

# PREDICTING WEATHER...

## THE OLD-FASHIONED WAY

Will it be sunny for your family barbeque? Should an ATV trip be postponed because of the threat of rain or thunderstorms?

Here are some thoughts that might prove useful:



## Signs of Fair Weather

Expect pleasant weather when you see some of these signs:

- "Red sky at night, sailor's delight." The dust particles in the dry air of tomorrow's weather produce a glowing red sunset.
- "Swallows flying way up high mean there's no rain in the sky." Swallows are birds that catch and eat flying insects. In the high air pressure that comes with fair weather, insects may be carried aloft by air currents.
- "If smoke goes high, no rain comes by." Campfire smoke rises straight up when there is no wind.

**Reason:** It is usually caused by just the right combination of temperature and humidity. Particulate matter in smoke, serves as a nucleation site for precipitation. Those particles cause water molecules in the air to attach themselves and fall out of solution (i.e. condensation.) Once the water molecules condense on the smoke, they become too heavy and cool to float and fall back near the ground.

Note: Still air is generally stable and won't move moisture into an area.

## Signs of Stormy Weather

The following signs suggest bad weather is on the way:

- **"Red sky at night, sailor's delight. Red sky in morning, sailor's warning."** (Alternative: shepherd's delight or warning.)

TRUE. If the sky is red at night, then the chances are that the air to the west of you is clear enough for the sun's light to have passed through it to reach you. In the UK, and many other parts of the world, most weather comes from the west and so this is indeed a fair sign that good weather is on its way.

A red sky in the morning can be caused by the dawn light bouncing off cirrus ice crystals in the upper atmosphere. Cirrus clouds can be at the leading edge of a frontal system and so this can also work to signal poor incoming weather. • "Swallows flying near the ground mean a storm will come around." The low air pressure that pulls in stormy weather causes insects to fly close to the ground on heavy, moist wings.

**"Mackerel sky, mackerel sky, never long wet, never long dry."**

MOSTLY TRUE. See this page for more on mackerel skies.

**"Dew on the grass, no rain will come to pass."**

MOSTLY TRUE. Dew occurs when the surface, ie. the grass, has cooled and this tends to happen under clear skies at night when the heat radiates from the ground. If the clear skies remain then of course there will be no rain, but if a weather system moves in during the day then a change in the weather can follow.

**"If there is a halo round the sun or moon, then we can all expect rain quite soon."**

TRUE. The halo around a bright object is caused by refraction of the light through the ice crystals of high cirrus clouds. Cirrus can be the first cloud to appear ahead of a front.

**"Mare's tails and mackerel scales make tall ships carry low sails."**

TRUE. The mare's tails are caused by high cirrus clouds that have been shaped by the upper winds. Cirrus clouds can signal an approaching front.

The mackerel scales are cirrocumulus clouds that are being influenced by shifting wind directions and high speeds and are typical of an advancing low pressure system.

## Animals

**"When the goose flies high fair weather. If the goose files low, foul weather."**

**"Swallow flying low means the air is damp and their insect prey are flitting near the ground."**

**"Larks fly high in the air when the weather is destined to stay fine."**

The increase in humidity, at times of bad or wet weather, draws insects to the surface, this is a reason for insect-seeking birds to fly low.

“If the Cock goes crowing to bed; He’ll certainly rise with a watery head.”

Birds and animals are thought to have a negative reaction to a decrease in atmospheric pressure. Making them restless. A cockerel crowing at night would be seen as restless behavior, and a sign that rain is on its way.

“A cow with its tail to the west, makes weather the best. A cow with its tail to the east, makes weather the least.” An animal's natural instinct is to graze with the wind behind them. This gives them an advantage over any predator who attacks from behind, as their scent would be blown towards the animal and they can escape. Westerly winds tend to bring us fair and good weather. Easterly winds tend to bring us bad and sometimes thundery weather.

“Crickets chirp faster when its warm and slower when its cold.”

## Additional resources on weather and prediction:

The Great Courses video presentation ([thegreatcourses.com](http://thegreatcourses.com))

The Science of Extreme Weather – Professor Eric Snodgrass

Meteorology: An Introduction to the Wonders of Weather- Professor Robert Fovell

You Tube Videos – 32 short videos on weather

<https://www.youtube.com/playlist?list=PL49IZ0attmyYJbAAKz0NiDCVP4iQFGikv>

# Cloud Types

