

**Air Pressure** • Air Pressure Team Map

**Humidity** • Humidity Team Dew Point Temperature Map  
• Humidity Team Relative Humidity Map

**Temperature** • Surface Temperature Map  
• Upper Air Temperature Map

**Wind** • Wind Team Map

# Air Pressure Team - Day 1

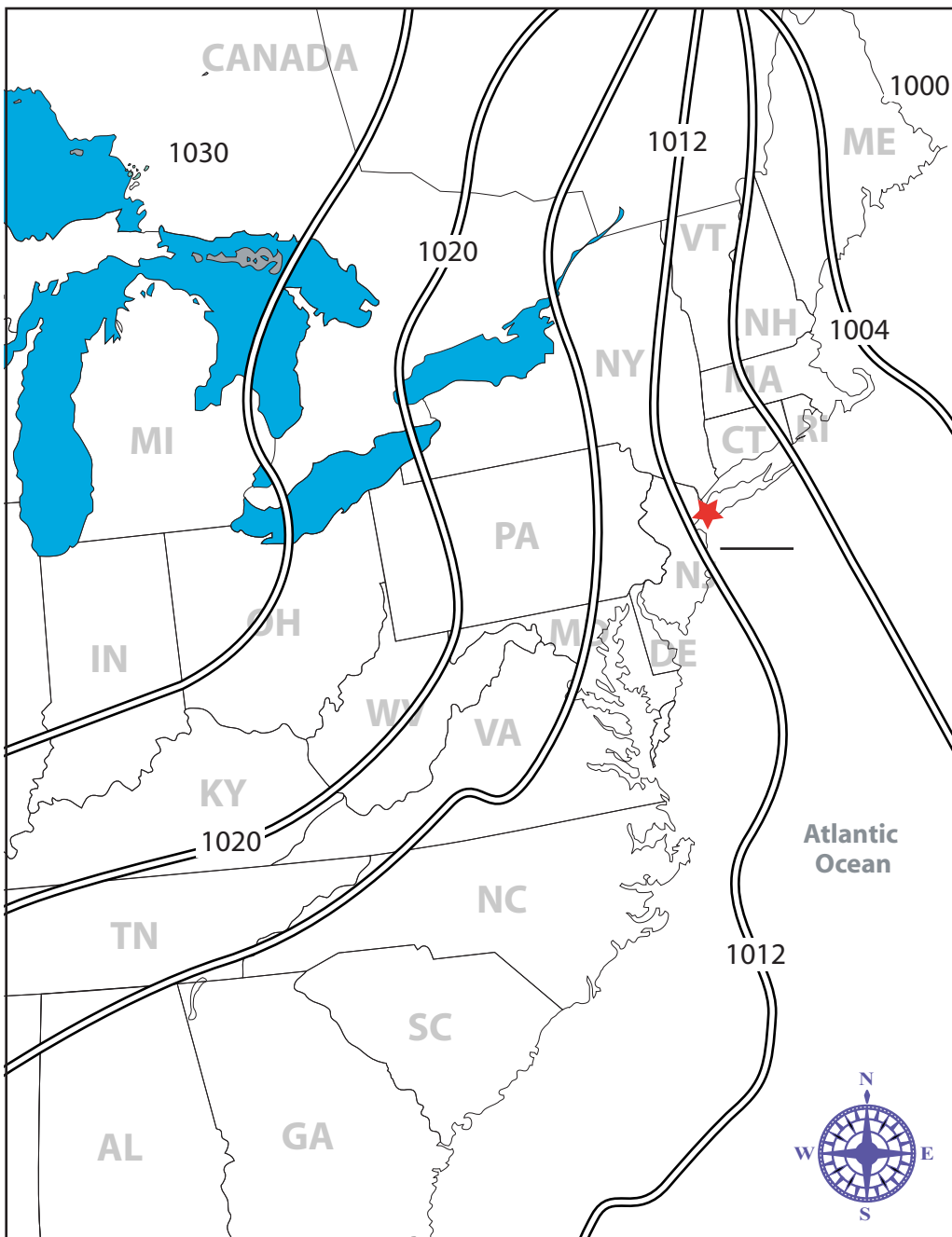
Isobars are lines connecting places of equal air pressure. They have a regular interval of four millibars. First, fill in the key with a pattern of numbers increasing or decreasing by four.

Some isobar lines might not be numbered. Next print the correct numbers next to those lines. Then using the color key, trace over all the isobar lines.

Draw circles around the highest and the lowest number on this map. Label the high with the letter "H" and the low with the letter "L."

The star on the map marks New York City. Estimate the air pressure reading for New York City and record it on the line.

Sea Level Pressure (mb) Day 1 Analysis for 12Z 28 DEC 00



KEY	
Color	Millibars
Red	1024
Yellow	
Orange	
Green	
Blue	
Purple	
Brown	1000
Black	
Grey	

Interval 4.0

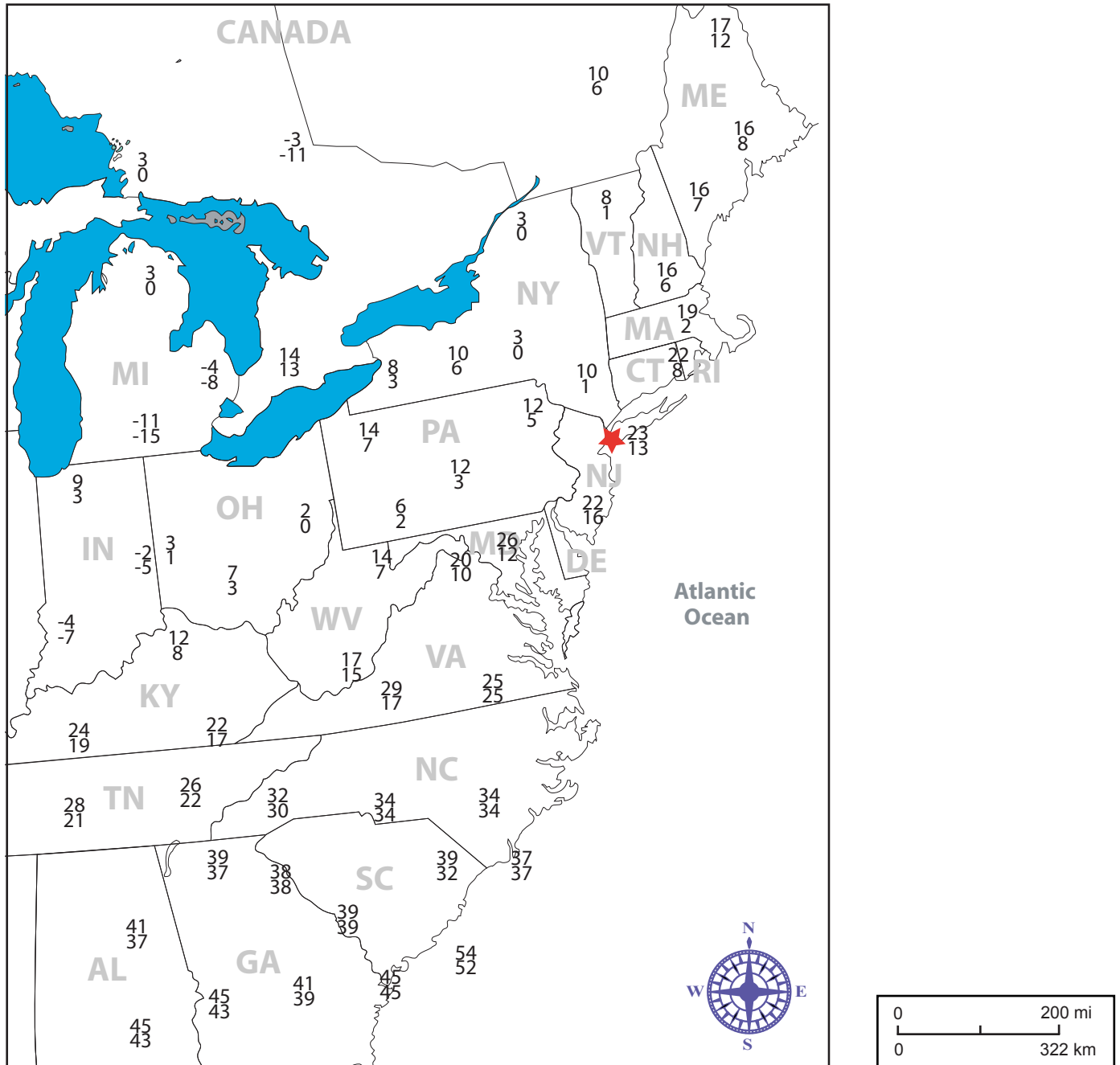
# Humidity Team Dew Point Temperature - Day 1

Dew point is the temperature to which air must be cooled to achieve saturation. The possibility of cloud formation increases as the air temperature drops closer to its dew point.

Important: Use the relative humidity map you have already completed to assist you. Find the places you circled and begin the following search in those areas.

Circle the places on the dew point temperature map where the difference between the surface air temperature (top number) and the dew point temperature (bottom number) is less than or equal to 2 ( $\leq 2$ ) degrees. Now look at the areas you circled. Which have the highest *possibility* of precipitation?

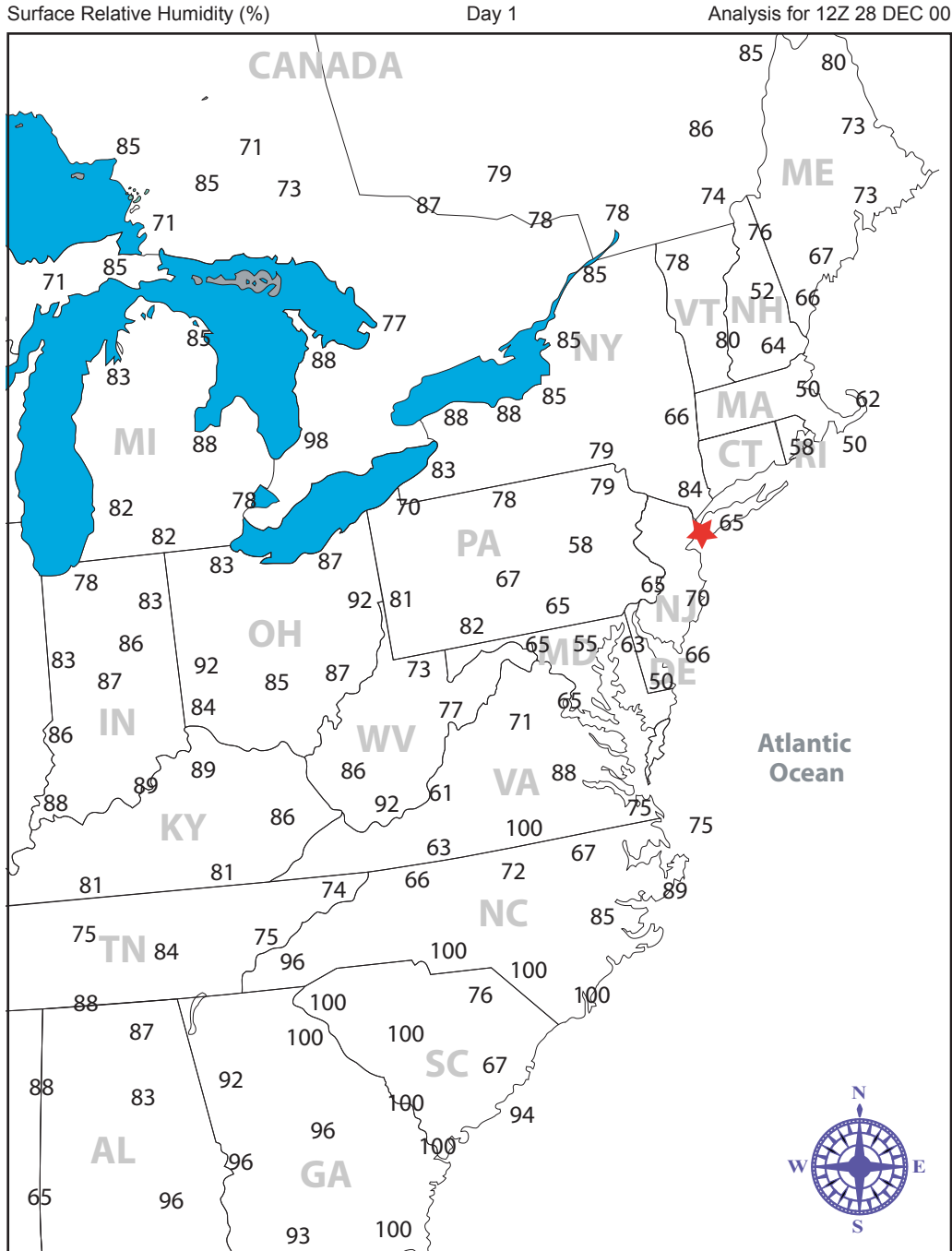
Surface and Dew Point Temperature (°F) Day 1 Analysis for 12Z 28 DEC 00



# Humidity Team Relative Humidity - Day 1

Important: Complete this map *before* starting the dew point temperature map.

Relative humidity measures how close air is to saturation. The possibility of precipitation *increases* as the relative humidity approaches 100 percent. Use a red pencil to circle numbers greater than or equal to 90 ( $\geq 90$ ). DO NOT shade in the circle. Now look at the areas you circled. Which have the highest *possibility* of precipitation?



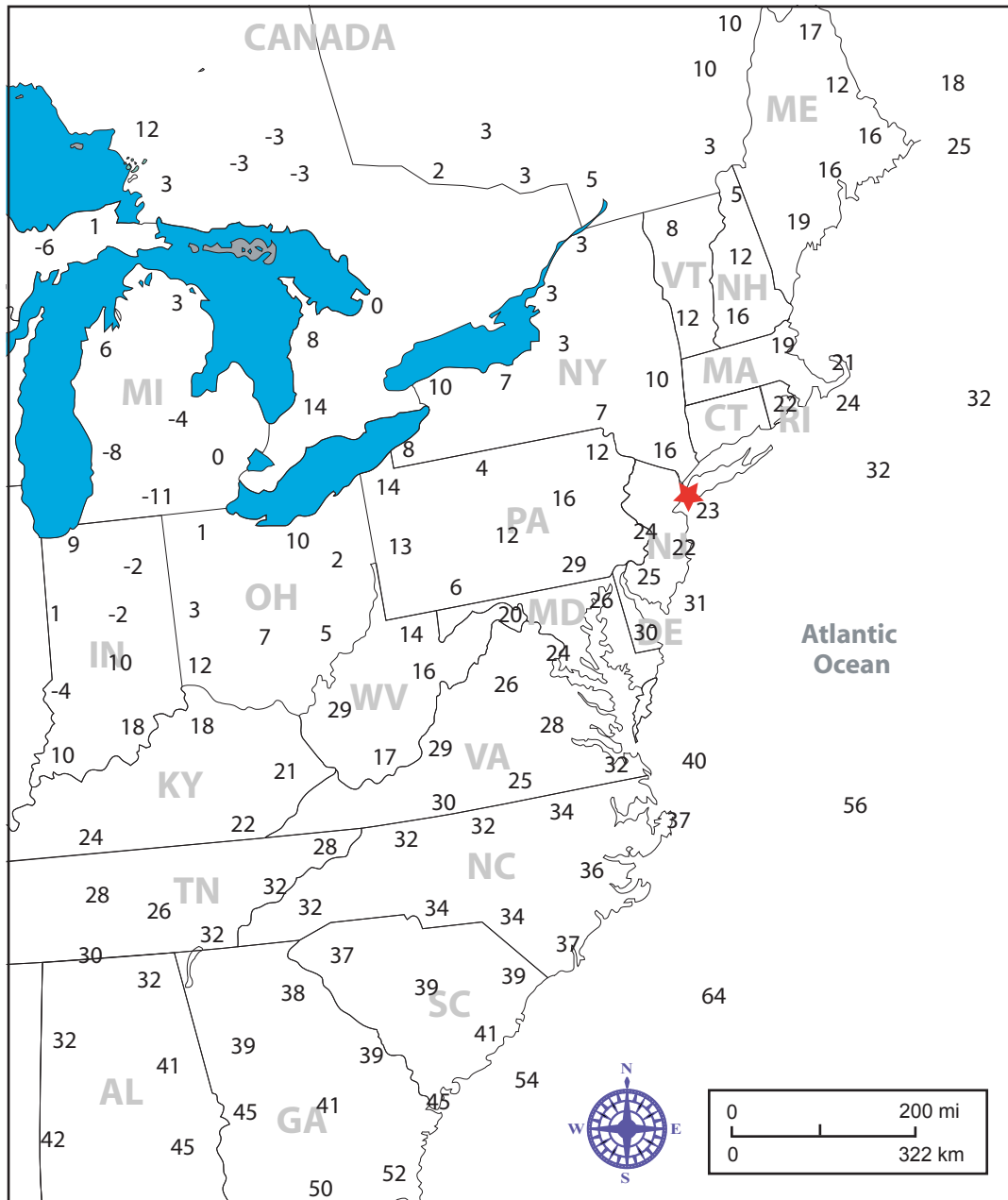
# Temperature Team Surface Temperature - Day 1

The surface temperature readings on this map are in degrees Fahrenheit. On the Fahrenheit scale freezing is 32 degrees.

Circle each number with the corresponding color in the key. DO NOT shade in the circle.

An isotherm is a line on a map joining areas of equal temperature. Use a black pencil to draw an isotherm connecting the 32-degree readings. Looking at surface temperature alone, what type of precipitation is *possible* north of the line? South of the line? Along the line?

Surface Temperature (°F) Day 1 Analysis for 12Z 28 DEC 00



KEY	
Color	°F
Red	>32
Black	32
Blue	<32

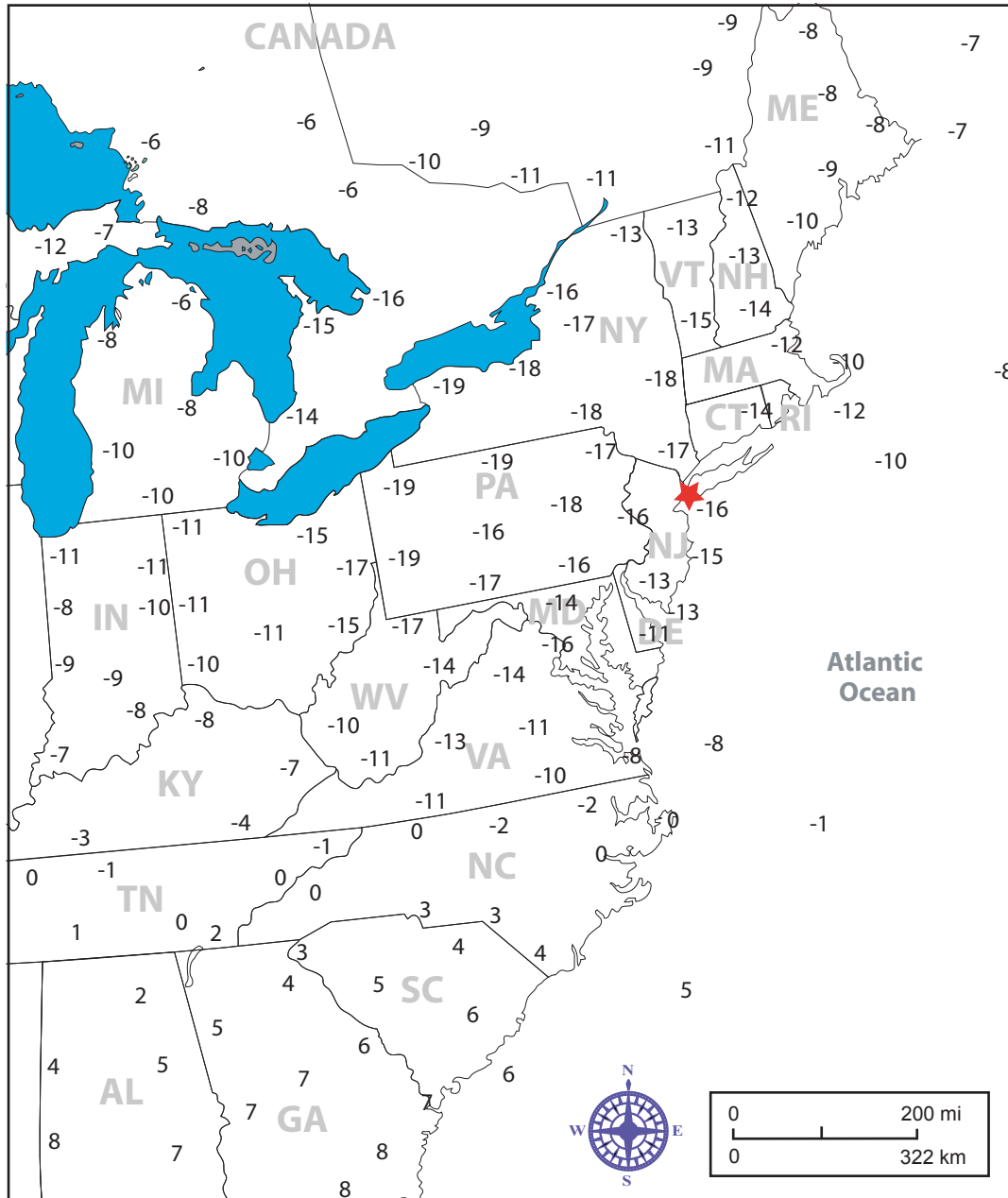
# Temperature Team Upper Air Temperature - Day 1

Most precipitation forms approximately 5,000 feet above sea level, where the air pressure is 850mb. Temperatures at this level affect the *type* of precipitation that forms. The 850mb temperature readings on this map are in degrees Celsius. On the Celsius scale freezing is 0 degrees.

Circle each number with the corresponding color in the key. DO NOT shade in the circle.

An isotherm is a line on a map joining areas of equal temperature. Use a black pencil to draw an isotherm connecting the 0-degree readings. Looking at the 850mb temperature alone, *IF* precipitation develops, what type would form north of the line? South of the line? Along the line?

850mb Temperature (°C) Day 1 Analysis for 12Z 28 DEC 00



KEY	
Color	°C
Orange	>0
Black	0
Green	<0

# Wind Team Upper Air Wind Speed - Day 1

Jet streams are narrow corridors of very strong winds at altitudes from 30,000 to 50,000 feet. They blow in a wavy pattern from west to east across North America at speeds exceeding 90 knots.

The shape of the jet stream is important in weather forecasting. Troughs (U) of low pressure air that dip south bring cold, cloudy weather. Ridges (N) of high pressure air that rise north bring warm, clear weather.

Circle each number with the corresponding color in the key. DO NOT shade in the circle. Do you notice a trough or ridge? What is the position of the jet stream in relation to New York City (indicated by a star)? How might the shape of the jet stream affect the weather in New York City?

KEY	
Color	Knots
Red	≥150
Orange	130-149
Blue	110-129
Green	90-109
Don't Color	<90

