

What you need to know about ...

Wind Barbs



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Wind barbs are a convenient way to represent both wind direction and speed. Wind barbs have three parts: a dot, a staff and feathers or flags.

Wind Direction

The staff part of a wind barb shows wind direction. The dot end of the staff is where the wind is blowing to, while the top of the staff shows the direction from which the wind is coming. The top row of wind barbs in the figure to the right all indicate a north wind. The dot is to the south and the top of the wind barb staff is to the north. The second row of wind barbs in the figure to the right shows how the wind barb is rotated to denote different wind directions.

Wind direction can also be reported as a compass degree. There are 360 degrees on the compass, with north being 0 or 360 degrees and south 180 degrees.

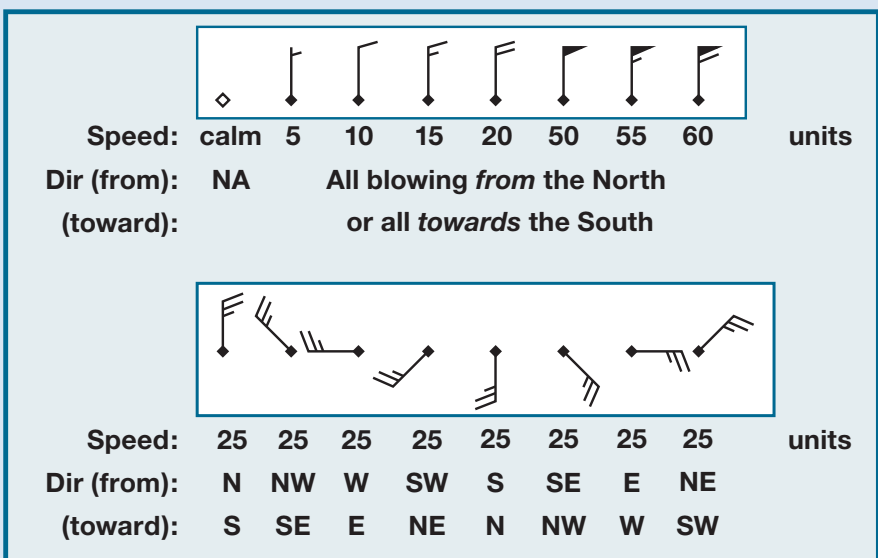
Wind Speed

Wind speed is indicated by feathers added to the top of the staff. These feathers show wind speed adjusted to the nearest 5 mph increment.

A short feather represents a 5 mph average wind speed. A long feather equals 10 mph. A pennant or flag is

used to show a 50-mph wind speed. When winds are 2 mph or less, a small open circle is used.

Feathers and pennants are combined to denote various wind speeds. For example, two long feathers and a short feather represent a 25 mph wind, as seen in the second wind barb row in the figure below.



Wind barbs show wind speed and direction. Above are examples of varying winds.

wind power

Wind is a form of solar energy. Winds are caused by the uneven heating of the atmosphere by the sun, the irregularities of the earth's surface and rotation of the earth.

Ranked eighth in the nation for its wind resources, Oklahoma is now harnessing clean, renewable wind energy to help meet energy needs.

Wind power is the fastest growing energy source in the world. It is not only a clean and renewable source of electricity, but it can also be cost effective. Oklahoma alone has enough wind resource potential to supply almost 10 percent of the nation's electricity needs. Currently, about 3 percent of Oklahoma's electricity is from wind power.

Since ancient times, people have used wind for energy. Over 5,000 years ago, the ancient Egyptians used wind to sail ships on the Nile River.

American colonists used windmills to grind wheat and corn, to pump water, and to cut wood at sawmills. As late as the 1920s, Americans used small windmills to generate electricity in rural areas without electric service. When power lines began to transport electricity to rural areas in the 1930s, local windmills were used less and less, though they can still be seen on some Western ranches.

The oil shortages of the 1970s changed the energy picture for the country and the world. It created an interest in alternative energy sources, paving the way for the re-entry of windmill technology to generate electricity.

In the early 1980s wind energy took off in California, partly because of state policies that encouraged renewable energy sources. Support for wind development has since spread to other states. Texas is currently the leader in wind energy with Oklahoma ranking just out of the top ten.

Our story



In 1982, Oklahoma scientists recognized the need for a statewide weather network.

At OSU, agricultural scientists wanted to upgrade weather instruments at their research sites. Their goal was to expand the use of weather data in agricultural applications.

Meanwhile, scientists from OU and the Oklahoma Climatological Survey were helping to plan and implement a flood-warning system for Tulsa.

OSU and OU joined forces in 1987 when they realized that one statewide weather network would help both universities achieve their missions. No other state or nation is known to have a network that boasts the capabilities of the Oklahoma Mesonet.

Agweather is one Web site that features data from the Oklahoma Mesonet. Agweather can be found at <http://agweather.mesonet.org/>.

Agweather
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