

CULMINATING TASK: Challenge 3

Where will schools have a snow day on February 24?

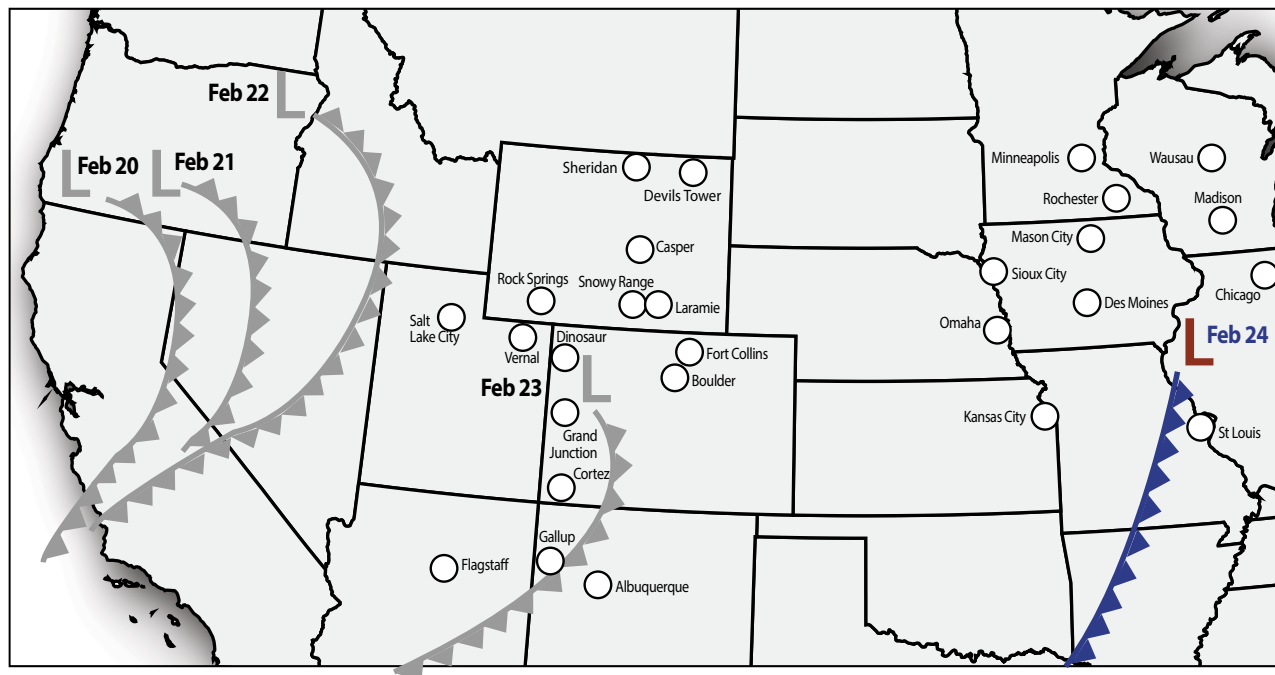
STEP 1: Consider where it snowed on February 23.

To predict the weather, meteorologists take into account what the weather was like the day before. In this case, you are the meteorologist. To predict where snow is likely to fall on February 24, you must take into account where this storm caused snow the day before (February 23).

Choose a color and fill in the circles where it snowed more than 5 cm on February 23 using the snowfall map from Challenge 2: Step 1. Leave circles without a color where little snow (5 cm or less) or no snow fell on February 23.



FEBRUARY 24, 2017





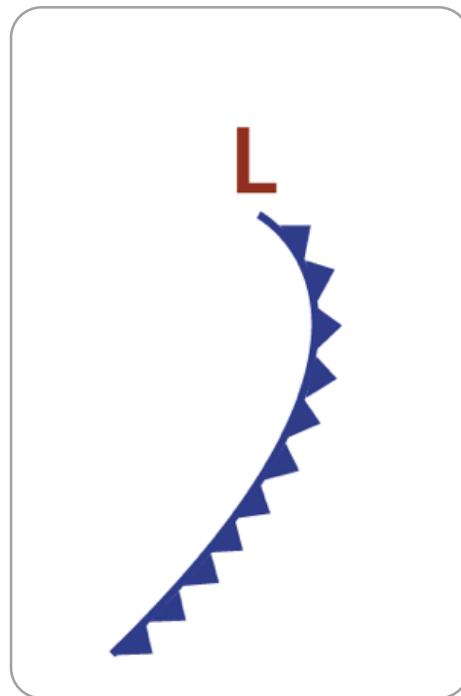
STEP 2: Where's the snow compared to the cold front and low pressure area?

Over North America, it's common for an area of low pressure to be located at the north end of a cold front. Looking at the map on the previous page, what do you notice about the location of the snow on February 23?

Draw the approximate location of snow in relationship to the location of the cold front and the area of low pressure on the diagram on the right.

1. How is the winter storm in this example similar to the cold front model that you developed? How is it different?

WHERE SNOW IS LIKELY:



STEP 3: Make a prediction for where it will snow on February 24.

Based on where the snow fell during this storm on February 23, where do you think snow will fall on February 24?

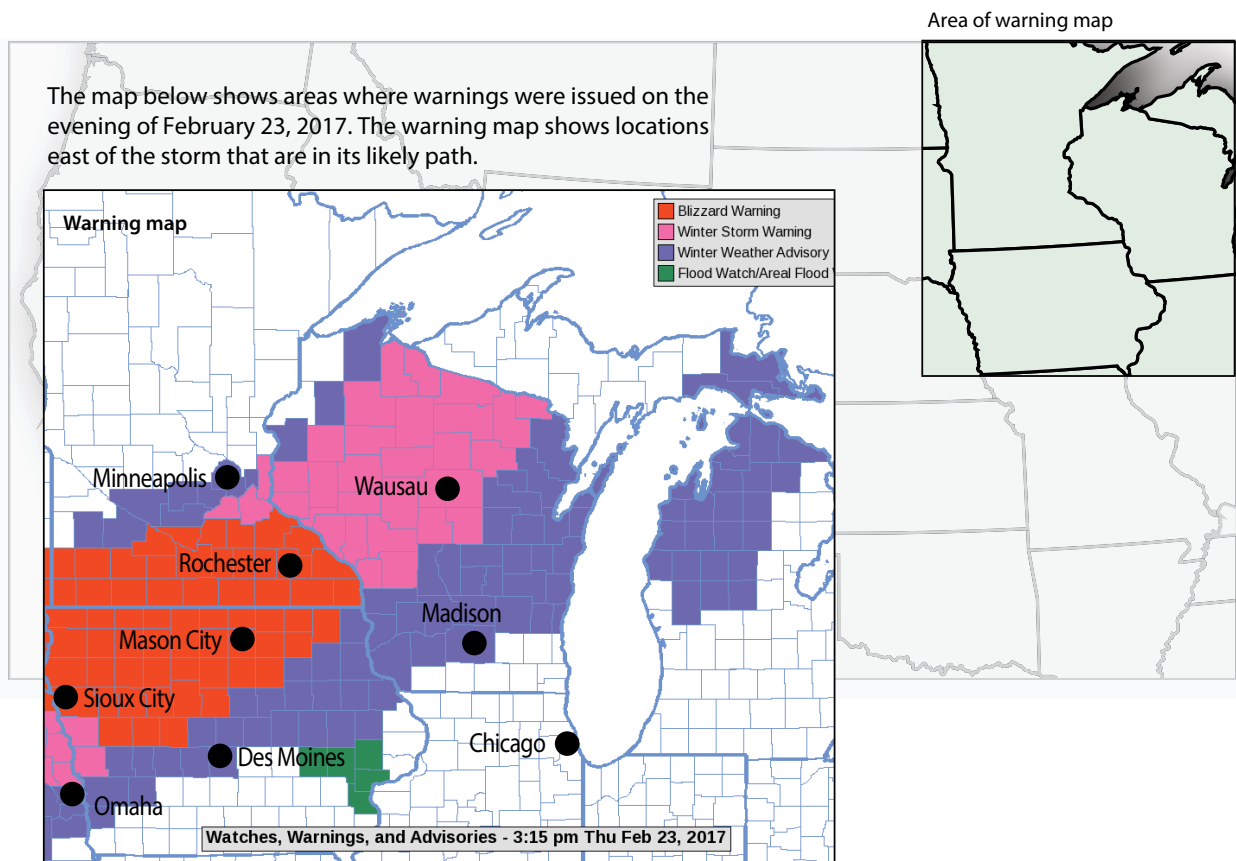
1. **Color in the circles** for towns on the February 24th weather map where you think it will snow more than 5 cm.
2. **Write the names** of the locations below and explain why the locations would receive precipitation.



STEP 4: Warning Map.

The map below shows areas where warnings were issued on the evening of February 23, 2017. The warning map shows locations east of the storm that are in its likely path.

- **A Blizzard Warning** is issued for winter storms with winds of 35 mph or higher and heavy, blowing snow.
- **A Winter Storm Warning** is issued when a winter storm is expected within 36 hours with at least 4 inches (10 cm) of snow or at least 3 inches (7.6 cm) of snow and large amounts of ice.
- **A Winter Weather Advisory** is issued when a low pressure system produces a combination of winter weather (snow, freezing rain, or sleet) that presents a hazard.
- **A Flood Watch** is issued when conditions are favorable for flooding.



Is it a snow day?

Depending on where you live, you might have felt the excitement when snow is in the forecast. Sure, snow is fun no matter when it happens, but when it happens on a school day and school is canceled, that's particularly exciting.

School officials must decide if they're going to cancel school or delay classes. Their job is to keep people safe. How do they make that decision?

In places where snow is rare, like the southeast U.S., a weather forecast that includes any snow and ice might be enough to cause schools to close. These places often don't have snow plows or trucks that add salt or sand to the roads to melt ice. This means that it doesn't take much to make the roads and sidewalks unsafe.

In places where snowy weather is common, towns and cities usually have plans for dealing with it. Schools often do not close for snow if the roads and sidewalks can be cleared. However, schools do close for extreme cold temperatures so that students are not waiting for the bus or walking to school when the temperature is below freezing. Schools might also close if snow is blowing, which reduces visibility.

Many types of weather information are important for school officials to decide whether to cancel school including the timing of the storm, the temperature, the amount of snow, and the amount of wind. School officials take into account whether the National Weather Service has issued weather watches, warnings, or advisories.



1. What locations should cancel school based on the reading above and your predictions of snowfall from Step 3?



STEP 5: Discuss with the class.

Talk with your classmates. Does everyone have the same hypothesis about where it will snow on February 24? Look at where the most snow (more than 15 cm) fell on February 23 and decide which locations might close schools and workplaces on February 24. Take the warning map into account.

