

Weather Forecasting

About 200 years ago an Englishman classified clouds according to what they looked like to a person seeing them from the ground. He grouped them into three classes and gave them Latin names: cirrus, cumulus, and stratus. These three names, alone and combined with other Latin words, are still used to identify different cloud formations. By being familiar with the different cloud formation and what weather they indicate, you can take appropriate action for your protection.



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Cirrus Clouds

Cirrus clouds are the very high clouds that look like thin streaks or curls. They are usually 6 kilometers or more above the earth and are usually a sign of fair weather. In cold climates, however, cirrus clouds that begin to multiply and are accompanied by increasing winds blowing steadily from a northerly direction indicate an oncoming blizzard.



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Cumulus Clouds

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Cumulus clouds are fluffy, white, heaped-up clouds. These clouds, which are much lower than cirrus clouds, are often fair weather clouds. They are apt to appear around midday on a sunny day, looking like large cotton balls with flat bottoms. As the day advances, they may become bigger and push higher into the atmosphere. Piling up to appear like a mountain of clouds. These can turn into storm clouds.



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Stratus Clouds

Stratus clouds are very low, gray clouds, often making an even gray layer over the whole sky. These clouds generally mean rain.



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Nimbus Clouds

Nimbus clouds are rain clouds of uniform grayness that extend over the entire sky.



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Cumulonimbus Clouds

Cumulonimbus is the cloud formation resulting from a cumulus cloud building up, extending to great heights, and forming in the shape of an anvil. You can expect a thunderstorm if this cloud is moving in your direction.



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Cirrostratus Clouds

Cirrostratus is a fairly uniform layer of high stratus clouds that are darker than cirrus clouds. Cirrostratus clouds indicate good weather.



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Cirrocumulus Clouds

Cirrocumulus is a small, white, round cloud at a high altitude. Cirrocumulus clouds indicate good weather.



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Scuds

A loose, vapory cloud (scud) driven before the wind is a sign of continuing bad weather.

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Natural Weather Forecasting

Primitive man was not as primitive as we might think. Even though he may have had to use mythological creatures in the sky and other “uneducated” methods to explain his perceptions, he still knew that if he saw birds roosting close to the ground, rain or snow was imminent, large crops of acorns presaged a harsh winter, and the clarity of those mysterious twinkling lights in the sky at times told him that the weather was about to change.

Today, many educated people will dismiss old time weather lore as fables simply designed by primitive man to explain mysteries of nature that he could not explain any other way. On the other hand, in a time when modern forecasters usually are accurate only about 50% of the time, most people can remember at least one weather saying their parents or grandparents swore by. Do you ever remember as a child smelling that clean, fresh air that came before a rain, or the sound of crickets and frogs greeting the arrival of new moisture? Not all weather predictions worked, but many did indeed have a basis in scientific fact. Let's take a look at some that have been around a long, long time and the reasons that some of them are right.

The Moon

The moon has always been a source of fascination and wonder for primitive man. It was also one of the main weather predictors found in folklore that many times does have a scientific basis. “If the new moon holds the old moon in her bosom, the weather will be fair.” This occurs due to clear, stable, and dry air proceeding a high pressure system. It is this clarity that enables you to see the dark part of the crescent moon holding the old moon. This is usually a good predictor of 24 to 48 hours of good weather. “A ring around the moon brings rain or snow.” Another similar saying is, “When the moon is in her house, rain or snow will come.” When the moon appears to have a halo or ring around it, this is due to cirrus clouds in the higher altitudes. Cirrus and cirrostratus clouds typically proceed low pressure systems bearing moisture. These clouds also contain ice crystals which refract light, giving the impression of a ring. By counting the number of stars contained within the ring, you can fairly accurately predict how long away the rain or snow will be. Each star represents approximately 24 hours, but a faint star always gets 12 hours as far as I'm concerned. I've seen this work time after time, never seeming to fail. “If the crescent moon is tipped on its side (horns pointing up), it's going to rain or snow.” This one is up to you. I always go by this as being a predictor of rain since the moon then appears bowl shaped and seems to be filling with water (rain). If the horns are tipped to the side, some people believe that water is going to pour out on you. Still other books will say that this changes ever so many years and you just have to keep a weather eye on it.

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"If the moon's face is red, of water she speaks." This saying of the Zuni Indians of the Southwest is very accurate. The red color is due to the presence of dust being pushed ahead of a low pressure front bringing in moisture.

The following chart refers to the time when the moon changes into a new phase such as a new moon, first quarter, full moon, and last quarter. Depending on when it makes this change, the weather for the next few days should follow the chart faithfully. At least this is how the theory developed over one hundred years ago went.

If the moon changes between:	The weather will be:
Midnight and 2:00 A.M.	Fair
2:00 and 4:00 A.M.	Cool and Stormy
4:00 and 8:00 A.M.	Wet
8:00 and 12:00 Noon	Variable
12:00 Noon and 2:00 P.M.	Rainy and Blustery
2:00 and 4:00 P.M.	Mild with Showers
4:00 and 8:00 P.M.	Fair but Windy
8:00 and 10:00 P.M.	Clear and Cold
10:00 P.M. and Midnight	Fair

The Sun

While not used as a weather predictor as often as the moon, the sun does offer some hints to future weather changes.

Sun Dogs : If you look up around the middle of the day and see a rainbow or white band around the sun, look for a drastic change in the weather within 12-24 hours. If the weather is clear, plan on stormy weather; if the weather is dreary, plan on fair weather to arrive. A Sun Dog is the equivalent of a halo around the moon. If the weather is foggy and you see a sun dog, expect the fog to clear shortly.

Red Sun: A red sun at dusk or dawn indicates dry weather. Compare this with a red sky at dusk or dawn as some people tend to confuse these two.

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Red Sky

A red sky at either dusk or dawn is one of the more spectacular and beautiful natural weather predictors. By closely observing this phenomenon, you can achieve short range accuracy as good as or better than your local weatherman.



In the Bible, Jesus in Matthew 16:2-3 is quoted as saying, "When it is evening ye say, it will be fair weather: for the sky is red. And in the morning it will be foul weather today: for the sky is red and lowering" when speaking to the Pharisees. An old English weather proverb based on this passage is: "Red sky at night, sailors delight, Red sky at morning, sailors take warning"; or "Evening red and morning gray, sends the traveler on his way. Evening gray, morning red, brings the rain down on his head."

At dusk, a red sky indicates that dry weather is on the way. 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 in the morning is due to the sun again shining through dust. In this case, however, the dust is being pushed on out by an approaching low pressure system bringing in moisture. Don't confuse a red sky in the morning with a red sun in the morning. If the sun itself is red and the sky is a normal color, the day will be fair.



Rainbows

Rainbows play an integral part in weather predictions. Halos around the moon and sun dogs are both rainbows. A rainbow is also an obvious indicator of rain as it refracts the light and breaks it down into colors. Rainbows in the morning to the west indicate approaching rain, while a rainbow at sunset indicates that the rain is leaving and fair weather is on the way.

Atmospheric Pressure

As the air pressure around you either rises or falls, many changes in nature occur. Most of these are very obvious changes while others are of a more subtle nature. If you find yourself out in a marsh or swamp and the air really seems to stink more than normal, expect rainy weather. This happens when the pressure drops and the methane trapped on the bottom of the swamp is released in greater quantities.

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In reverse, as fair weather approaches and the pressure rises, things won't smell quite so strong. Mountains and other far away objects will appear to be much closer and more sharply focused as wet weather approaches and the air pressure drops. The dust particles in the air begin to settle to the ground and the air clears, allowing you to see more details of faraway objects. As a high pressure front approaches and the air becomes "thicker," more dust particles become suspended in air and things take on their normal somewhat hazy appearance.

Sound also becomes sharper and more focused prior to stormy weather. Instead of traveling upward and outward into the atmosphere sound waves are bent back to the earth and their range extended. Bird calls sound sharper, and, at my house, we can hear the blowing of the train horn as it rumbles through the valley below. "Sharp horns on the moon threaten bad weather." This and a bright, clear moon are good indicators that wet weather is on the way. As the air clears of dust particles ahead of a low pressure system, the moon appears to come closer and be more sharply focused due to the lack of dust.



Remember a grandparent talking about how their corns, bunions, or joints ached right before a rain? Again, this is due to the decreasing atmospheric pressure allowing the gas in our bodies to expand.

Birds and bats have a tendency to fly much lower to the ground right before a rain due to the "thinning" of the air. They prefer to fly where the air is the most dense and they can get greater lift with their wings. With high pressure and dry air, the atmosphere becomes more dense and they can easily fly at higher altitudes. Some references state that birds and bats fly lower to the ground to ease the pain in their ears due to the lowered pressure. I don't believe this has any basis in fact, however.

Smoke rising straight into the air means fair weather and smoke hanging low means rain is on the way. This is pretty much the same as with the birds and methane in the swamp. When high pressure approaches, smoke will rise whereas with low pressure it can't rise and tends to lay low.

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Clouds

An ability to accurately read cloud formations is invaluable in predicting the weather. For a more detailed look into this, consult a good book on the weather. Each type of cloud is caused by specific actions in nature building up to fair weather, rainy weather, tornados, hail, etc. "Mare's tails and mackerel scales make tall ships carry low sails." Mare's tails are actually cirrus clouds. They are found high in the atmosphere and are pulled into long streamers resembling the tail of a mare. The mackerel scales are altocumulus clouds. If a sailor noticed these, he knew that within 12 to 36 hours, the weather would be way too rough to be out on the open water.

Plants and Animals



Both of these seem to be uncanny in their ability to predict good and bad weather. Dogs and cats are notorious for knowing when a tornado or earthquake is imminent. Birds roost early and feed heavily before a rain or snow, and pigs and squirrels gather more debris to insulate themselves from cold weather.



Plants and certain fungi such as rainstars can also accurately forecast the certainty of wet and dry weather.

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Chickweed, dandelions, bindweeds, wild indigo, clovers, and tulips all fold their petals prior to a rain.

Rainstars, a type of fungus, open up prior to a rain and close in dry weather. Mushrooms abound when the weather is moist as well as do mosses and seaweeds. In fact, seaweeds exposed on the rocks at low tide seem to swell and rejuvenate in the high humidity proceeding wet weather. When the atmosphere reaches about 80% humidity, the bog pimpernel closes and gives rise to this old weather saying: "Pimpernel, pimpernel, tell me true, Whether the weather be fine or no; No heart can think, no tongue can tell, The virtues of the pimpernel."

Long Range Forecasting

Not all of these sayings hold true every time under every circumstance, but you might be surprised at just how accurate they tend to be. I remember back to the blizzard of 1993 and how amazed my friends were when the previous fall I was able to predict to the week that we would be having an enormous snowfall that spring. To say the least, there were a lot of surprised people when we ended up being snowed in for a week with the blizzard of the century.



There are a lot of signs for forecasting the weather a long way out with some of them being more accurate than others, but with all of them being controversial. I agree with the folklore that says you can figure on a bad winter if there is a heavy crop of acorns, and animals put on heavy coats or store up a lot of food. Don't forget the woolly worm either. Some people believe that the wider the brown part of a woolly worm, the colder the winter, while others believe that the wider the black part, the colder the weather. Go figure!

This year carefully observe the "signs" and see for yourself how accurate they can be. Whether you are on the trail hiking, canoeing in the middle of the Okefenokee, or simply wondering whether you should head out to the lake on a fishing expedition, this knowledge can not only come in handy, it could potentially be a life saver.