Tracking Weather Systems

When will the storm arrive?
How fast do weather systems travel?
What are typical storm tracks in the
contiguous United States?
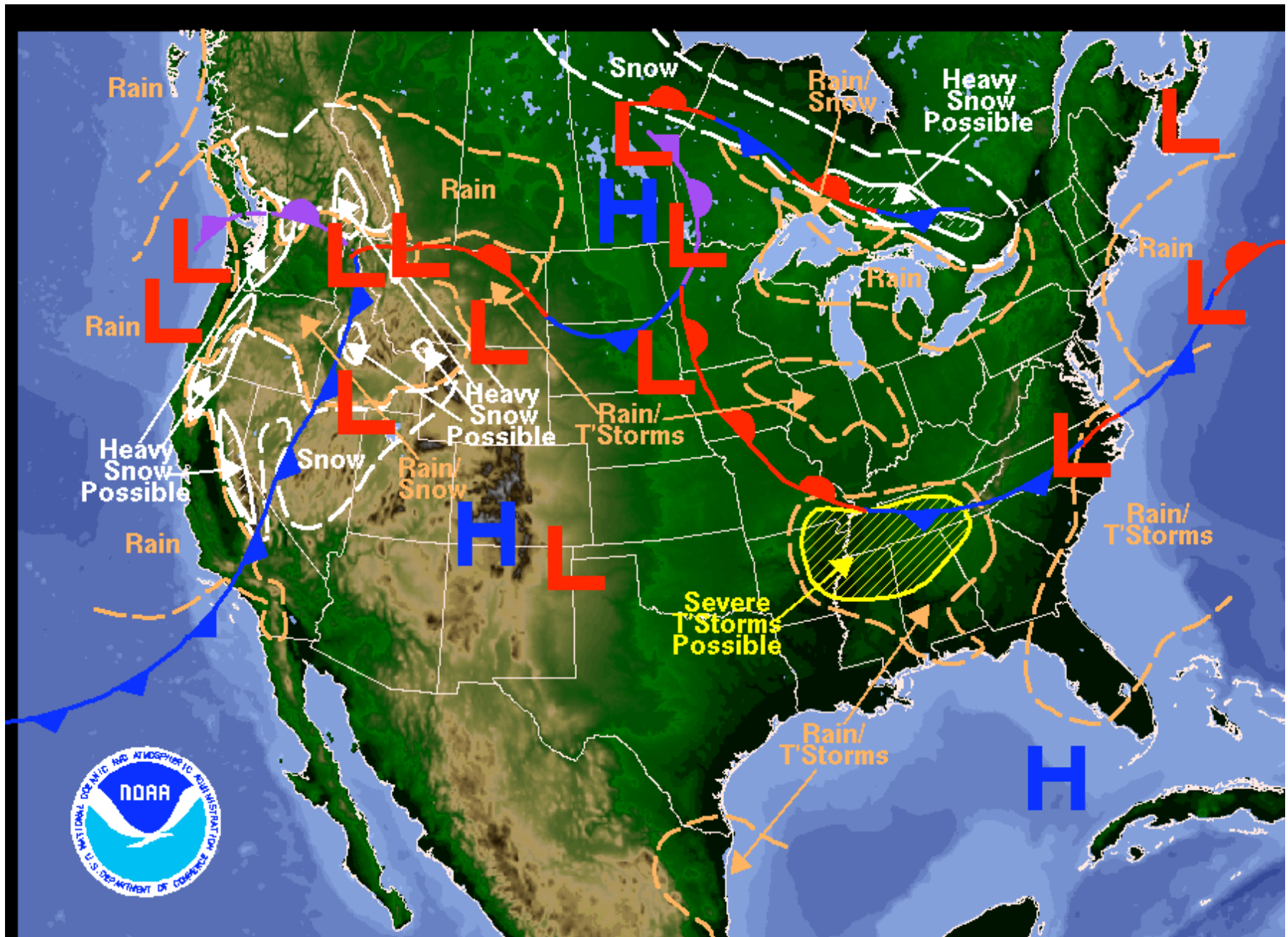
Storm Tracking Instructions

1. Print a set of maps to use in this exercise. (Or you can view the maps on a computer with Image software, Adobe Reader, or PPT)

2. Each team should have one set of maps to examine and enough blank maps for everyone on the team.

3. Begin by looking in the lower-left corner for the date and time of each map.

4. Note the location of the first low pressure center, in the Seattle, Washington area on March 30, 2012.

5. Record its location on the blank US map by drawing a L on the blank map and circling it.

6. Advance to the next image, March 31, 2012. Note the location of the low, now located near northern Idaho. Record this new on your blank map.

7. Advance to the 3rd map image. The low pressure is now over Montana. Again, record the location on your blank map.

8. Repeat this procedure for the next several map images, following one storm as it travels across the country, and eventually heads out across the Atlantic Ocean.

9. Draw a black line connecting the location of the low across the map.

10. Rewind the map images to April 2nd, 2012 and track a second storm. Either start with the one off the coast of Washington or the one located over South Dakota.

11. Answer the Stop and Think questions listed below.

12. Optional Extensions: 1) Measure the distance these low pressure centers travel between maps. Use the time and date stamps on the images to calculate how fast they travel. 2) Download and track another set of storms. These images are available at NWS: 3) Use ImageJ software to analyze and animate the images.
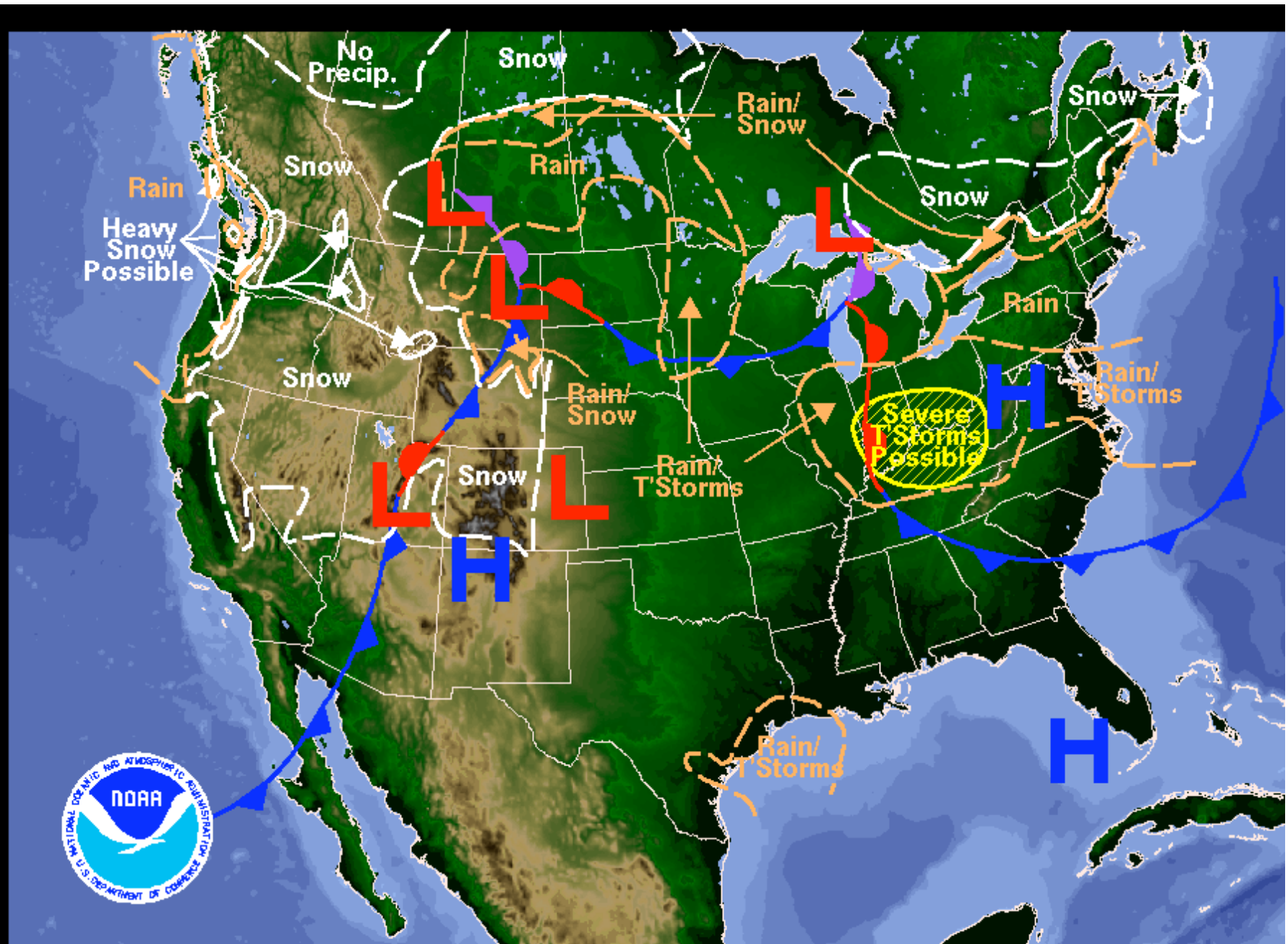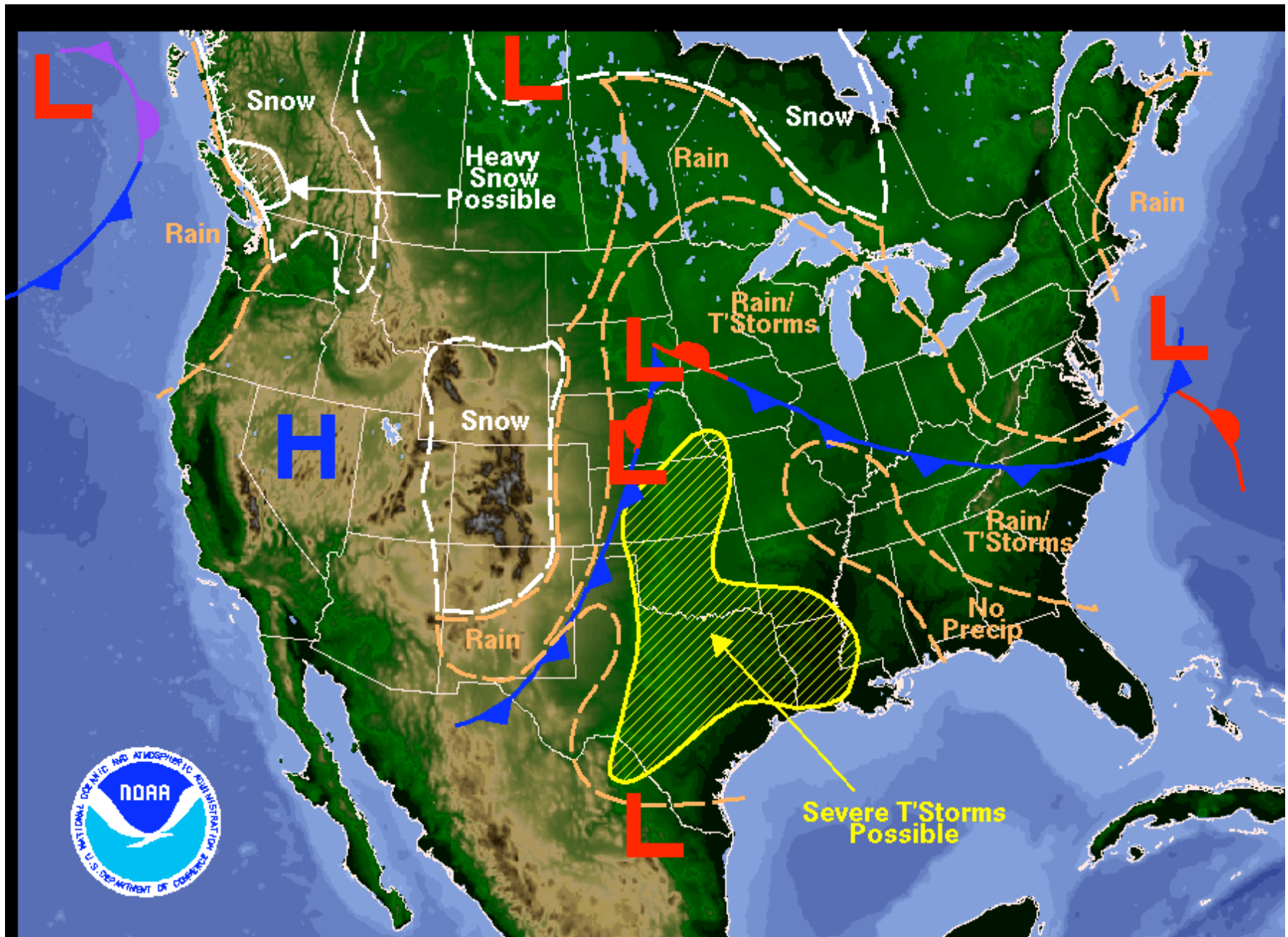
U.S. Base Map
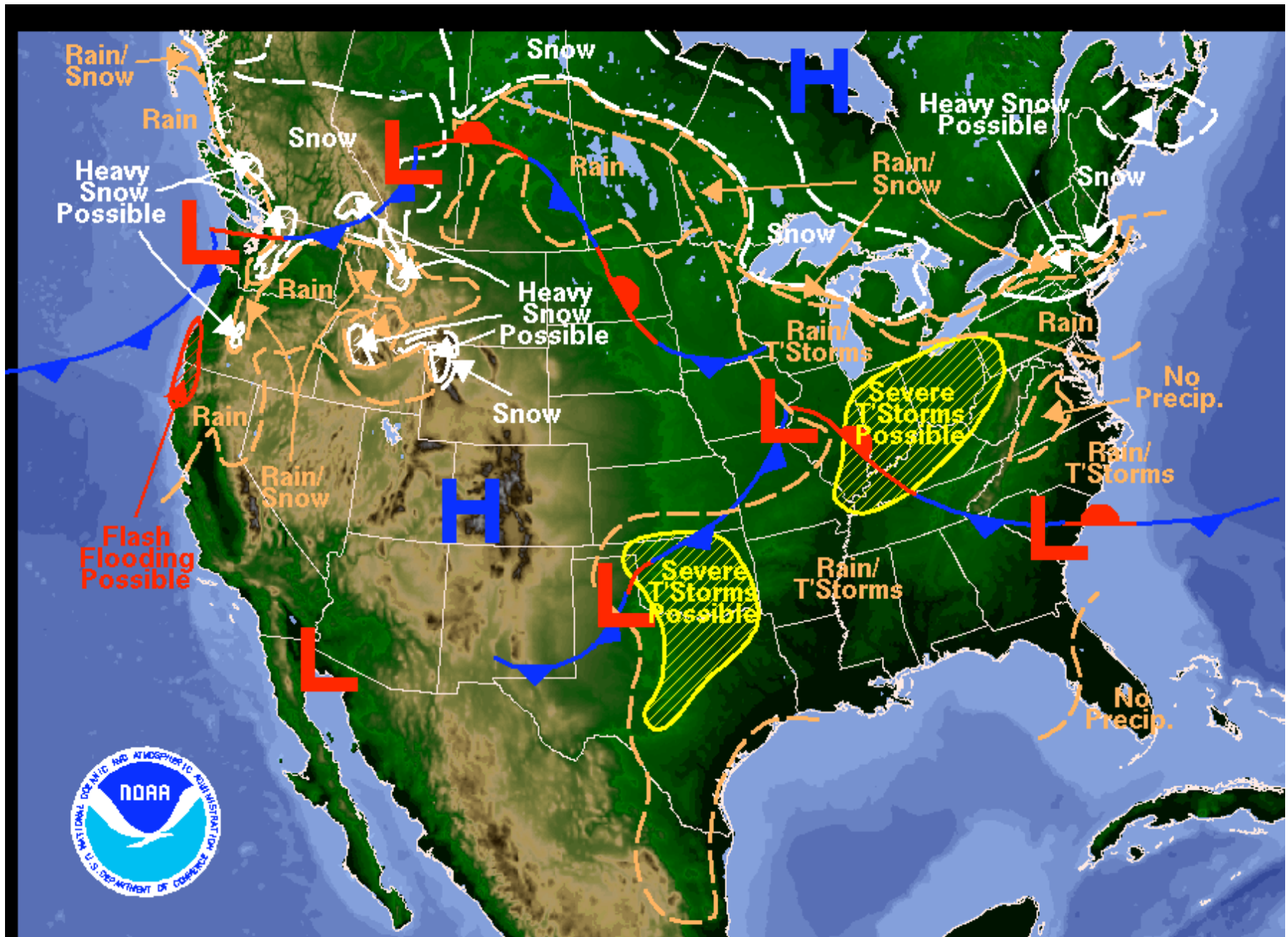
Weather Forecast for Fri, Mar 30, 2012, issued 5:02 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Kong based on HPC, SPC, and NHC forecasts

Rain

Rain

Rain

Snow

Rain/
Snow

Heavy
Snow
Possible

L

L **L**

L

H **L**

L

L

Heavy
Snow
Possible

L

Snow

Rain/
Snow

Rain/
T'Storms

H **L**

Rain

Heavy
Snow
Possible

Rain

Rain/
Snow

Rain

L

L **L**

L

Severe
T'Storms
Possible

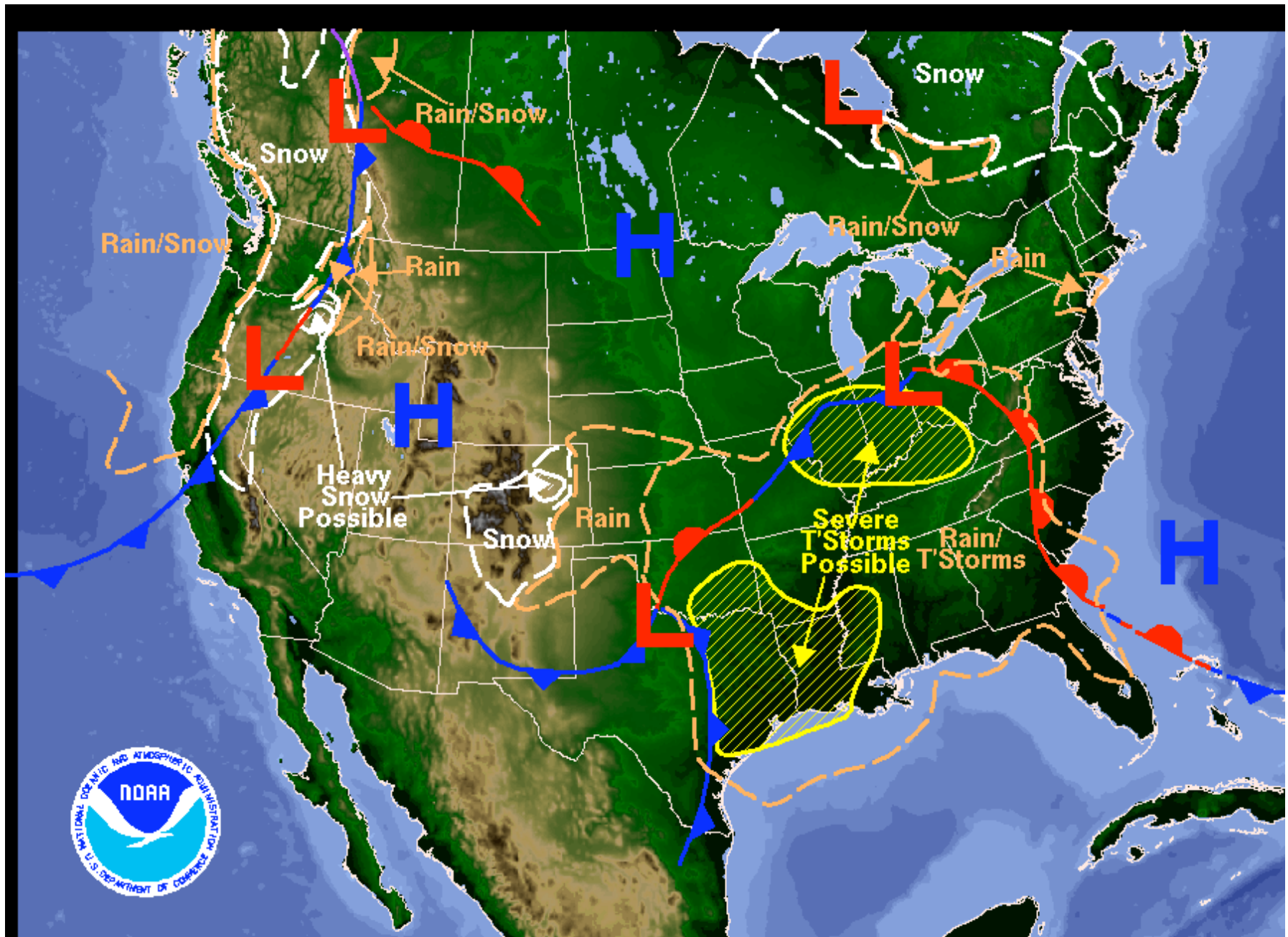Rain/
T'Storms

H

Rain/
T'Storms

NOAA

Weather Forecast for Sat, Mar 31, 2012, issued 4:45 PM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
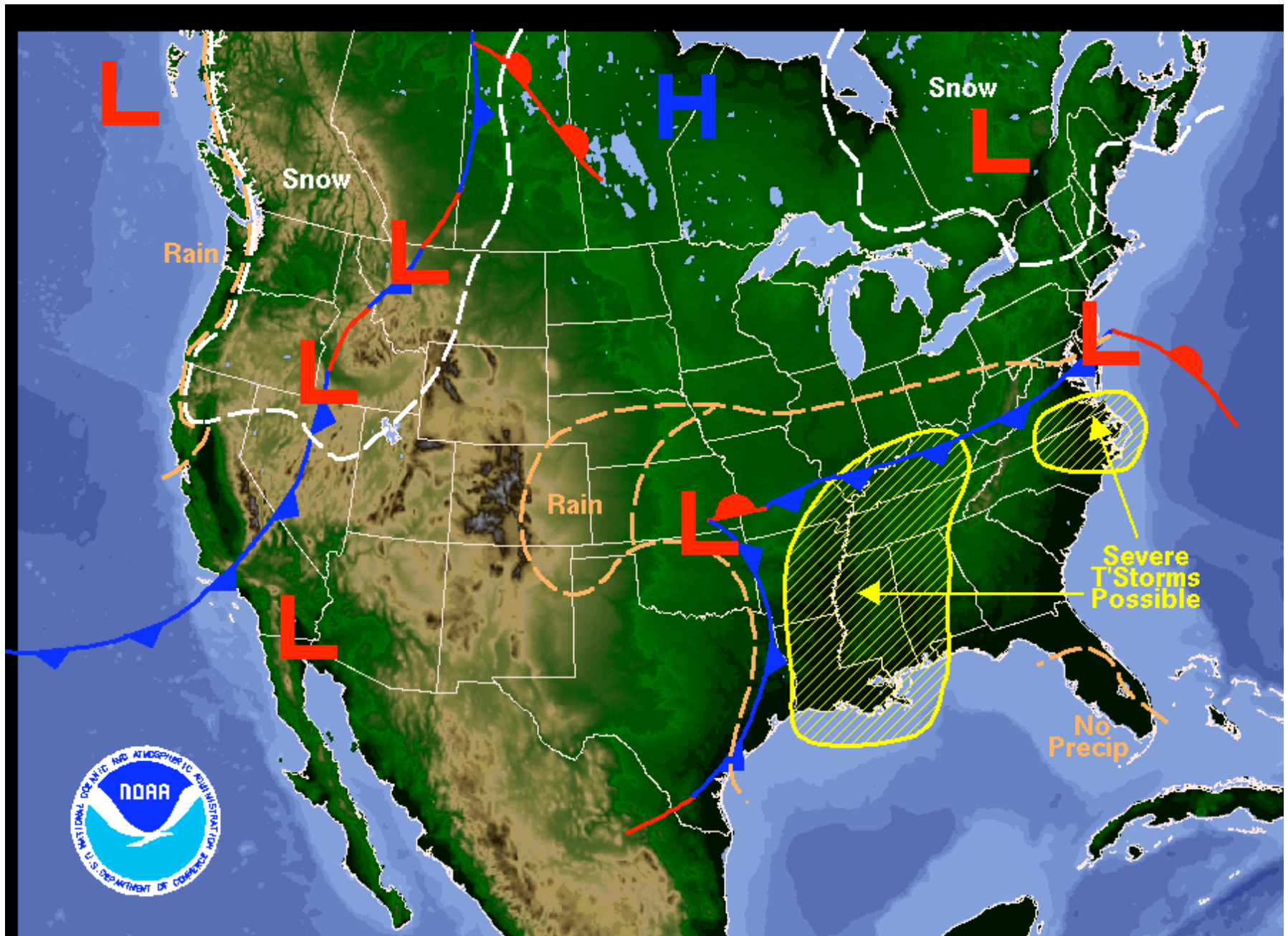Prepared by Monarski based on HPC, SPC, and NHC forecasts

Weather Forecast for Sun, Apr 01, 2012, issued 6:54 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
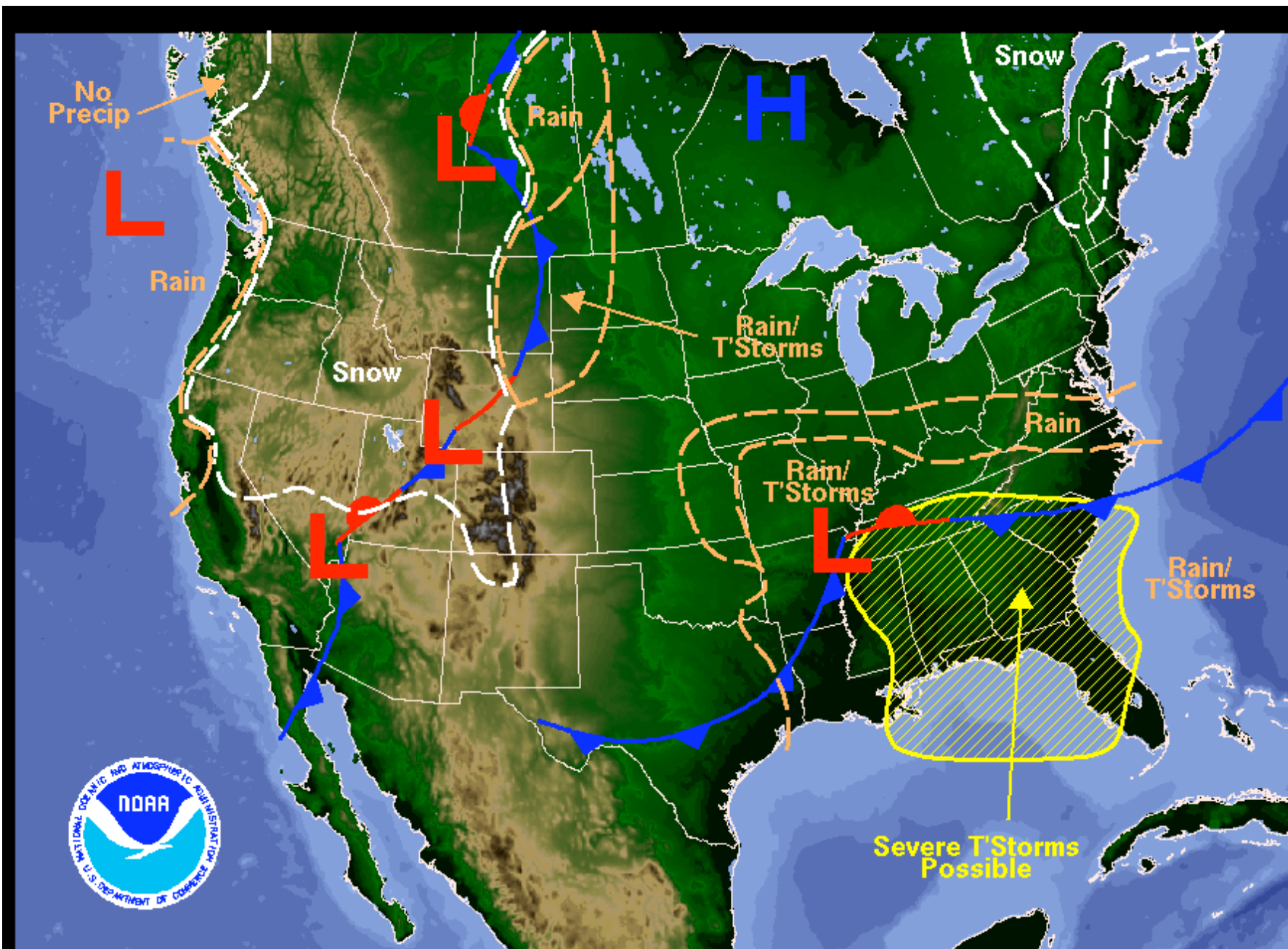Prepared by Kong based on HPC, SPC, and NHC forecasts

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L

Snow

Rain

L

Heavy
Snow
Possible

Snow

Rain

Rain

Rain/
T'Storms

L

L

Snow

H

Rain

Rain/
T'Storms

L

L

No
Precip

Severe T'Storms
Possible

NOAA

Weather Forecast for Mon, Apr 02, 2012, issued 3:29 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Mcreynolds based on HPC, SPC, and NHC forecasts
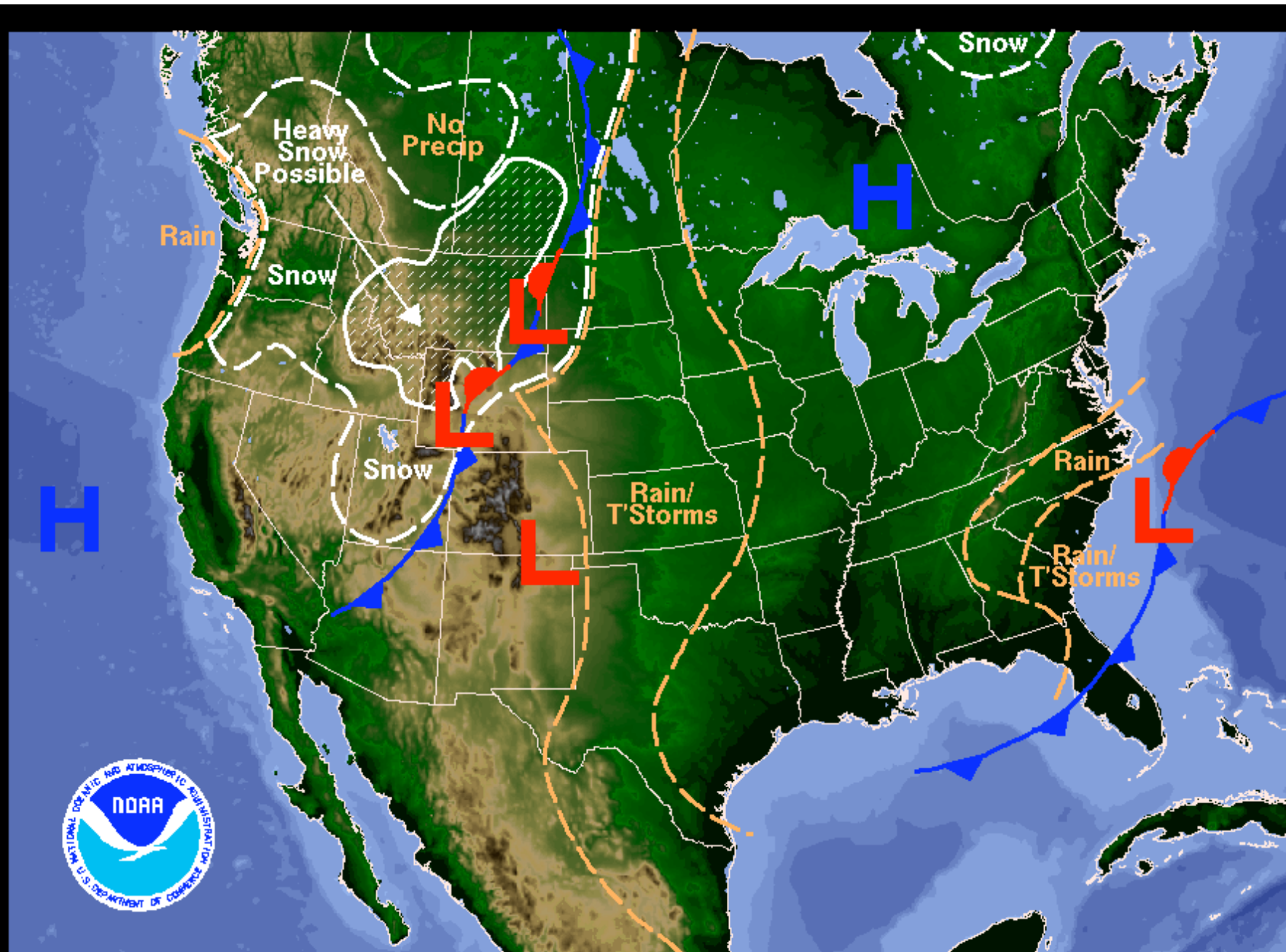
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Weather Forecast for Tue, Apr 03, 2012, issued 4:38 PM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Monarski based on HPC, SPC, and NHC forecasts

Weather Forecast for Wed, Apr 04, 2012, issued 3:22 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Mcreynolds based on HPC, SPC, and NHC forecasts

Weather Forecast for Thu, Apr 05, 2012, issued 3:08 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Mcreynolds based on HPC, SPC, and NHC forecasts

Weather Forecast for Fri, Apr 06, 2012, issued 3:19 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Mcreynolds based on HPC, SPC, and NHC forecasts

Stop and Think

1. Which day did the L pressure move off the Atlantic coast?

2. How many days did it take for the storm to travel across the country?

3. Given the distance the storm travelled as approximately 2700 miles (4350 kilometers) What was the average rate of travel?

U.S. Base Map

Storm track 1

Key for Storm tracking exercise.