LAB ASSIGNMENT #3

Due: Thursday, September 21
10 points

Learning Objectives:
Upon completion of this lab you will be able to:

- search for and acquire model/surface data using the WEATHER program.
- effectively decode METAR reports.
- assimilate model/surface data in order to prepare and defend a forecast.

1. On the base map provided, create a map of "current" surface observations for the following stations: Miami, FL; Los Angeles, CA; Billings, MT; Norfolk, VA; Madison, WI; St. Louis, MO; Atlanta, GA; and Flagstaff, AZ.

    - First, you will need to find the three letter identifier for each station.
    - Then, find the surface observations for each station at the *same hourly observation time*, feel free to choose any date and time as long as all of the observations you record are from the same hourly observation time.
    - Plot the (1) sky cover, (2) temperature (in Fahrenheit to the nearest degree), (3) dew point temperature (in Fahrenheit to the nearest degree), (4) sea level pressure (using the three digit shorthand), (5) visibility, (6) current weather, and (7) the surface wind (speed and direction) on the station model.
    - Also, record whichever time you choose somewhere on the map.
    - Please attach a document that includes a copy of the METAR reports you used.

    Note: For the temperature and dew point temperature, use the *most precise value* available in the METAR

2. Using the forecast preparation sheets provided, prepare a one day forecast for two cities: Madison, WI and Albany, NY. Prepare the forecast as if it were for the forecasting contest. Forecast the high temperature, low temperature, maximum wind speed, and precipitation amount for the 0600 UTC – 0600 UTC period (1:00 am to 1:00 am Central/2:00a to 2:00a Eastern). You may forecast for any day between 0600 UTC Wednesday, 14 Sept. and 0600 UTC Monday, 19 Sept.

For each forecast, please include a brief description justifying your forecast. This discussion should be centered on the pertinent weather systems that are affecting the forecast city during the time frame you are considering. For example, is a surface cyclone expected to develop? Is it associated with precipitation? Etc.) Once your forecast day has passed, record the actual forecast verification for that day and a brief discussion on the quality of your forecast. (What went well? What went wrong? What should you change for next time? How did you use the model data? Did you consider multiple models? Etc…)

*Keep in mind that map/forecast discussions in class begin **Tuesday, 20 September** and WxChallenge begins a week later on **Monday, 26 September**. The written discussions and process you employ on this assignment will aid you in how to go about preparing these later discussions and forecasts.*

Forecast Preparation Worksheet – AOS 452

Forecast City: **Madison, WI**

Day for which forecast is valid:

Forecast Discussion:

Forecast

High: _____ Low: _____ Max Wind: _____ Precipitation: _____

Verification

High: _____ Low: _____ Max Wind: _____ Precipitation: _____

Use the space below to comment on the quality of your forecast:

Forecast Preparation Worksheet – AOS 452

Forecast City: **Albany, NY**

Day for which forecast is valid:

Forecast Discussion:

Forecast

High: _____ Low: _____ Max Wind: _____ Precipitation: _____

Verification

High: _____ Low: _____ Max Wind: _____ Precipitation: _____

Use the space below to comment on the quality of your forecast: