

# What you need to know about ... **Weather Fronts**

photo taken from <http://www.dreamworksfansite.com/>  
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A weather front is the boundary between two air masses. When a front passes over an area, temperature, wind speed, wind directions, atmospheric pressure and precipitation levels can change.

There are three types of fronts: 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.

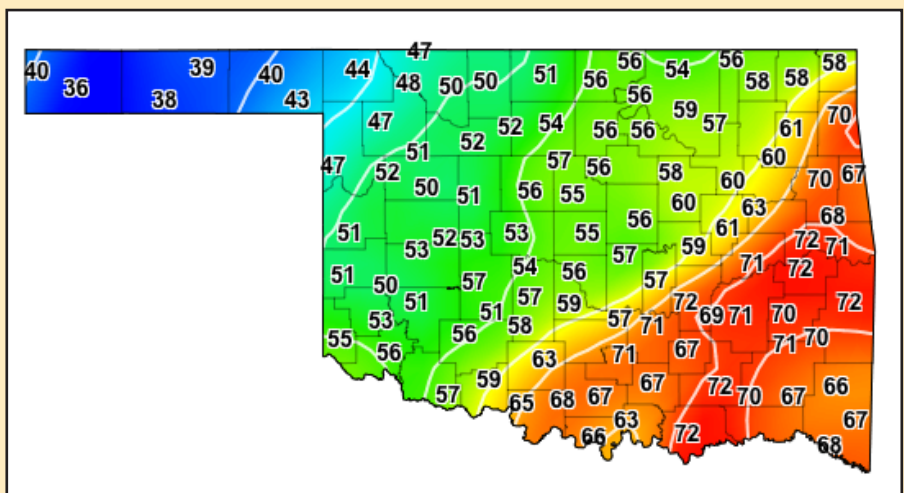
Clear skies and humid air usually follow warm fronts.

## Cold front

- Cold air is replacing warm air at the surface
- Fast moving
- Can cause severe weather

## Warm front

- Warm air is replacing cool air at the surface
- Slow moving
- Can cause continuous rain



Sharp temperature changes over a relatively short distance can indicate a front. To view temperature maps, go to <http://agweather.mesonet.org/>. Choose "Weather", then "Air Temperature", and select "Current Air Temperature".

## 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 essentially in the same area for extended periods of time, usually moving in waves.

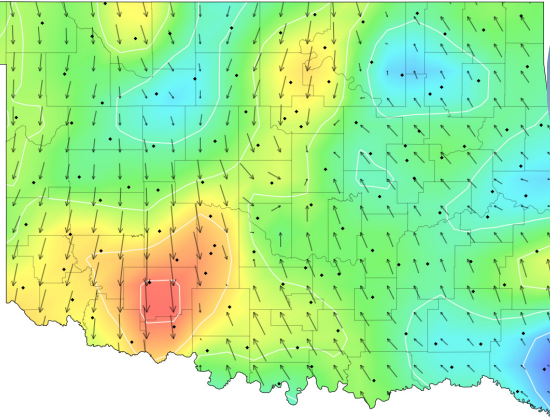
A wide variety of weather can be found along a stationary front, but

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.

## To locate a front using wind...

Viewing wind direction and wind speed allows you to see drastic changes in wind direction. In this example, you can see strong northern winds moving across northwestern Oklahoma and meeting winds from the south in southeast Oklahoma.



### To view this map:

- Start at <http://agweather.mesonet.org>
- Select "Wind"
- Choose "Current Wind"

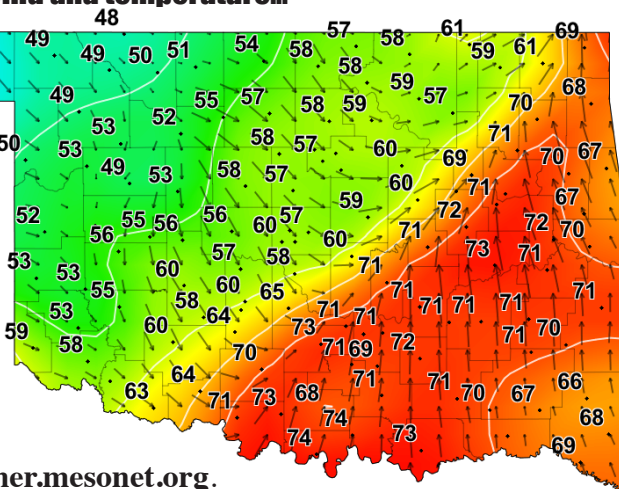
## To locate a front using wind and temperature...

An effective way to identify fronts is to use a combination of wind direction and temperature.

In this example, the front is easy to identify as the winds shift from south to north and the temperatures drop drastically.

### To view this map:

- Start at <http://agweather.mesonet.org>
- Select "Weather"
- Choose "Wind"
- Click "Wind and Air Temperature"



# 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 provides weather-related products for agriculture and natural resources.

Agweather can be found at <http://agweather.mesonet.org/>.

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