

LEVELED BOOK • O

Blizzards!

MULTI
level
I-L-O

Written by Susan Lennox

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Blizzards!



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Focus Question

What is a blizzard, and how does it affect people?

Words to Know

air pressure
biting
blizzard
dangerous
frostbite

gales
hurricane
whiteout
wind chill

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Horse carts in New York City haul snow away after the Blizzard of 1888.

The Great White Hurricane

On a March Sunday in 1888, rain fell across the northeast coast of the United States. The temperature dropped quickly as night fell. The rain turned to ice, then to snow. By Monday morning, howling winds whipped the falling snow into huge drifts. The “Great White Hurricane” lasted three days and buried the cities of Boston and New York.



Huge snow piles line the roads beneath elevated train tracks in New York City.

When the storm was over, more than four hundred people had died. The **Blizzard** of 1888 had caused millions of dollars in damage. Ships at sea were sunk. Trains were frozen to their tracks, and roads were clogged with snow several stories high. It would be well into the summer before the last of the snow would melt.

Do You Know?

After the 1888 blizzard, trains on elevated tracks could not run. It was because of this blizzard that officials in New York City decided to move the "El" trains below ground and make a subway. Construction on the first section of New York's subway system was completed in 1904.

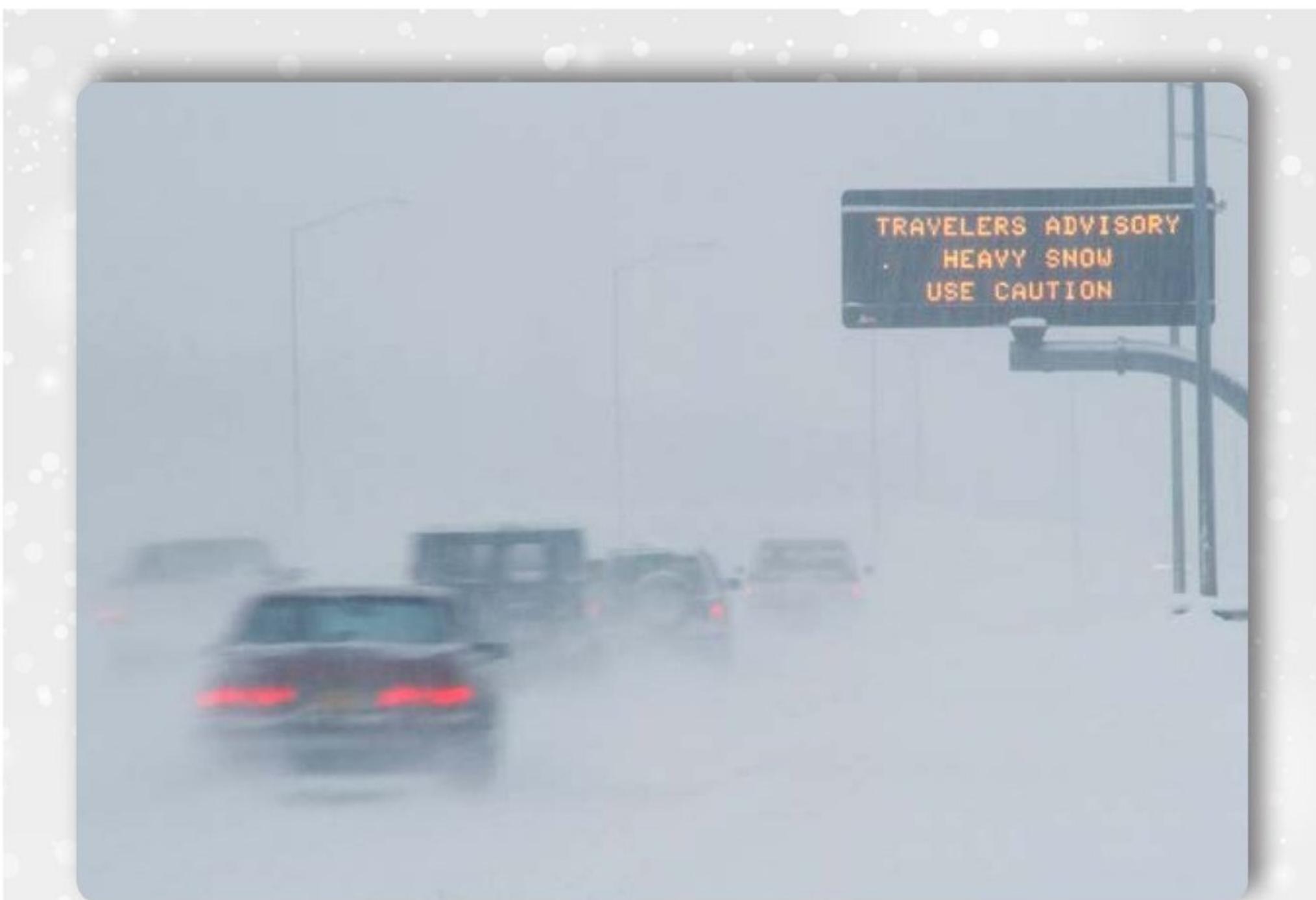


Blizzards are known for fierce winds and blowing snow.

Extreme Storms

Since the Blizzard of 1888, there have been many big snowstorms in the United States. Only some, however, were blizzards.

It takes three things to make a blizzard—strong winds, blinding snow, and freezing cold. In a blizzard, winds blow steadily at more than 35 miles (56 km) per hour. Wind gusts may even reach a hurricane force of 75 miles (119 km) per hour or more.



Whiteout conditions make driving difficult.

The strong **gales** carry falling snow and pick up snow already on the ground. The air becomes a spinning cloud of white, making it difficult to see. This is known as a **whiteout**. In a whiteout, no one can see anything more than a quarter of a mile (402 m) away. Safe travel is nearly impossible.

Word Wise

The word *blizzard* originally meant “a violent hit or blow.” It was used to describe shots fired from a cannon. A small-town Iowa newspaper was the first to use it to describe a powerful snowstorm in the 1870s.

Effect of Wind Chill

Actual air temperature 0°F

When the wind speed is... ...it feels like

5 mph

-11°F

10 mph

-16°F

15 mph

-19°F

20 mph

-22°F

The **biting** winds also make chilly air feel even colder than it really is. Blowing gales create something called **wind chill**. Wind chill causes the body to lose heat faster. It feels like it is in air that is much colder. Wind chill can cause bare skin to freeze, leading to a painful condition known as **frostbite**.



Bundling up protects against wind chill and keeps skin safe from freezing.



Snowstorm clouds form and roll across a lake.

Birth of a Blizzard

Blizzards start as snowstorms. Moist warm air meets cold air, forming clouds. The moisture in the clouds freezes into flakes. If the air near the ground is cool enough, the flakes fall as snow.

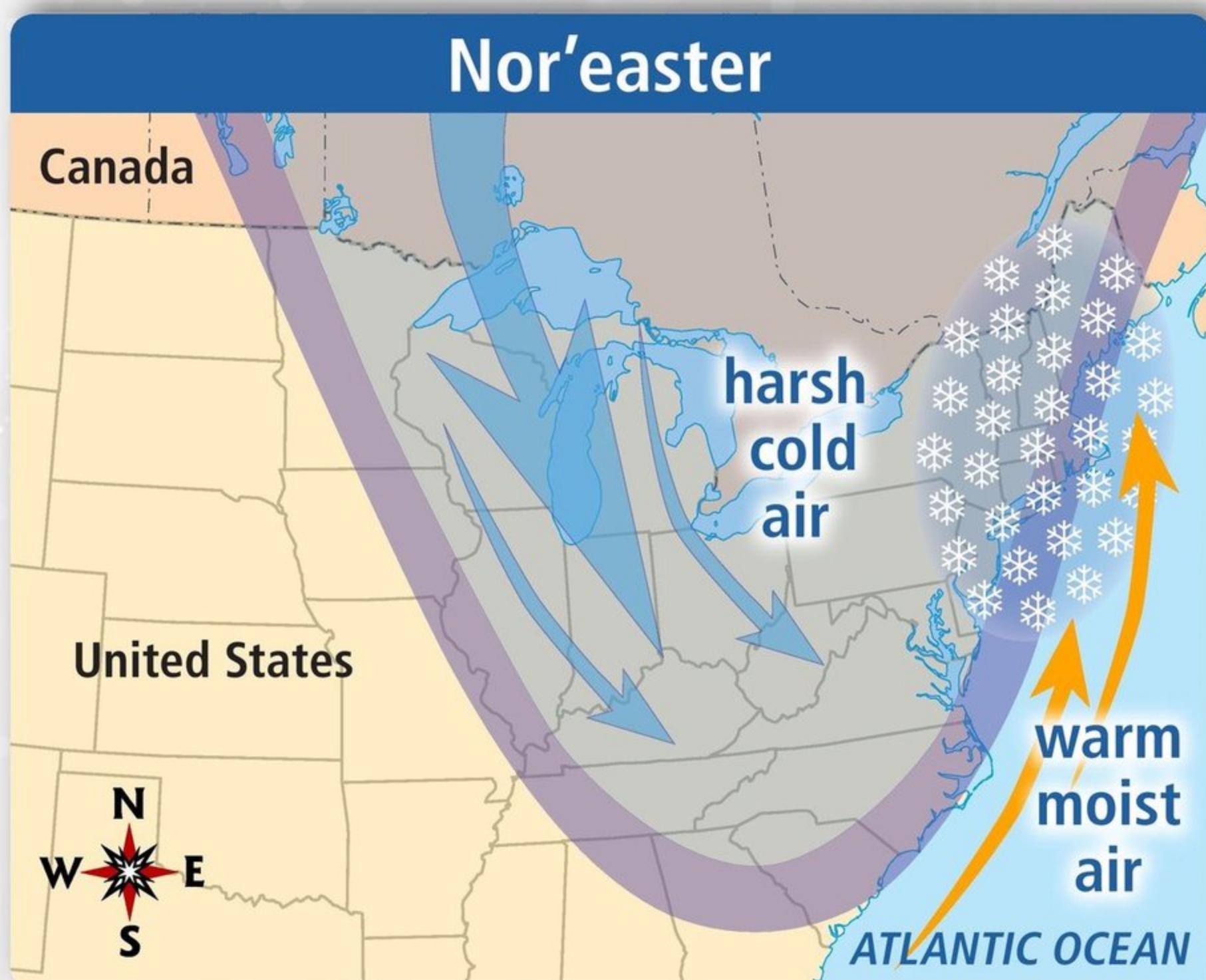
Storm systems have lower **air pressure** than the clear skies around them. This difference in air pressure causes air to move and creates wind. The greater the pressure difference, the stronger the wind. Blizzards usually form on the side of a snowstorm where the pressure difference is greatest.



In 2016, a massive blizzard dumped several feet of snow across Virginia and Washington, D.C. Here, a cross-country skier glides past the Capitol building during the record-breaking storm.

Blizzard Country

Blizzards can happen anywhere there is snow, but some places are more likely to have them than others. The East Coast of the United States is one such place. In winter, cold air sometimes sweeps down from Canada. The cold northeastern air meets warm, moist air flowing up from the south. This forms a storm called a *nor'easter*. A nor'easter can last for several days and makes a lot of snow.



Nor'easters travel north up the East Coast.

Alberta Clipper



This map shows the typical path of an Alberta Clipper snowstorm.

Sometimes a fast-moving snowstorm begins in Canada's western mountains. It then travels east across the American plains, toward the coast. This type of storm is called an Alberta Clipper. Clippers don't bring a lot of snow. They are known instead for their strong winds and bitter cold.

Many of North America's blizzards start out as nor'easters or Alberta Clippers.



A woman walks past a snow-covered statue in Vladivostok, Russia.

Blizzards don't just happen in North America, though. Parts of Asia may have powerful blizzards that last for days. Northeast Russia experiences bitter cold and strong winds in winter. In December 2014, it had its worst blizzard in years. Icy cold winds spread more than a foot of snow across the land.



People wait in line to buy groceries before a blizzard.

Being Prepared and Staying Safe

The mix of wind, snow, and cold makes a blizzard very **dangerous**. The wind chill and low temperature can make flesh freeze. Swirling snow makes it hard to see and can lead to accidents. Blowing snow makes it hard for road crews to clear highways. Wind gusts may also knock down trees and power lines. People can find themselves in the dark, struggling to stay warm.

Unlike years ago, it is now easier to predict when and where blizzards will strike. Today, people have time to prepare. They can make sure they have batteries and flashlights in case of a power loss. Families can stock up on food and water. They can also figure out other ways to keep warm, such as using fireplaces or woodstoves.

Once they are prepared, people should settle in and wait out the storm. Those who must go out should make sure they are dressed warmly. Even then, people should not stay out for very long. The best place to be in a blizzard is inside.



When the storm ends, people can then safely head outside to enjoy the snow it left behind!

Glossary

air pressure (n.)	the force of air in the atmosphere (p. 9)
biting (adj.)	painfully cold (p. 8)
blizzard (n.)	a severe snowstorm with cold temperatures, heavy snows, and strong steady winds (p. 5)
dangerous (adj.)	able or likely to cause harm (p. 14)
frostbite (n.)	damage to body parts as a result of being in extreme cold (p. 8)
gales (n.)	very strong winds (p. 7)
hurricane (n.)	a strong, spinning storm with heavy rain and high winds that starts over an ocean (p. 4)
whiteout (n.)	a situation where blowing snow fills the air and makes it difficult to see anything around one (p. 7)
wind chill (n.)	an effect of blowing wind that causes the body to lose heat faster and makes the air feel colder than it really is (p. 8)

Blizzards!

A Reading A-Z Level O Leveled Book

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Connections

Writing and Art

Imagine being in the middle of a blizzard. Write a journal entry about what happened, including how you prepared for the blizzard and what you saw.

Science

Use a Venn diagram to compare a blizzard with another type of storm. Share your Venn diagram with a partner.

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