

**Solutions for
Contouring Challenges**

U.S. Weather Data

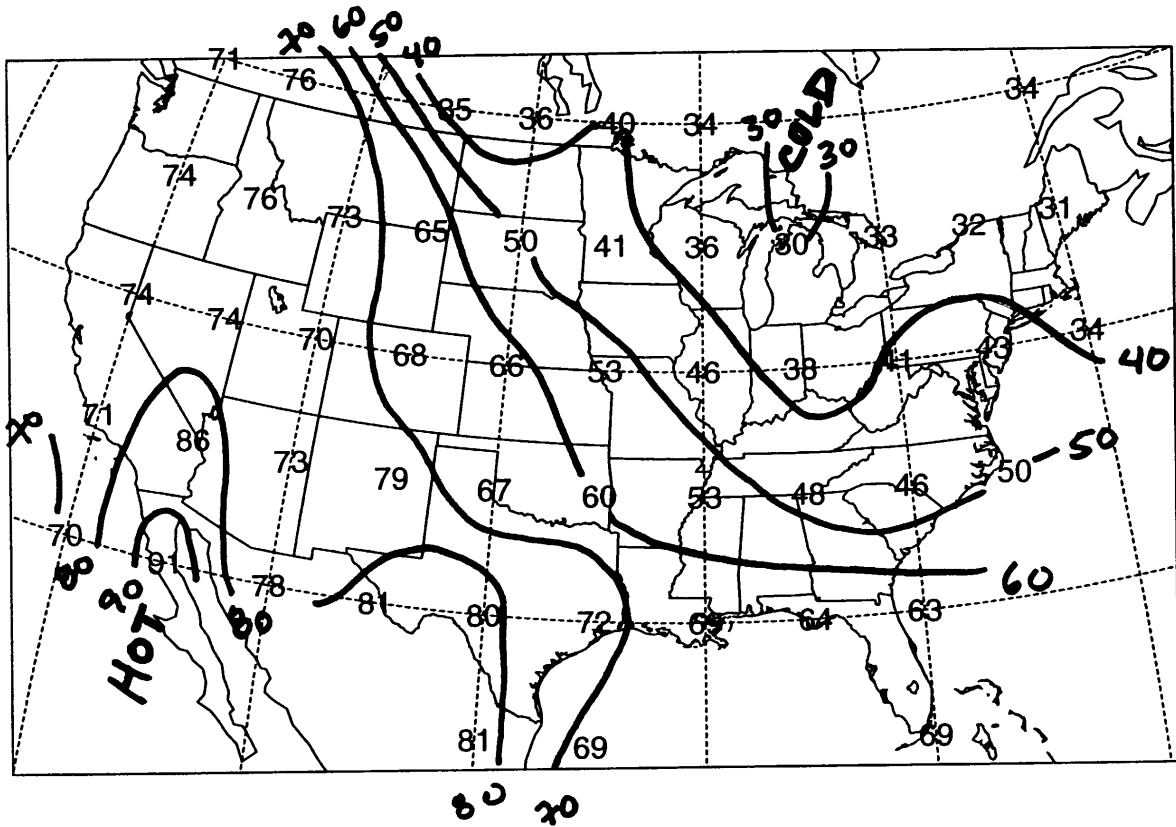
April 9-10, 1996

John Pickle



Surface Temperature for April 9, 1996

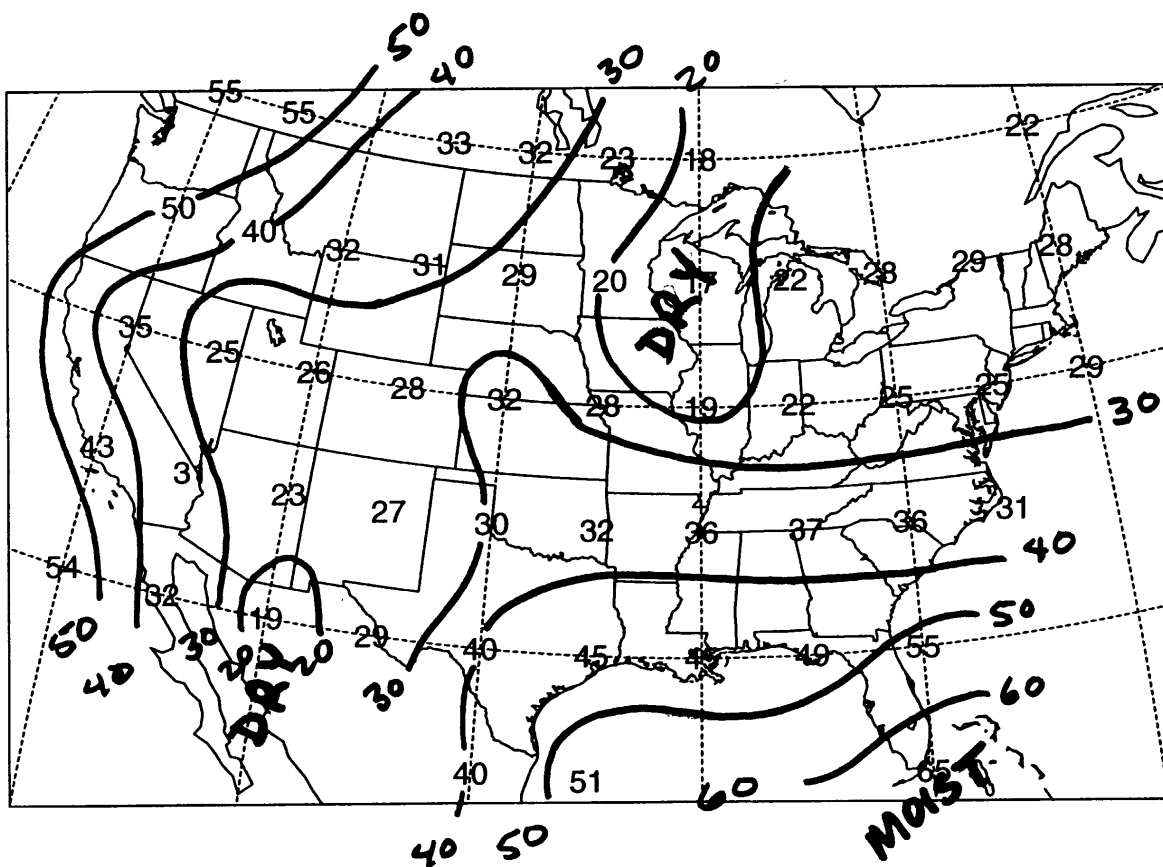
Julian Date: 100
Universal Time: 00Z
Eastern Standard Time: 7 PM
Central Standard Time: 6 PM
Mountain Standard Time: 5 PM
Pacific Standard Time: 4 PM



Warmer air generally south of cooler air. Notice the cold air over the Great Lakes extending southward through Kentucky. Warm southwestern part of the country.

Surface Dewpoint Temperature for April 9, 1996

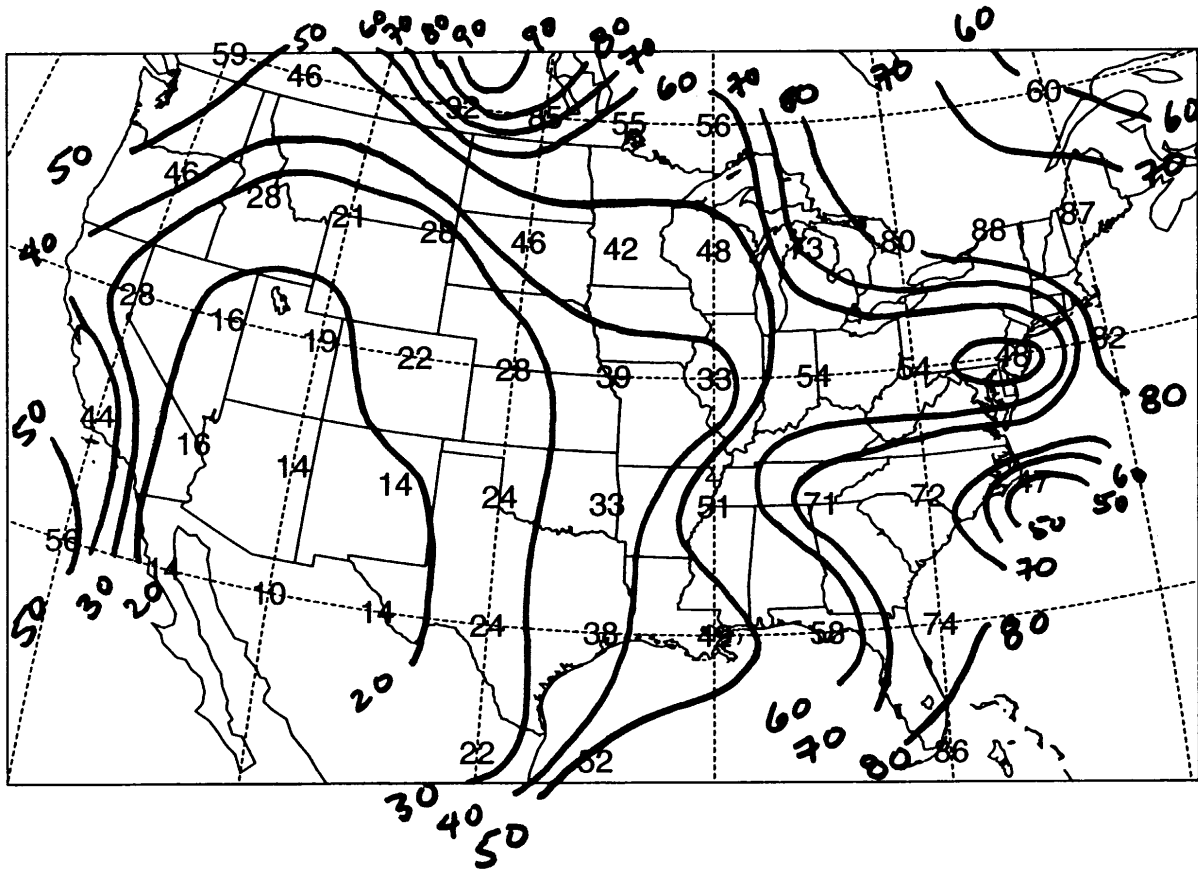
Julian Date: 100
Universal Time: 00Z
Eastern Standard Time: 7 PM
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There is cold, dry air around the Great Lakes; hot, dry air over the southwest; and warm and moist air over the northwest and southeast.

Relative Humidity for April 9, 1996

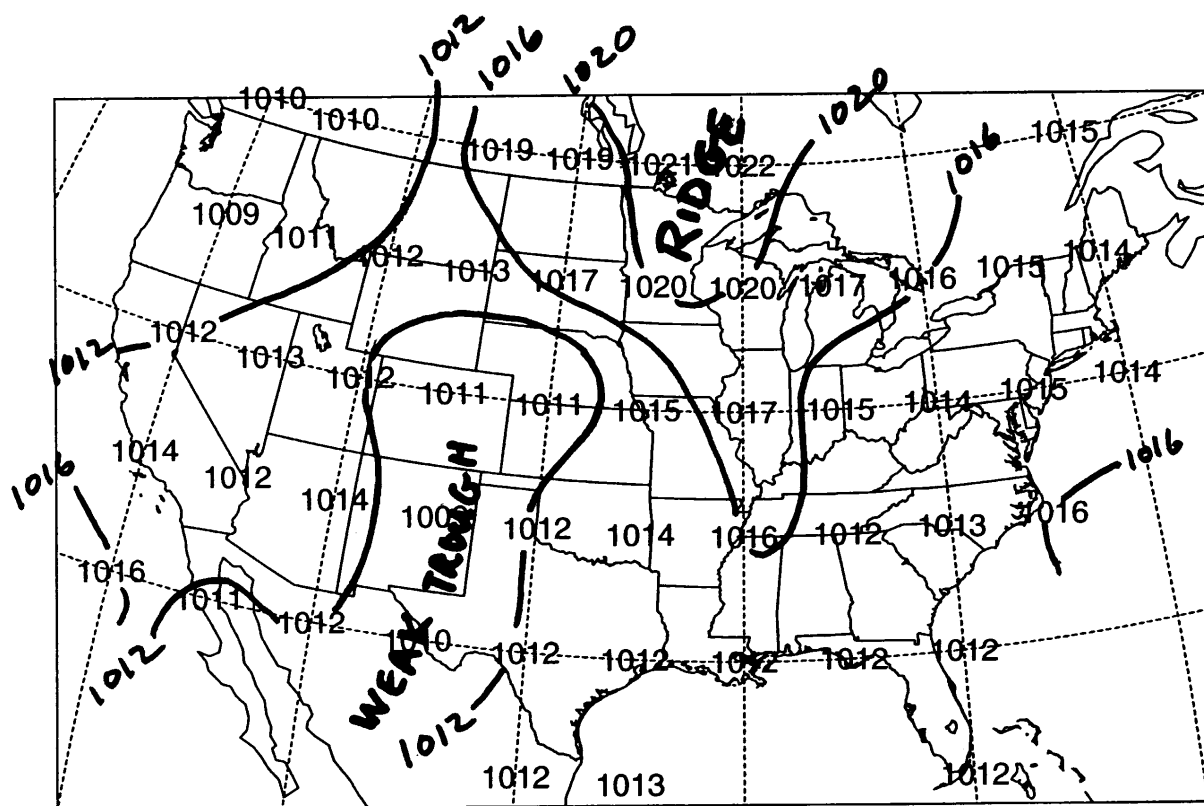
Julian Date: 100
Universal Time: 00Z
Eastern Standard Time: 7 PM
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Decide if maps of relative humidity are useful identifying separate air masses.

Surface Pressure for April 9, 1996

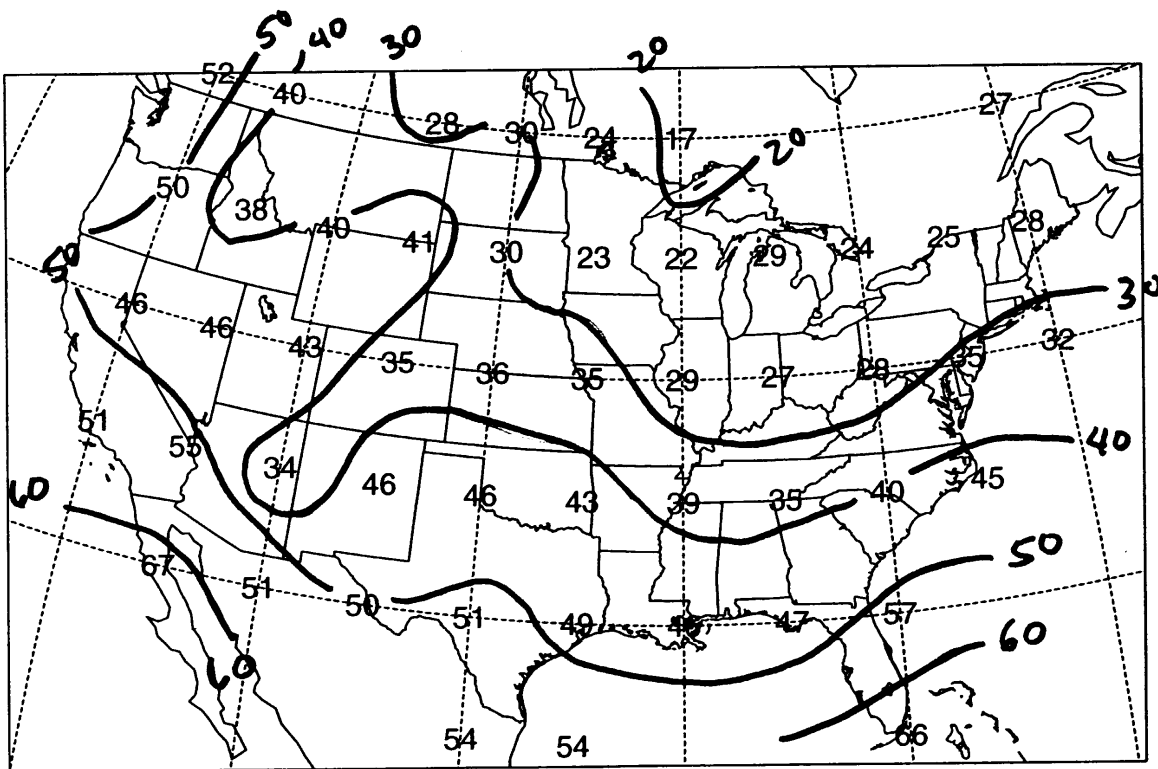
Julian Date: 100
Universal Time: 00Z
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Overall, a weak pressure gradient across the country. Compare this to what was seen during January.

Surface Temperature for April 9, 1996

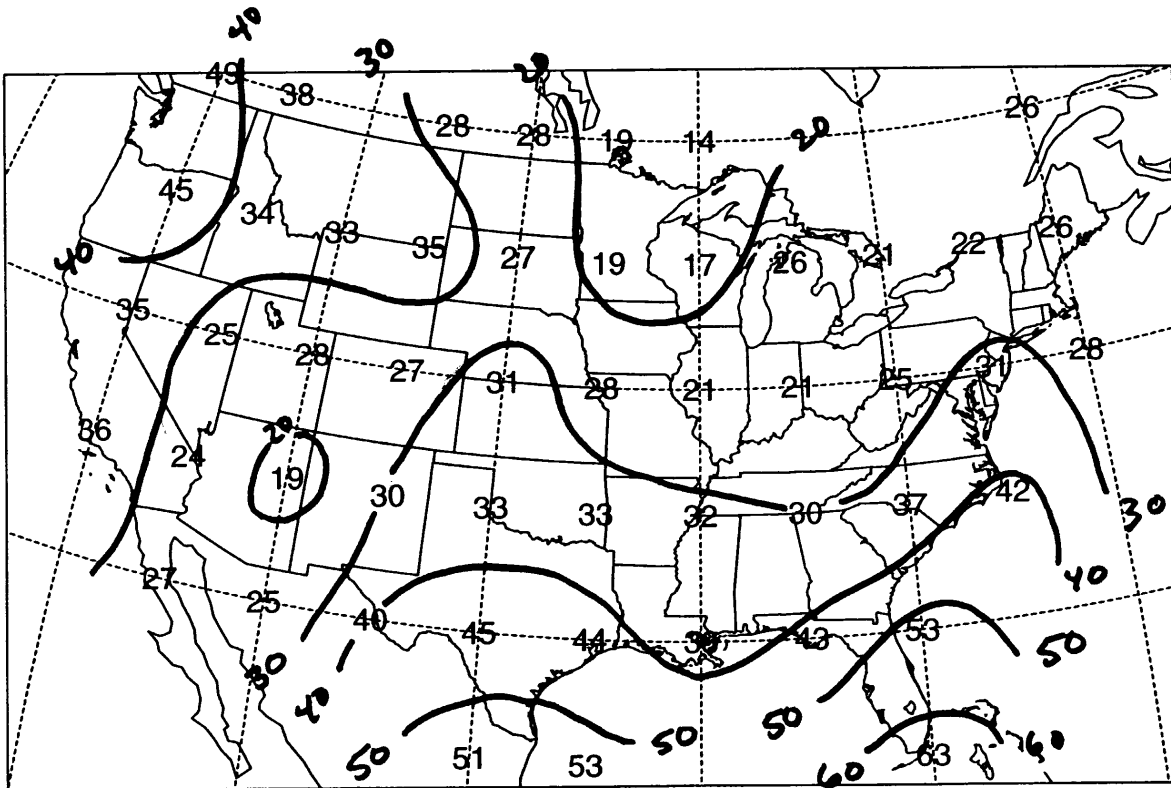
Julian Date: 100
Universal Time: 12Z
Eastern Standard Time: 7 AM
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The southwest cooler 20-30 degrees Fahrenheit overnight, whereas, the Great Lakes region cooled only 10 degrees. Two possible reasons for this: drier air has less chance to make clouds which, at night, slows the cooling process, and drier air tends to cool more quickly.

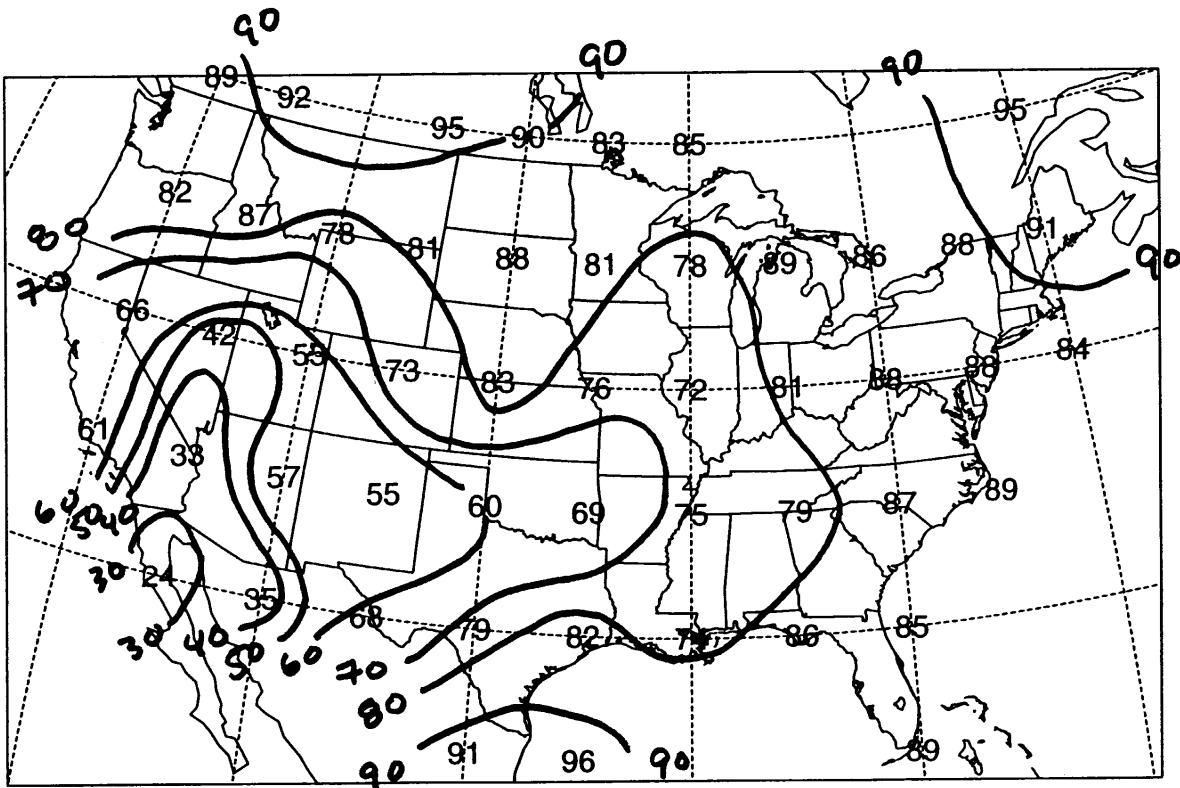
Surface Dewpoint Temperature for April 9, 1996

Julian Date: 100
Universal Time: 12Z
Eastern Standard Time: 7 AM
Central Standard Time: 6 AM
Mountain Standard Time: 5 AM
Pacific Standard Time: 4 AM



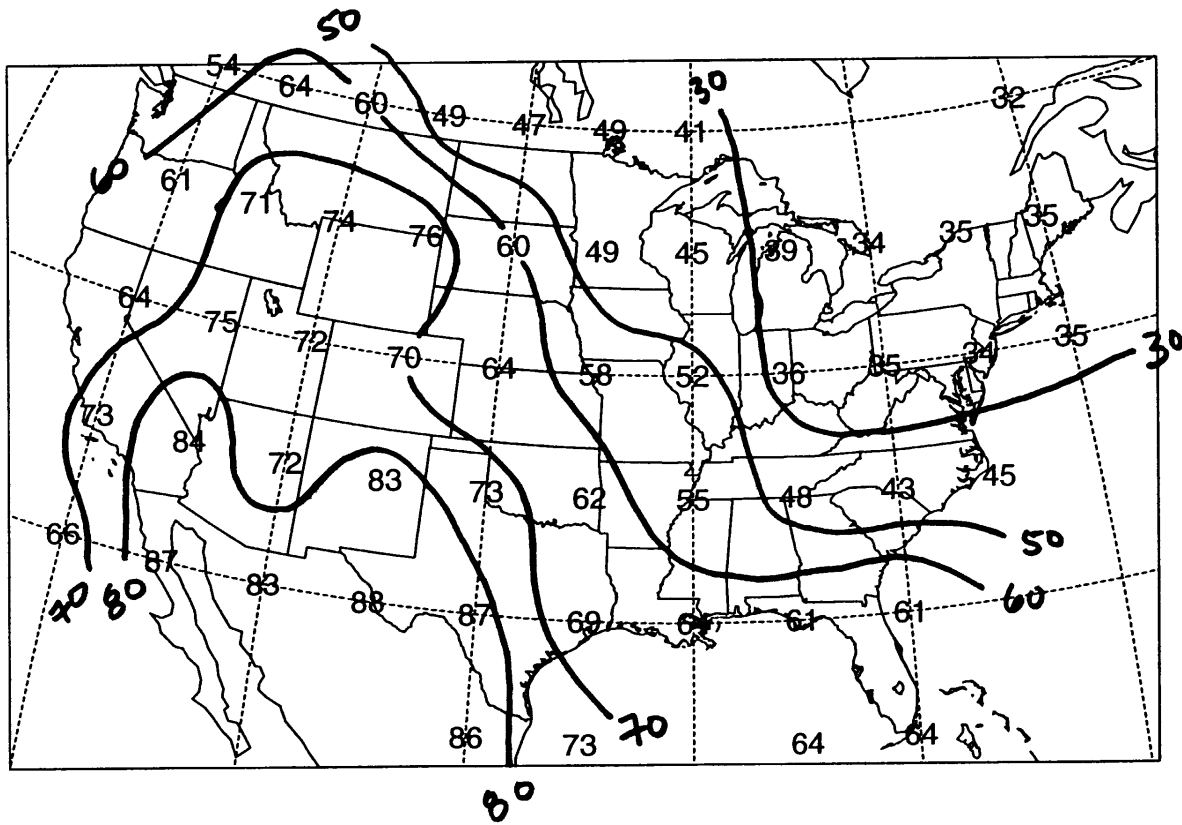
Relative Humidity for April 9, 1996

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Universal Time: 12Z
Eastern Standard Time: 7 AM
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Surface Temperature for April 10, 1996

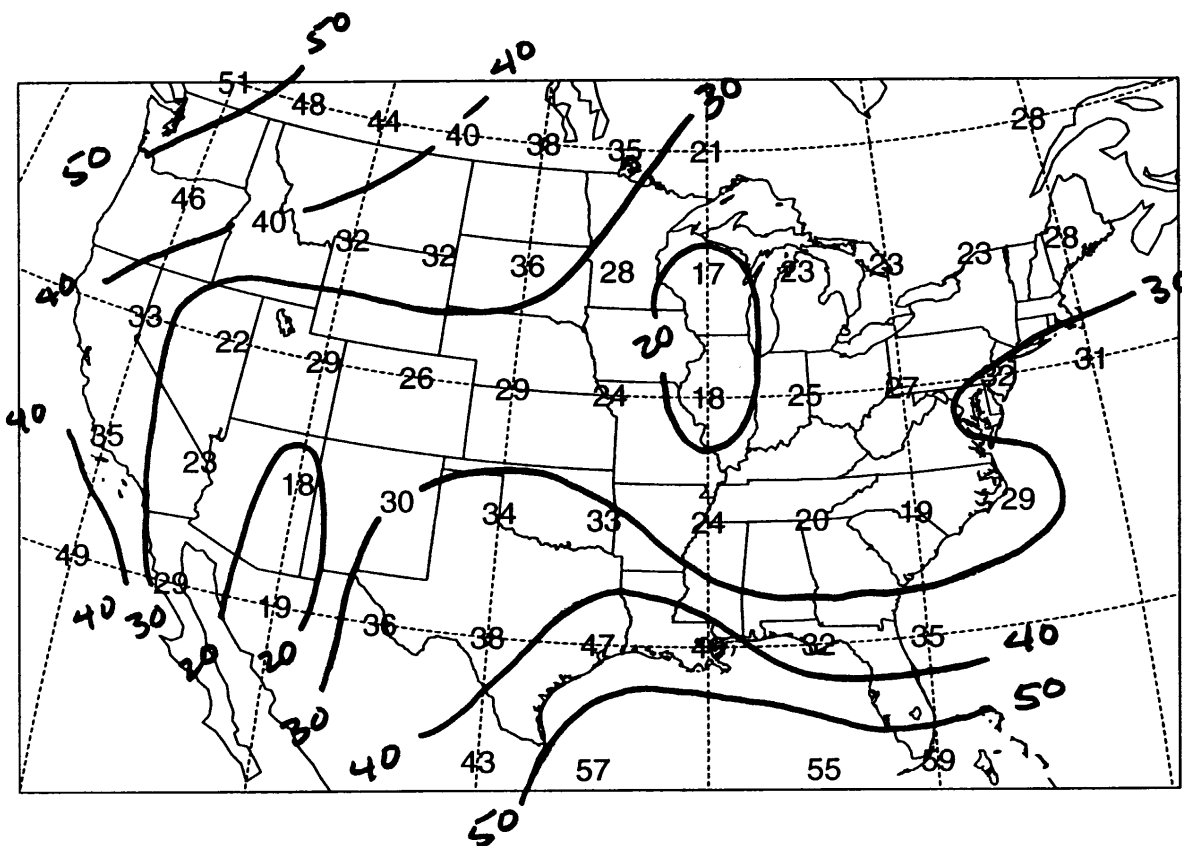
Julian Date: 101
Universal Time: 00Z
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Central Standard Time: 6 PM
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Cold air has pushed southeastward over most of the eastern United States. Western part of the country cooled off slightly.

Surface Dewpoint Temperature for April 10, 1996

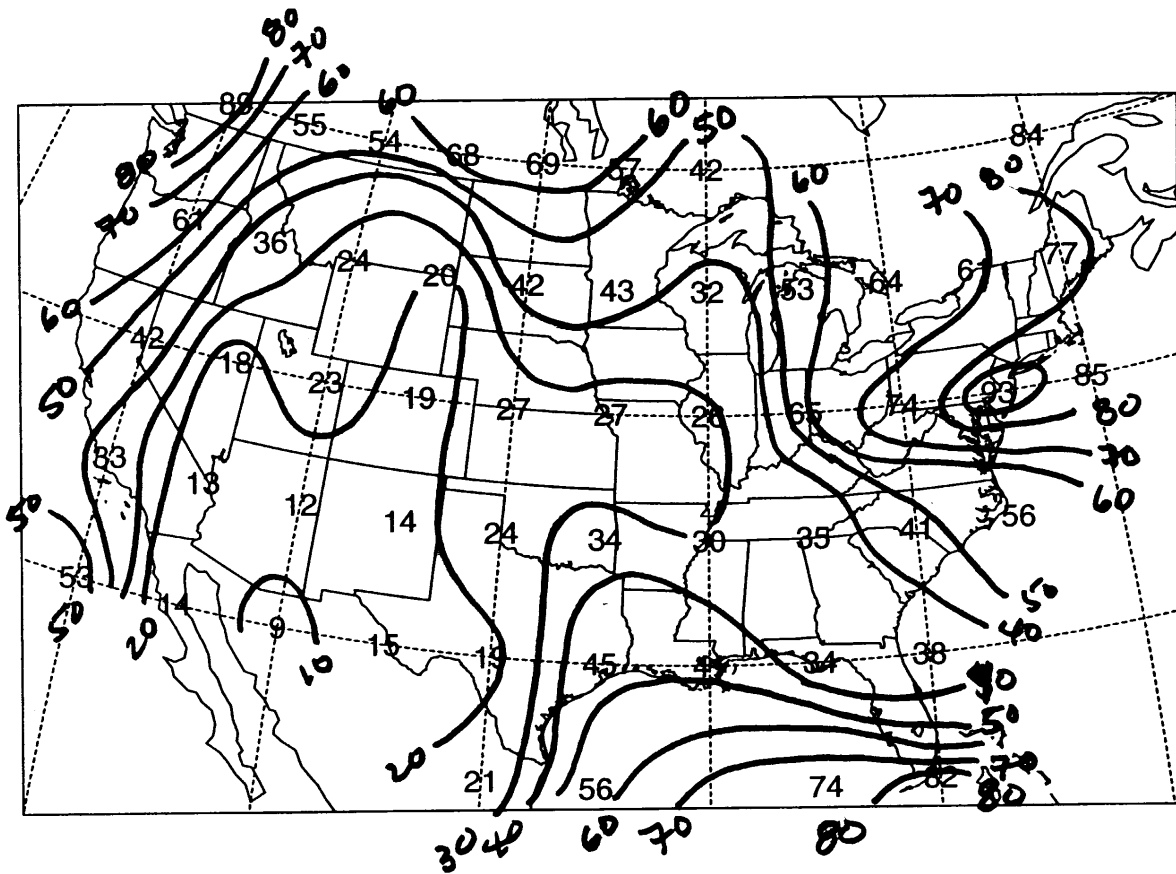
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Dewpoint temperature pattern has not changed much over 24 hours.

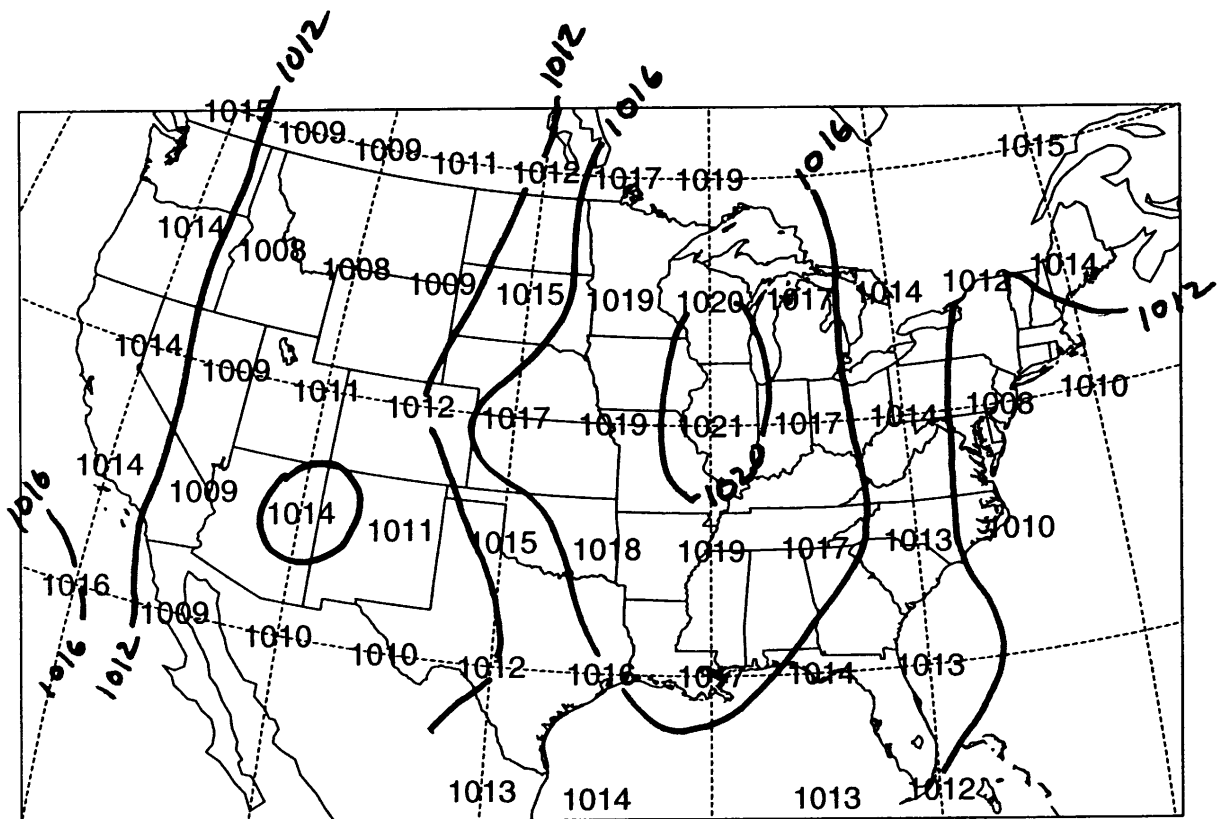
Relative Humidity for April 10, 1996

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Universal Time: 00Z
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Surface Pressure for April 10, 1996

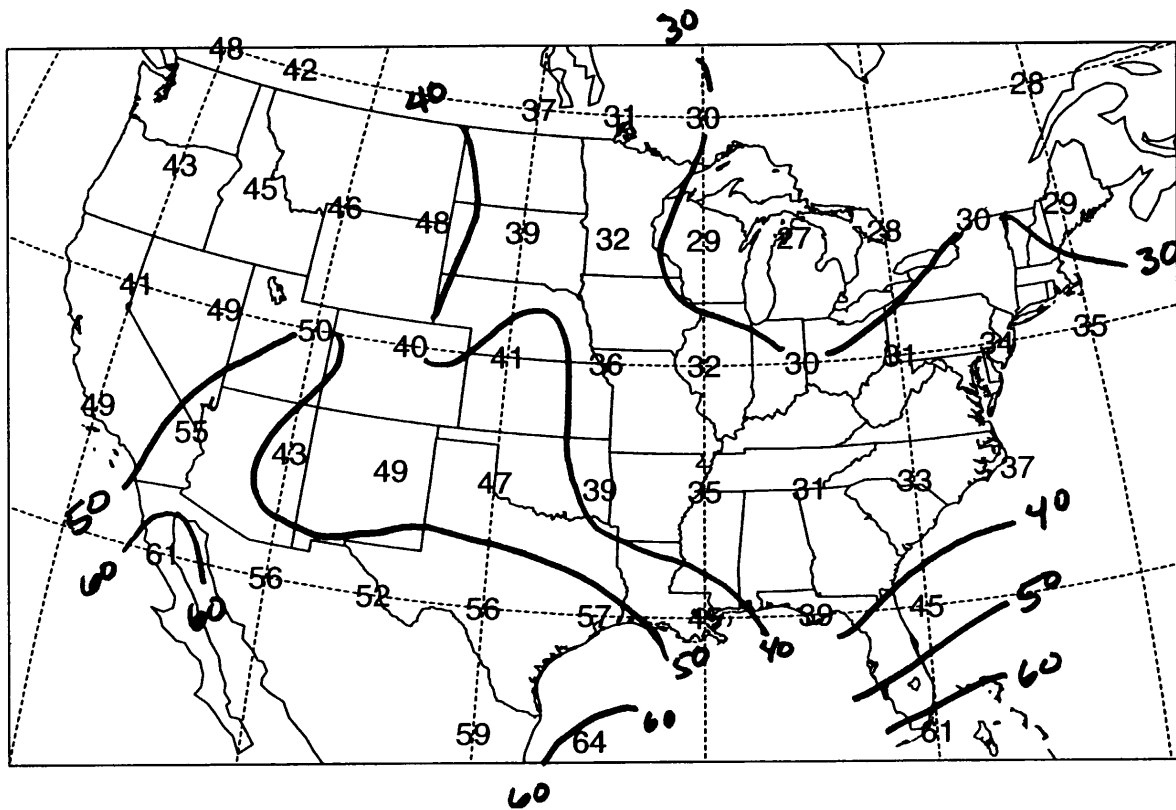
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Ridge has continued to push southward, but it has not deepened.

Surface Temperature for April 10, 1996

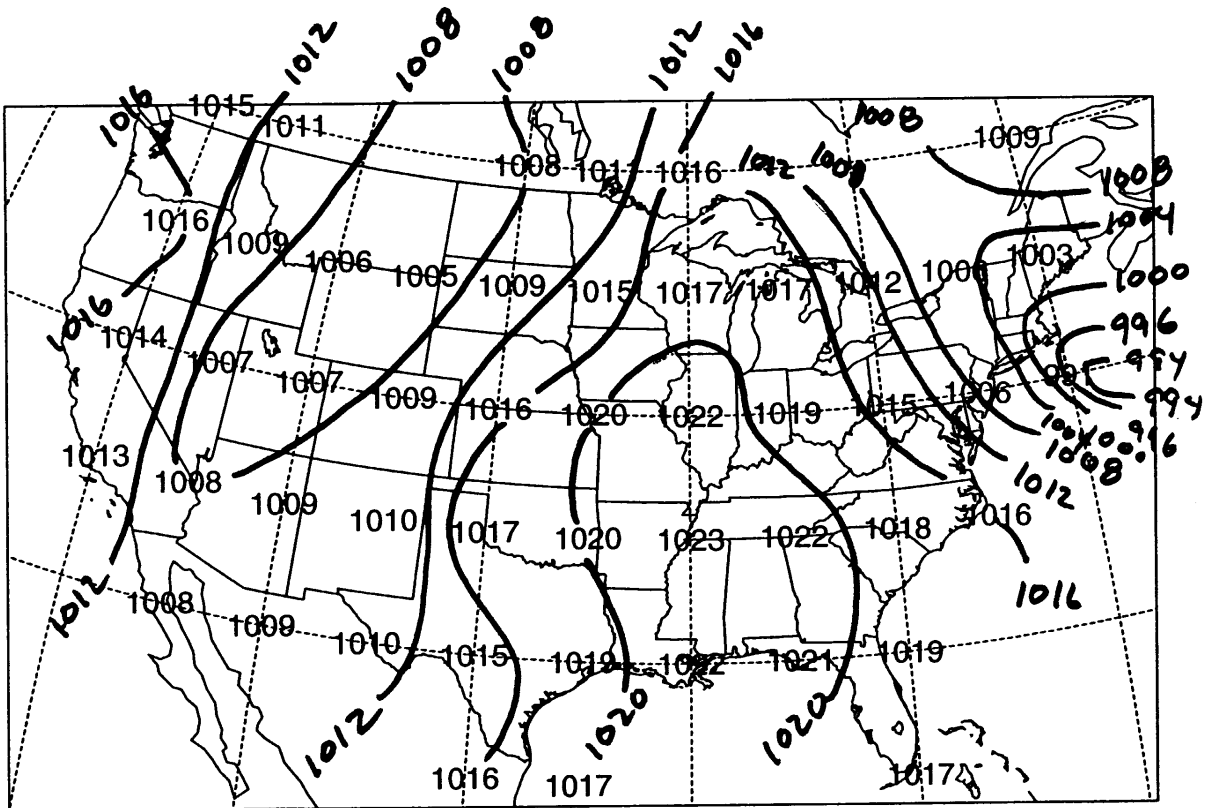
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The lack of movement of the air masses has allowed the air over the Northeast to warm slightly; elsewhere, temperatures have remained fairly constant across the country.

Surface Pressure for April 10, 1996

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A significant low has moved into the northeast; however, this disturbance is not visible in the temperature or moisture fields. Where did it come from and is it “real”? Notice that there are 4 points that support this low, however, one anomalous surface report could have generated this influence on these average-value points. Given that there is no record of development in the previous pressure fields, nor is it present in the temperature and moisture fields, this does not appear to be a valid analysis along the east coast.