? Why?
   
   ii. Where would you expect the sun spot to be on July 14?

   iii. When would this sun spot be of more concern for space weather affecting our planet, on July 12 or July 14? Explain.