

PS:Earth Science

Great Lakes Storms

Name _____

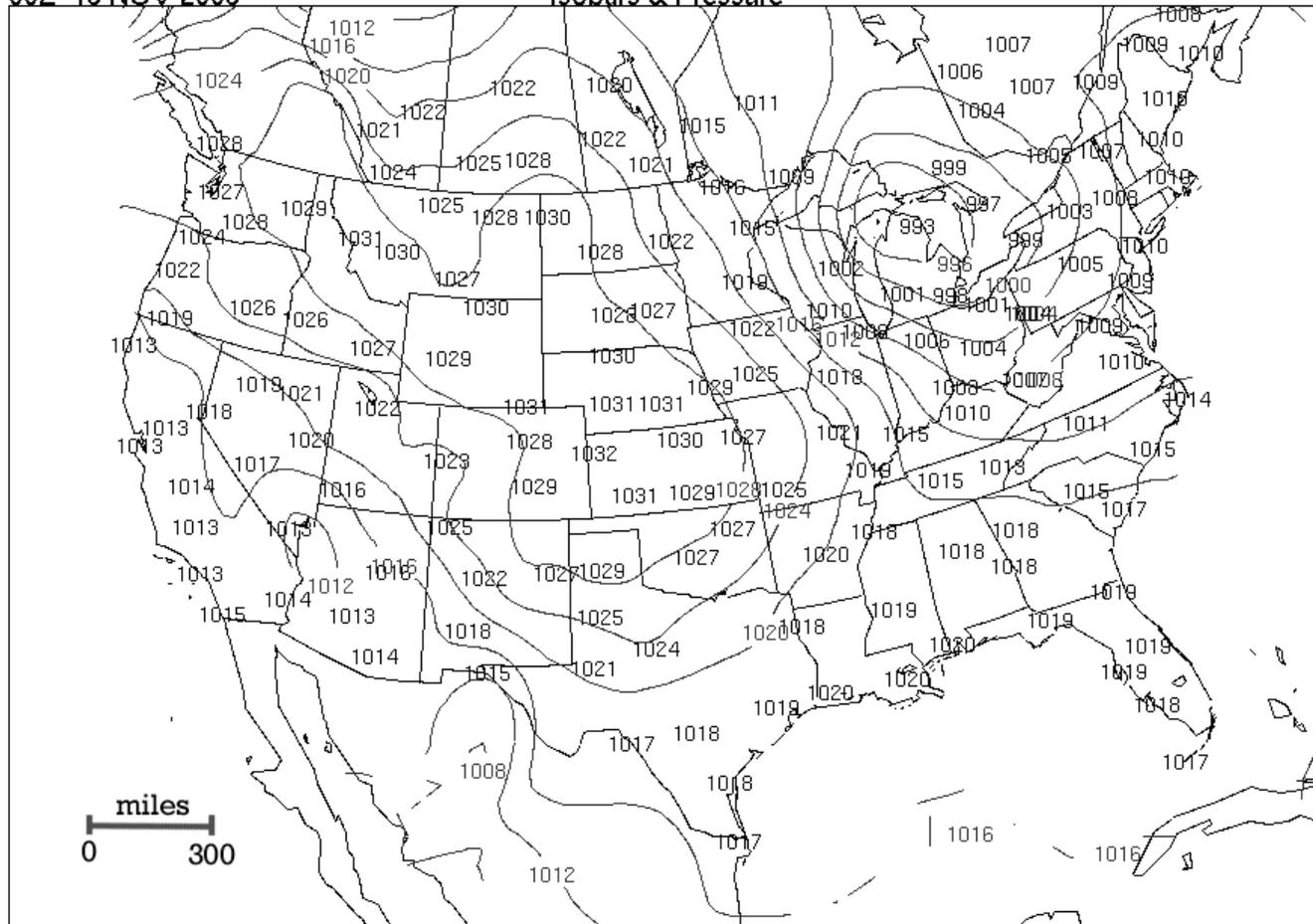
Period _____

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On November 10, 1975, a deep and tight low pressure system moved across the Great Lakes. The wind and resulting high waves contributed to one of the worst shipping disasters in the history of the Great Lakes, the sinking of the Edmund Fitzgerald. A similar (though not as strong) storm moved across the Great Lakes on November 12, 2003, and affected New York's weather the following night.

00Z 13 NOV 2003

Isobars & Pressure



Recall that we are about 75 degrees west of the Prime Meridian, and so our clocks are set 5 hours earlier than Zulu (Z) time. Convert the time and date of the map above to Eastern Standard Time (EST)

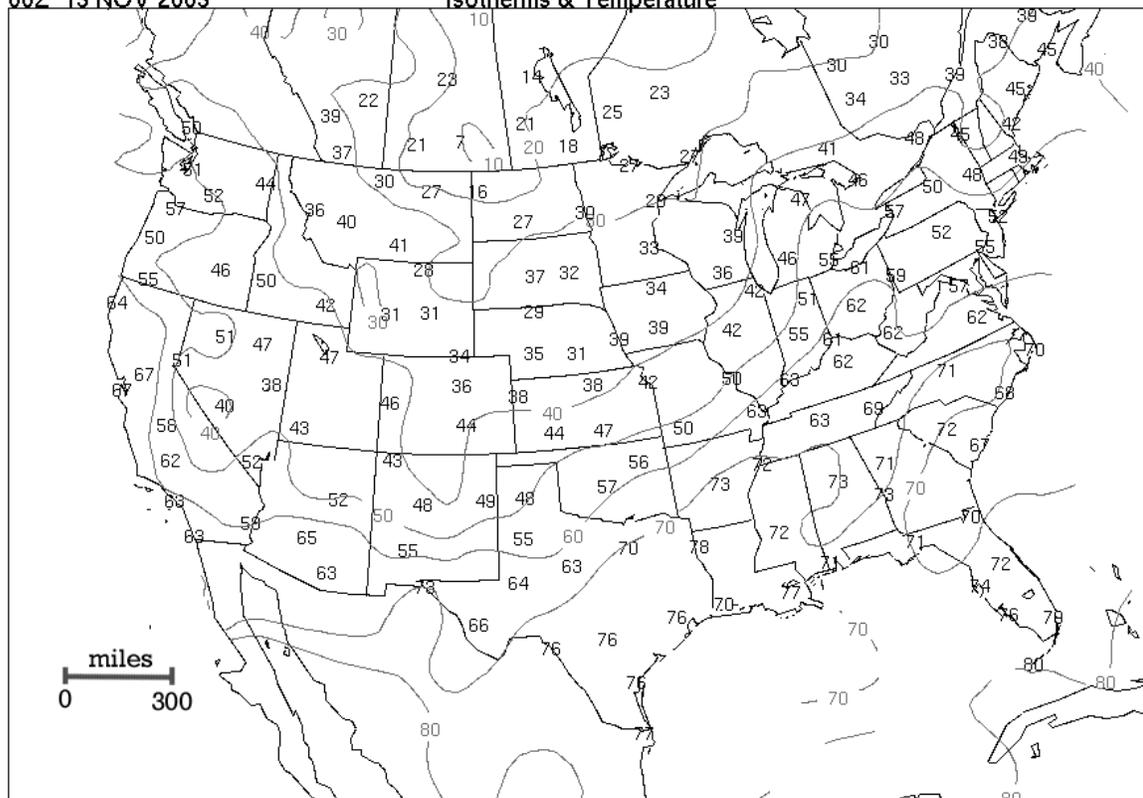
On the map above, Neatly place a large "H" and a large "L" on the map at the centers of high and low pressure, respectively. Blue for the H and red for the L would be nice.

Lightly shade the area of greatest pressure gradient on the map. Make a prediction of the wind speed and direction in that area.

Use the map above and the temperature map on the next page to determine where there is a cold front (look for places where the temperature changes a lot in a short distance), and draw it in blue on the map above.

00Z 13 NOV 2003

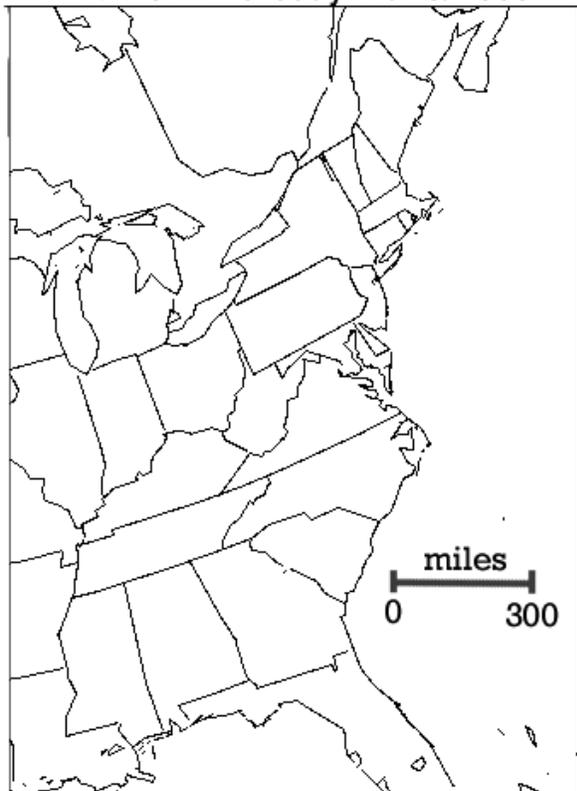
Isotherms & Temperature



The pressure system followed a typical path across the country, traveling at about 24 miles per hour. About how far, and in what direction, did the center of the low travel by 7 PM on November 13 EST? (Remember, Speed = Distance/Time)

Predict and label with an "L" the position of the center of the low at 00Z on 11/14 (that'd be 7PM on November 13 EST, 24 hours after the map on page 1) on the blank map below. Draw in the isobars as you predict they appeared on the 00Z map of 11/14.

7 PM EST Thursday 11/13/2003



Make a prediction of the wind direction and speed, as well as the temperature, for metropolitan New York on the evening 11/13.

Wind Direction _____

Wind Speed _____

Temperature _____