

# Weather Fronts

35  
30  
25  
20  
15  
10  
5  
miles per hour



10-meter Winds (mph)

3:50 PM January 11, 2012 CST

Created 3:53:51 PM January 11, 2012 CST. © Copyright 2012

Looking at wind speed and direction can help you identify a front. Go to [www.mesonet.org/](http://www.mesonet.org/). Click on "Weather", select "Wind" and "Gradient-Filled Wind Map." For help, call (405) 325-3126.

## Weather Fronts

A weather front is the boundary between two air masses. When a front passes over an area, temperature, wind speed and direction, atmospheric pressure and precipitation levels can change. The three types of fronts are cold, warm and stationary.

### What is a cold front?

A cold front is when cold air is replacing warm air at the surface. Cold fronts tend to move fast and are associated with violent weather. Cold fronts usually bring cooler weather, clearing skies and a sharp change in wind direction.

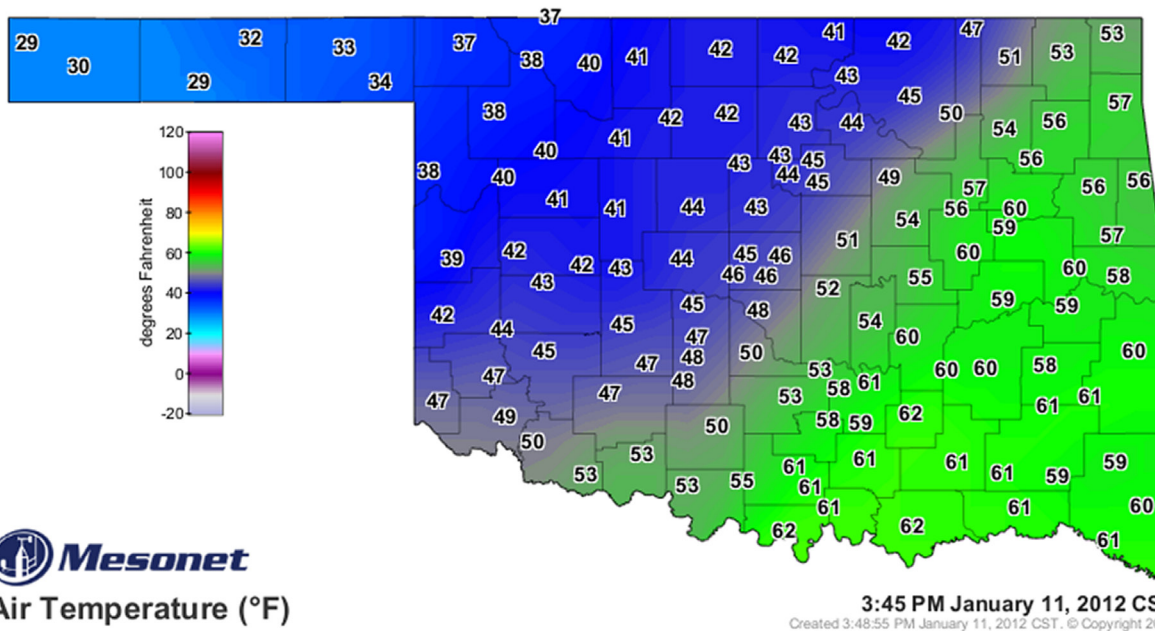
### What is a warm front?

A warm front is when warm air replaces cooler air at the surface. Warm fronts tend to move slowly and are likely to bring light to moderate continuous rain. Clear skies and humid air usually follow warm fronts.

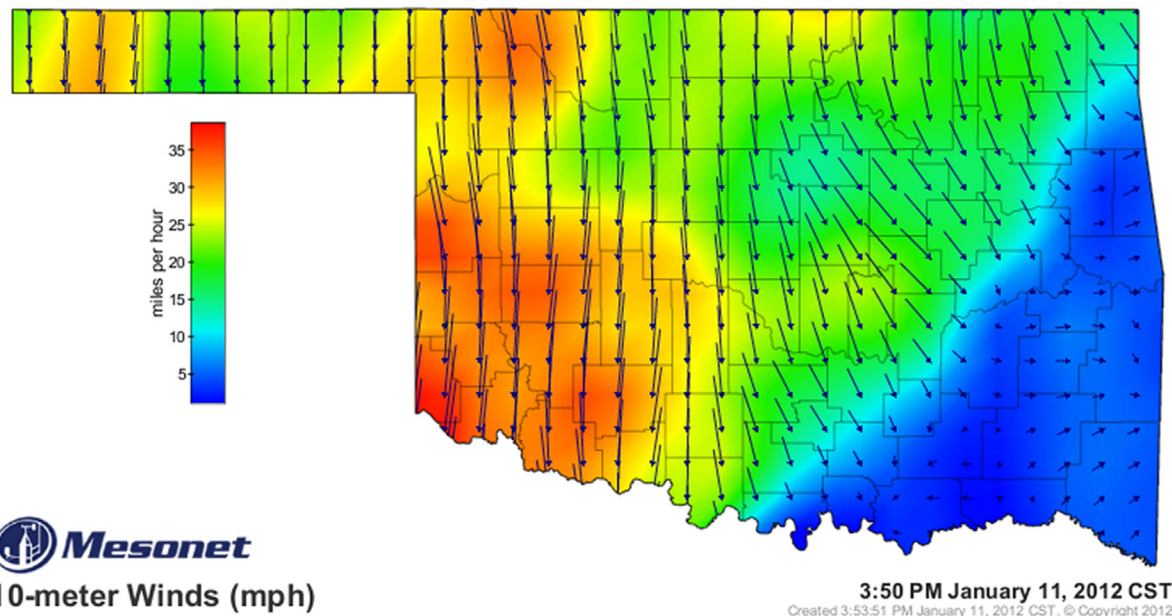
### What is a stationary front?

A stationary front is a boundary between two different air masses, neither of which is strong enough to replace the other. They tend to remain in the same area for extended periods of time, usually moving in waves. A wide variety of weather can be found along a stationary front, but usually clouds and prolonged precipitation are found there. Stationary fronts will dissipate after several days, but can change into a cold or warm front if conditions aloft change. Stationary fronts are more numerous in the summer months. Stationary fronts are marked on weather maps with alternating red half-circles and blue spikes pointing in opposite directions, indicating no significant movement.





**To locate a front using temperature maps...**  
Sharp temperature changes over a relatively short distance can indicate a front. In this example, the front runs diagonally from Tulsa to Oklahoma City to Lawton. To view temperature maps, go to [www.mesonet.org/](http://www.mesonet.org/). Choose Weather, Air Temperature and then click the Air Temperature map.



**To locate a front using wind maps...**  
A second way to identify fronts is wind direction. In this example, the winds moving to the south and southeast are much stronger than the winds where the front has not yet passed. To see wind speed and direction, go to [www.mesonet.org/](http://www.mesonet.org/). Choose Weather, Wind and then select Gradient-Filled Wind map.

## Our Story

The Oklahoma Mesonet is a world-class network of environmental monitoring stations. The network was designed and implemented by scientists at the University of Oklahoma (OU) and at Oklahoma State University (OSU).

The Oklahoma Mesonet consists of 120 automated stations covering Oklahoma. There is at least one Mesonet station in each of Oklahoma's 77 counties.

At each site, the environment is measured by a set of instruments located on or near a 10-meter-tall tower. The measurements are packaged into "observations" every 5 minutes, then the observations are transmitted to a central facility every 5 minutes, 24 hours per day year-round.

The Oklahoma Climatological Survey (OCS) at OU receives the observations, verifies the quality of the data and provides the data to Mesonet customers. It only takes 5 to 10 minutes from the time the measurements are acquired until they become available to the public.

