

How to Predict Weather

When you are on your wilderness trip, some basic knowledge about how to predict weather will help you to take appropriate action for not getting into trouble and risk your safety.

1. Air pressure

Changing weather means changing air pressure. Decreasing air pressure indicates the approach of a low pressure area, which often brings clouds and precipitation. Increasing air pressure often means that a high pressure area is approaching, bringing a fine and clear day. A barometer measures air pressure and is a well-known instrument to predict weather.

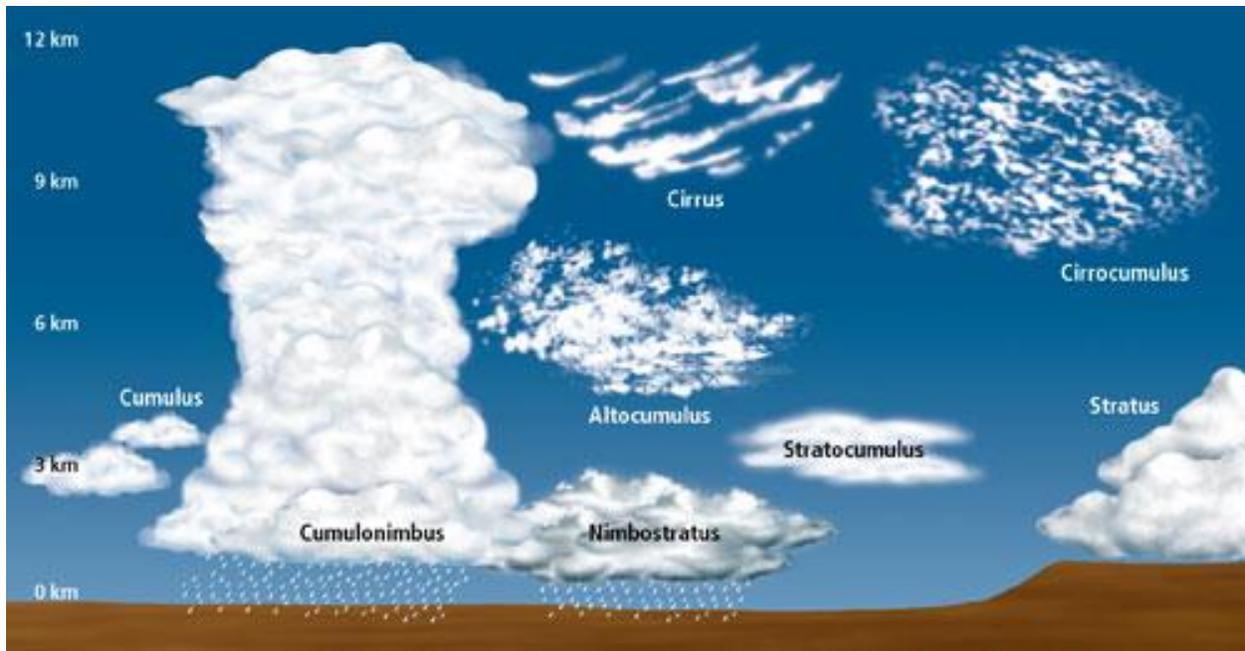
There are also nature signs of changing air pressure that can be used to forecast weather. For example, on a fine and clear day, the smoke from the campfire rises steadily. If it starts swirling and descending, the air pressure decreases and bad weather will be expected.

2. Clouds

An ability to accurately read cloud formations is important when you want to understand how to predict weather. [Clouds are classified](#) into different types, according to height and shape. Not all clouds bring rain; some are signs of fine weather.

During a fine day (1), the clouds are white, the higher the finer. Storm clouds (2) are generally black, low, and massed in large clusters. If wet weather is approaching (3), the cloud will form a grayish veil. This means it is time to take shelter.





- 1) **Cirro-**: curl of hair, high. 3) **Strato-**: layer. 5) **Cumulo-**: heap.
- 2) **Alto-**: mid. 4) **Nimbo-**: rain, precipitation.

High-level clouds:

High-level clouds occur above about 20,000 feet and are given the prefix "cirro-". Due to cold tropospheric temperatures at these levels, the clouds primarily are composed of ice crystals, and often appear thin, streaky, and white (although a low sun angle, e.g., near sunset, can create an array of color on the clouds).

The three main types of *high clouds* are **cirrus**, **cirrostratus**, and **cirrocumulus**.

Mid-level clouds:

The bases of clouds in the middle level of the troposphere, given the prefix "alto-", appear between 6,500 and 20,000 feet. Depending on the altitude, time of year, and vertical temperature structure of the troposphere, these clouds may be composed of liquid water droplets, ice crystals, or a combination of the two, including supercooled droplets (i.e., liquid droplets whose temperatures are below freezing).

The two main type of *mid-level clouds* are **altostratus** and **altocumulus**.

Low-level clouds:

Low-level clouds are not given a prefix, although their names are derived from "strato-" or "cumulo-", depending on their characteristics. Low clouds occur below 6500 feet, and normally consist of liquid water droplets or even supercooled droplets, except during cold winter storms when ice crystals (and snow) comprise much of the clouds.

The two main types of low clouds include **stratus**, which develop horizontally, and **cumulus**, which develop vertically.

3. Red Sky

A red sky at either dusk or dawn is one of the most beautiful natural signs you can use to predict the weather. At dusk, a red sky indicates that the next day will probably be a dry and fine day. This is due to the sun shining through dust particles being pushed ahead of a high pressure system bringing in dry air. A red sky at dawn often means that an approaching low pressure system is bringing in a lot of moisture in the air. This is a fair indication that a storm is approaching.

4. How animals predict the weather

Animals sense the movements in air pressure that precede all weather changes. Watch the animals around you and see if you notice changes in their behavior with various types of weather. Humans have used animal behavior to predict weather and storms for centuries. Right before a rain, insect-eating birds, such as swallows, have a tendency to fly much lower to the ground, and bees and butterflies seem to disappear from the flower beds they usually visit.