

## **20 Strangest Weather Phenomenon – That Actually Exist**

**<https://www.youtube.com/watch?v=7y8wgI301ys>**

**Transcript: <https://dontveter.com/ec/weather.pdf>**

The weather will get more and more extreme in the future but even today there are absolutely crazy weather events that will amaze you.

Some of them are quite rare so that you are really lucky if you see one of them with your own eyes.

Let's get started with the fire devil.

A fire devil cannot arise just like that because two things have to happen at the same time: a fire and an air vortex.

Dust devils are similar to tiny tornadoes and appear when a bubble of hot air rises from the ground and combines with intense wind conditions which causes a whirling effect.

When such an air turbulence occurs during a fire, a fire devil is formed.

Because the flow velocity is very high, it is constantly supplied with new oxygen, that's why the fire gets very intense and the whole phenomenon looks pretty impressive.

Fog tsunami: from a distance it seems like a giant monster wave is rolling towards the city but luckily it's just fog.

These fog waves are formed during the ascent of the moist sea air.

When the sea wind pushes onto the land, the skyscrapers forced the wet air to rise up.

With cool temperatures at high altitude, the water condenses into mist because cold air cannot hold moisture.

Tornadic waterspout: this is a tornado that doesn't occur on land but on water.

It usually has a diameter of up to 100 meters and arises as a tubular structure from a thundercloud.

Due to the enormous wind speed of up to 100 metres per second which is the equivalent of 360 km/h, the water is sucked in and then partially pulled up.

The phenomenon is very impressive as it even manages to pull turtles and fish up into the air.

Morning Glory clouds: this is a seemingly rolling cloud that is several hundred kilometres long but only one or two kilometers wide.

In front of the cloud, there are strong up winds and behind it the air sinks down and becomes turbulent.

For this reason it looks like the cloud is rolling.

It moves at a speed of up to 60 km/h. In Australia this phenomenon occurs quite regularly.

Penitentes: this is the name of up to 6 meter high snow and ice pyramids which can occur in the high mountains of the tropics and subtropics.

The impressive peaks are caused by the uneven melting of snow and ice. The reason for this are small hollows in the snow.

The bottoms of these hollows are hit by more reflected light than the rest of the snow and therefore melt faster than their higher edges.

Ice tsunami: this is an extremely rare, but surprisingly dangerous phenomenon that can occur in particularly cold regions, located on the sea, for example, in Canada.

The frozen tidal waves advance 40 meters per hour. It looks like a time lapse in the video, but this is real time.

These ice masses spare nothing, they've already destroyed whole buildings and even a complete Township, which had to be cleared with heavy machines after the spectacle was over.

Lenticular clouds: these are round or oval clouds which mainly occur over mountains but they could also form between two layers of air with different wind directions.

Due to their extraordinary shape, these clouds are often interpreted as a UFO.

In any case, these cloud formations make for an extremely spectacular photo opportunity.

Sandstorm: a sandstorm occurs when the dry and hot wind picks up large quantities of sand and then carries it along.

Such storms can transport up to 100 million tons of sand over long distances.

This is one of the biggest dust storms that has formed since time immemorial, the 1500 meter high roller of dust and sand occurred in Arizona in 2011.

The city of Phoenix was hit pretty bad back then, with wind speeds of up to 115 km/h.

The storm brought the city to a complete standstill for some time, however as you can see in this picture, a sandstorm is especially impressive when it sweeps across the water.

The sandstorm was being witnessed off the coast of Australia. It looked like a gigantic red wave and traveled across the sea for miles.

Red rainbow: this is supposed to be the biggest and rarest rainbow in the world.

It occurs when the sun is low and all the shortwave colors of the light have scattered during their long way through the atmosphere until only red remains.

If the sun is on the horizon and there's a rain shower you might get the chance to see one.

Glory: this one is a light phenomenon which occurs through the reflection in scattering of light due to fog or clouds.

If the circumstances are just right, a bright round surface surrounds the shadow of the observer.

Around the bright surface there is a colored ring of light that separates you from your surroundings.

Moon rainbow: as the name implies, this rainbow is not created by direct sunlight but by the light reflected by the moon.

However, even the light reflected by a full moon is 470 thousand times weaker than direct sunlight which is why it is really hard to see such a rainbow.

For the human eye, lunar rainbows look white but with a long exposure time you can still see colors when you take a picture.

Mammatus clouds: mammatus are bag-like formations at the base of clouds.

This weather phenomenon has barely been studied so far, but there are already a few theories.

Allegedly it is caused by evaporation processes on the underside of clouds.

Supercell: this storm looks as if God had sent it as a punishment for humanity, as if the gates of the sky had opened to bring about the end of the world.

Well, in reality, there are a lot of factors needed for a supercell to form, the right humidity in the troposphere, the appropriate temperature differences, and a wind shear, but in any case a storm like that looks really incredible.

Catatumbo lighting: this is a truly extraordinary weather phenomenon. The spectacle can be watched up to 160 nights per year.

It takes place near the mouth of the Rio Catatumbo in Venezuela on Lake Maracaibo.

Extreme thunderstorms occur with great regularity.

According to one theory, the frequency of thunderstorms is related to the leakage of methane gas and the swamps and bogs near the lake.

However, this is considered unlikely, it is much more likely that there are meteorological conditions in the area that simply favor these night thunderstorms.

Whatever the reason, the weather phenomenon is certainly one of the most spectacular in the world.

Fire rainbow: at first glance this phenomenon looks like a deformed rainbow.

But the cause of it is quite different from a normal rainbow.

The light phenomenon arises from the refraction of light in floating ice crystals and not from drops of water.

The ice acts like a prism and splits the sun's rays into its different colors, from red and yellow to green in blue.

Snow donuts: anyone who has ever built a snowman should know the basic principle.

The most important thing is wet fresh snow.

Below it, there must be something on which the snow doesn't get stuck, such as ice or powder snow and then the wind can roll the snow above as if by magic.

Since the inside of this roll is very loose, under the right conditions the wind can simply blow in a hole and what you get is a beautiful snow doughnut.

Hair ice: this rare phenomenon is still poorly understood.

Under suitable conditions these strange ice formations which are comprised of fine ice needles can be found on rotten wood.

The cause for this are winter active mushrooms in the wood whose micelium produces gases that bring the slightly supercooled water present in the wood to the surface.

There it freezes and is pushed further and further by the water welling up from behind.

However, this is only possible if the temperatures are just below the freezing point so that ice can form but the water inside the wood isn't already frozen.

Bleeding glacier: what you see here are the so called blood falls, a truly unique phenomenon.

It looks like the Taylor glacier is bleeding and the blood is flowing into the water.

The reason for the unusual color spectacle is the higher iron content of the water.

As soon as it reaches the outside air, the dissolved iron oxidizes and turns the ground brown red.

The source of the water is the lake of unknown size located 400 metres below the ice and several kilometers from the point of exit.

Since the water of the lake has been enriched with salt over time, it doesn't freeze.

Small cracks in the ice allow the salt water and iron mixture to escape and oxidize.

Dirty thunderstorm: a volcanic eruption can not only be seen from many kilometers away, but it can also be felt.

The air crackles and your hair rises as if during a thunderstorm.

If you're a careful observer, you can also see lightning in the enormous ash clouds.

This impressive spectacle is created in three phases.

At the beginning of the eruption, small flashes can be seen on the crater.

In the moment when the ashes are thrown into the air with force ,even more flashes occur.

The tiny particles of rock shoot past each other at a hundred metres per second and become electrostatically charged.

They rub against each other, separating the positive from the negative charges.

If predominantly particles with a positive charge float upwards and there are negatively charged particles underneath, a voltage of several hundred million volts is created.

If the electric voltage becomes too much, it suddenly releases and you can witness a lightning flash.

The finer the ash, the more flashes occur.

Sometimes the flashes are not only triggered by the ash but also by ice crystals floating in the air.

There you have it, those were some of the most magical weather phenomena that exist on earth.

Which one of them impressed you the most? Please let me know in the comments below.

Personally I think the Catatumbo lightning is extremely interesting and I'd love to see it in real life one day. I'm sure it must be a great sight.

Take care and until next time, bye.

Images sun dogs, sprites, ball lightning