THE COMPLETE GUIDE TO THE TEN DIFFERENT TYPES OF CLOUDS AND HOW TO IDENTIFY THEM







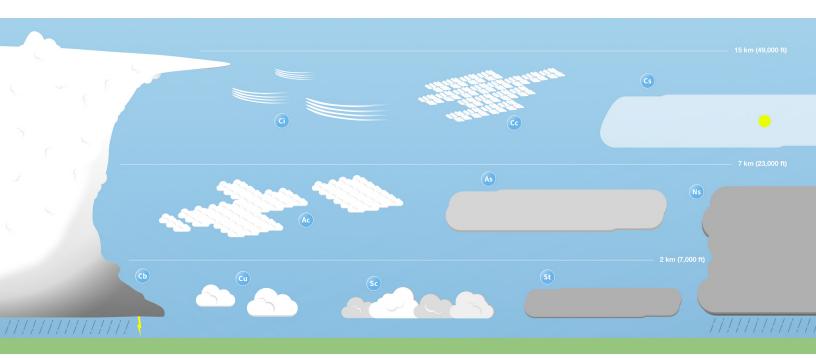
Dedicated to those who are passionately curious, keep their heads in the clouds, and keep their eyes on the skies. And to Luke Howard, the father of cloud classification.

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Cloud Types: An Infographic



CLOUD TYPE	LEVEL	SUMMARY	ALTITUDE RANGE	DESCRIPTION	ABBR
Cirrus	High	High, wispy streaks	5–15 km (16,000–49,000 ft)	High-altitude, thin, and wispy cloud streaks made of ice crystals	Ci
Cirrocumulus	High	High-altitude cloudlets	5–15 km (16,000–49,000 ft)	Small, flakey, and white high-altitude cumulus patches	Cc
Cirrostratus	High	Pale, veil-like layer	6–13 km (20,000–43,000 ft)	Thin, transparent, high-altitude layer capable of producing a halo	Cs
Altocumulus	Middle	Mid-altitude heaps	2–7 km (7,000–23,000 ft)	Middle-altitude cumuliform clouds arranged in heaps or rolls	Ac
Altostratus	Middle	Mid-altitude gray layer	2–7 km (7,000–23,000 ft)	Featureless, gray layer cloud capable of masking the sun	As
Nimbostratus	Middle	Precipitation layer	0.5–5.5 km (2,000–18,000 ft)	Dark and featureless layer cloud responsible for rain and snow	Ns
Cumulonimbus	Low	Thunderstorms	0.5–16 km (2,000–52,000 ft)	Dark-based storm cloud capable of impressive vertical growth	Cb
Cumulus	Low	Low, puffy, fair-weather	0.5–2 km (2,000–7,000 ft)	Low-altitude, fluffy heaps of clouds with cotton-like appearance	Cu
Stratus	Low	Low, featureless layer	0–2 km (0–7,000 ft)	Gray, featureless low-altitude cloud capable of ground contact	St
Stratocumulus	Low	Low, puffy layer	0.5–2 km (2,000–7,000 ft)	Thicker, dark gray, and somewhat conjoined heaps of clouds	Sc



An Introduction to the 10 Different Types of Clouds

Clouds are the equivalent of an ever-evolving painting in the sky. They have the ability to make for magnificent sunrises and spectacular sunsets. We're surrounded by clouds almost every day of our lives.

Let's take the time and learn a little bit more about them!

The following information is presented to you as a comprehensive guide to the ten different types of clouds and how to idenify them.

Let's just say it's an instruction manual to the sky.

Here you'll learn about the ten different cloud types: their characteristics, how they differentiate from the other cloud types, and much more.

So three cheers to you for starting on your cloud identification journey.

Happy cloudspotting, friends! 🖄

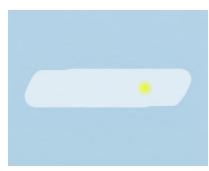
The Three High Level Clouds



Cirrus (Ci) High, wispy streaks



Cirrocumulus (Cc) High-altitude cloudlets



Cirrostratus (Cs) Pale, veil-like layer



High-altitude, thin, and wispy cloud streaks made of ice crystals



Small, flakey, and white highaltitude cumulus patches

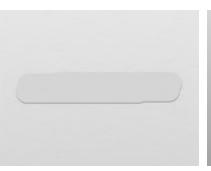
stratus LTO-

Thin, transparent, high-altitude layer capable of producing a halo

The Three Middle Level Clouds



Altocumulus (Ac) Mid-altitude cloud heaps



Altostratus (As) Mid-altitude gray layer



Nimbostratus (Ns) Precipitation layer

Middle-altitude cumulus clouds arranged in groups or rolls

Altostratus

Featureless, gray layer cloud capable of masking the sun

Vimbostratus

Dark and featureless layer cloud responsible for rain and snow

The Three Low Level Clouds



Cumulonimbus (Cb) Thunderstorms



Cumulus (Cu) Low, puffy, fair-weather



Stratus (St) Low, featureless layer



Stratocumulus (Sc) Low, puffy layer



Dark-based storm cloud capable of impressive vertical growth

Low-altitude, fluffy heaps of clouds with cotton-like appearance



Gray, featureless low-altitude cloud capable of ground contact

Stratocumulus

Thicker, dark gray, and somewhat conjoined heaps of clouds

The 5 Latin Terms of Cloud Types

Cirro- is translated from latin meaning 'curl'.

The three clouds that include this term are cirrus, cirrocumulus, and cirrostratus. While this term is translated as 'curl', that doesn't mean these clouds are curly (though cirrus clouds can be, which makes it an appropriate name). The important takeaway is that these three clouds are found in the highest layer of the troposphere (the lowest layer of the Earth's atmosphere). These clouds are found at altitudes between approximately 16,000-50,000 ft, or 5-15 km.

Cumulo- is translated from latin meaning 'heap'.

The five clouds that include this term are cumulus, stratocumulus, cumulonimbus, altocumulus, and cirrocumulus. Heap can also be described as piled or puffy. These five clouds have at least some puffy and heap-like characteristics to them.

Strato- is translated from latin meaning 'layer'.

The five clouds that include this term are stratus, stratocumulus, nimbostratus, altostratus, and cirrostratus. A layer cloud is described as a cloud blanket that has much less definition relative to a heap cloud.

Nimbo- is translated from latin meaning 'rain'.

There are only two clouds that include the term 'nimbo': cumulonimbus and nimbostratus. They are the only clouds that are regular producers of precipitation.

Alto- is translated from latin meaning 'high'.

The two 'alto' clouds are altocumulus and altostratus. The translation is deceiving because these clouds aren't found in the highest part of the troposphere. Altocumulus means they're like cumulus clouds but found higher than regular cumulus clouds. Similarly, altostratus are stratus clouds but found higher than stratus clouds. These clouds are found at altitudes between approximately 7,000-23,000 ft, or 2-7 km.

The Contents of this Guide

The pages of this guide are organized in the following fashion.

Photographs. The images that have been selected are the best examples of each cloud type for you to reference.

Descriptions. A summary of each cloud type is provided, describing best how each cloud can be identified.

Cloud facts. Some facts about each cloud including its altitude, Latin translation, abbreviation, and more.

Similar cloud types. Tips and tricks to help you make the distinction from one cloud type to the next.

Cloud subtypes introduction. Did you know there are 34 subtypes that can be used to further classify a cloud?

Beyond the ten cloud types, there are fifteen cloud species, nine cloud varieties, eleven supplementary features, four accessory clouds, and five other kinds of clouds.

If you're learning about this for the first time, don't worry! We've designed a **cloud identification chart** that can help you visualize all cloud types and subtypes in a single infographic.

LET'S GET STARTED

Cirrus high, wispy streaks

Cirrus Clouds: High, Wispy Streaks

High-altitude, thin, and wispy cloud streaks composed of ice crystals

Cirrus clouds have a distinct look relative to the other nine cloud types. Because cirrus clouds are made of ice crystals, they look different than your typical puffy cloud shape, and can take on a number of different forms that resemble spider webs, fish skeletons, mares' tail, or hair-like commas. If you're observing a cloud that's fibrous in nature, there's a strong chance you're looking at a cirrus cloud.

But all cirrus clouds don't have that distinctive, fibrous shape. They can also be found clumped together (spissatus cloud species), be entangled (intortus cloud variety), and don't look as majestic when you spot them closer to the horizon. Because of their ice crystal composition, cirrus clouds are also capable of various optical phenomena such as sun dogs and cloud iridescence.

Though human-formed, condensation trails from aircraft can become cirrus clouds in the technical sense (homogenitus), created as a result of jet exhaust in cold temperatures found in the upper parts of the troposphere.

Cirrus Cloud Facts

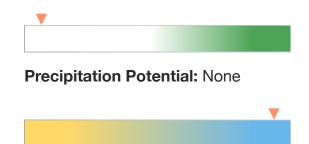
Cloud Level (Étage):				
Altitude/Height:				
Latin Term:				
Abbreviation:				

High 5-15 km (16,000-49,000 ft) Derives from cirro-, meaning curl Cirrus can be abbreviated as Ci



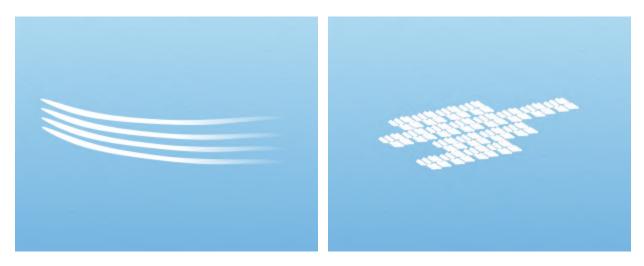


Sky Cover: Mostly sunny to sunny



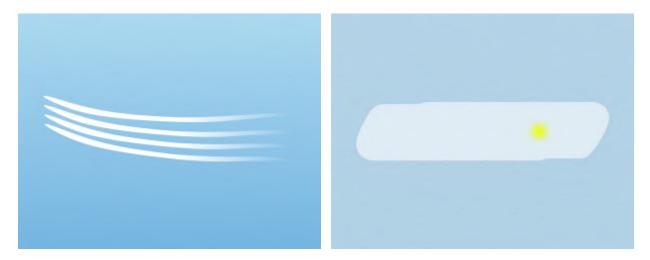
Cloud Frequency: Very common

Cirrus vs. Cirrocumulus



Both cirrus and cirrocumulus clouds are found at the same altitude, and a lot of times when observing cirrocumulus clouds, you'll see cirrus clouds in close proximation. The biggest difference between the two is cirrocumulus clouds contain puffy cloudlets and look like grains of rice, where cirrus clouds are more fibrous and wispy in nature.

Cirrus vs Cirrostratus



Cirrus and cirrostratus clouds are found at the same altitude and both can be fibrous in nature. When deciding between the two, remember that a cirrostratus cloud generally covers the sky and is more of a pale, veil-like layer cloud, where you'll generally see more individual elements in a cirrus cloud, such as comma shapes, fishbone-like shapes, and other wispy designs.

Cirrus Cloud Species



Cirrus castellanus Rising towers, turrets



Cirrus fibratus Fiberlike, hairlike



Cirrus floccus Puffy, ragged tufts



Cirrus spissatus Packed tightly, dense



Cirrus uncinus Curved, comma-shaped

Cirrus Cloud Varieties



Cirrus duplicatus Multilayered



Cirrus intortus Interlaced, entangled



Cirrus radiatus Parallel bands and strips



Cirrus vertebratus Fishbone-like, resembling ribs

Cirrus Cloud Supplementary Features

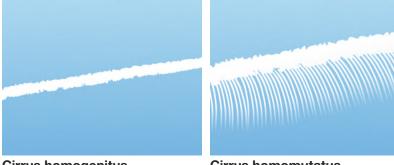




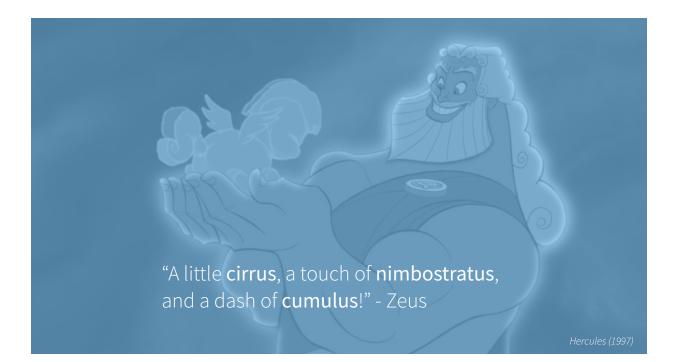


Cirrus mamma Sac-like, resembling cow udders

Cirrus Cloud Accessories & Other Clouds



Cirrus homogenitus Caused by human activity **Cirrus homomutatus** Mutated from a homogenitus





Cirrocumulus High-Altitude cloudlets

Cirrocumulus Clouds: High-altitude Cloudlets

Small, flakey, and white high-altitude cumulus heaps and patches

Cirrocumulus clouds are thin cloud patches found high in the troposphere and are the only cloud found at this altitude that has cloud heap characteristics. Because cirrocumulus clouds are so high in altitude, the cloud heaps take on what can be described as a 'grain of rice' appearance. Take note when you see them because along with cumulonimbus, cirrocumulus clouds are the least seen among the ten main cloud types.

Unlike cirrus and cirrostratus clouds, cirrocumulus clouds don't typically produce sun halos, though they are capable of iridescence and coronas on the rare occasion. Additionally, these are the only clouds in the high level that cannot be found in the fibrous form.

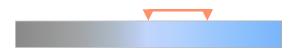
If you see a cirrocumulus cloud, the chances are good that there are cirrus or cirrostratus clouds nearby. Similar to altocumulus clouds, cirrocumulus can also take on a mackerel sky effect, resembling fish scales. If you're lucky enough to see a mackerel sky at sunset, you're in for a treat.

Cirrocumulus Cloud Facts

Cloud Level (Étage):	High
Altitude/Height:	5-15 km (16,000-49,000 ft)
Latin Term:	Derives from cirro-, meaning curl, and cumulo-, meaning heap
Abbreviation:	Cirrocumulus can be abbreviated as Cc



Cloud Color: White to light gray

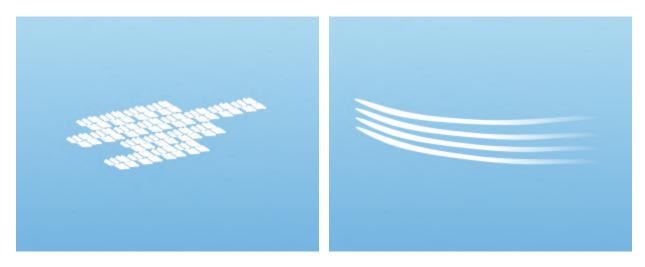


Sky Cover: Partly sunny to mostly sunny

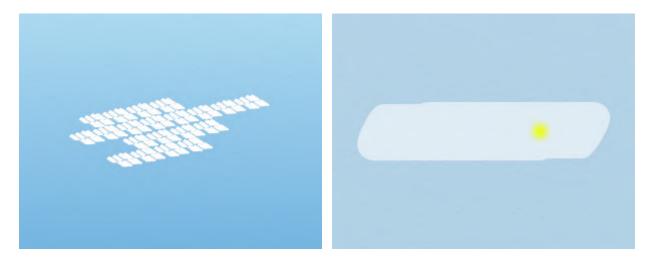


Cloud Frequency: Uncommon

Cirrocumulus vs. Cirrus



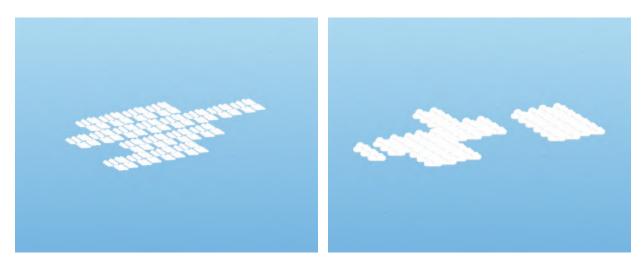
Both cirrocumulus and cirrus clouds are found at the same altitude, and a lot of times when observing cirrocumulus clouds, you'll see cirrus clouds in close proximation. The biggest difference between the two is cirrocumulus clouds contain puffy cloudlets and look like grains of rice, where cirrus clouds are more fibrous and wispy in nature.



Cirrocumulus vs. Cirrostratus

Cirrocumulus and cirrostratus clouds are both found at the same altitude and can be seen in close proximation with one another. If you're deciding between the two, and the cloud in question is featureless, or perhaps somewhat fibrous, chances are you're observing a cirrostratus cloud. Cirrocumulus clouds contain more features than cirrostratus clouds, whereas a cirrostratus cloud is more of a featureless layer.

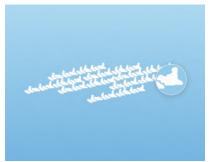
Cirrocumulus vs. Altocumulus



Cirrocumulus and altocumulus clouds share many of the same cloud species, but cirrocumulus clouds are higher in altitude, so their cloud patches appear smaller. Cirrocumulus clouds are more often than not seen with cirrus and cirrostratus clouds in near proximity. Altocumulus clouds are also much more commonly observed than cirrocumulus. It's more common to see the entire sky covered by a layer of altocumulus clouds than cirrocumulus clouds.



Cirrocumulus Cloud Species



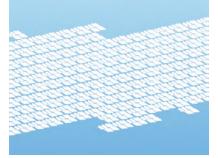
Cirrocumulus castellanus Rising towers, turrets



Cirrocumulus floccus Puffy, ragged tufts

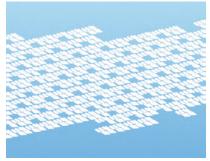


Cirrocumulus lenticularis Lens-shaped, resembling a UFO



Cirrocumulus stratiformis Horizontal, layer-like form

Cirrocumulus Cloud Varieties



Cirrocumulus lacunosus Perforated, round frayed holes



Cirrocumulus undulatus Wavelike, undulating

Cirrocumulus Cloud Supplementary Features



Cirrocumulus cavum Fallstreak hole, hole punch

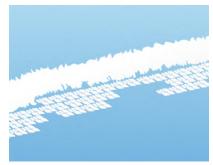


Cirrocumulus mamma Sac-like, resembling cow udders



Cirrocumulus virga Evaporating rain strips

Cirrocumulus Cloud Accessories & Other Clouds



Cirrocumulus homomutatus Mutated from a homogenitus





Cirrostratus PALE, VEIL-LIKE LAYER

Cirrostratus Clouds: Pale, Veil-like Layer

Thin, transparent, high-altitude cloud layer capable of producing a 22° halo

Cirrostratus clouds can best be described as a thin cloud blanket high up in the troposphere spread out across the sky. Found at the same altitude as their cirrus and cirrocumulus counterparts, these clouds are more widely known for being the culprit of sun and moon halos, as they're composed of ice crystals.

Like most layer clouds, cirrostratus clouds can take on a relatively dull appearance. They have very few cloud species and varieties associated with them. One distinction that cirrostratus clouds have going for them however is that they're one of two clouds that can be fibrous in appearance (cloud species fibratus). They're also one of two clouds, that can take on a hazy, nebulous feel (cloud species nebulosus), which is where the cloud completely lacks any kind of discernible detail. There are instances where they might take on a wavelike appearance (cloud variety undulatus) as well.

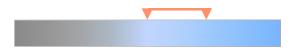
Because cirrostratus clouds are generally very thin, the sun will always be visible, which might help you distinguish it from its close relative, the altostratus cloud. Sometimes cirrostratus clouds are so thin, they're almost difficult to even make out.

Cirrostratus Cloud Facts

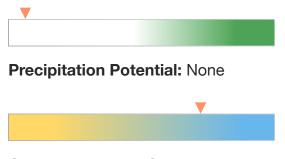
Cloud Level (Étage):	High
Altitude/Height:	6-13 km (20,000-43,000 ft)
Latin Term:	Derives from cirro-, meaning curl, and strato-, meaning layer
Abbreviation:	Cirrostratus can be abbreviated as Cs



Cloud Color: White to light gray

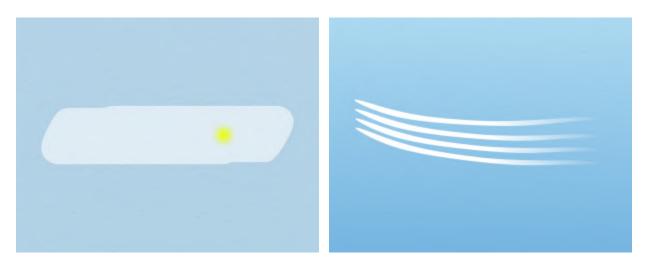


Sky Cover: Partly sunny to mostly sunny

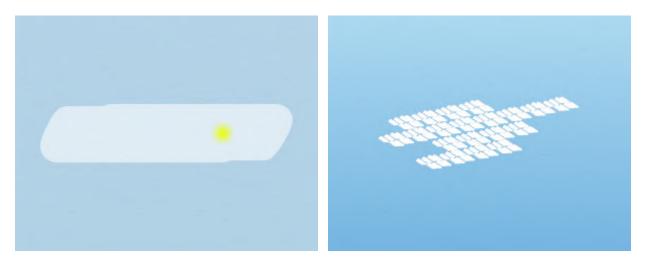


Cloud Frequency: Common

Cirrostratus vs. Cirrus



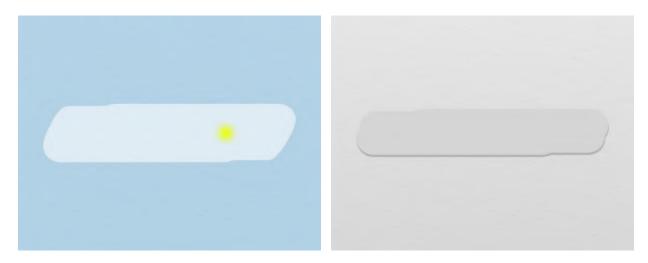
Cirrostratus and cirrus clouds are found at the same altitude and both can be fibrous in nature. When deciding between the two, remember that a cirrostratus cloud generally covers the sky and is more of a pale, veil-like layer cloud, where you'll generally see more individual elements in a cirrus cloud, such as comma shapes, fishbone-like shapes, and other wispy designs.



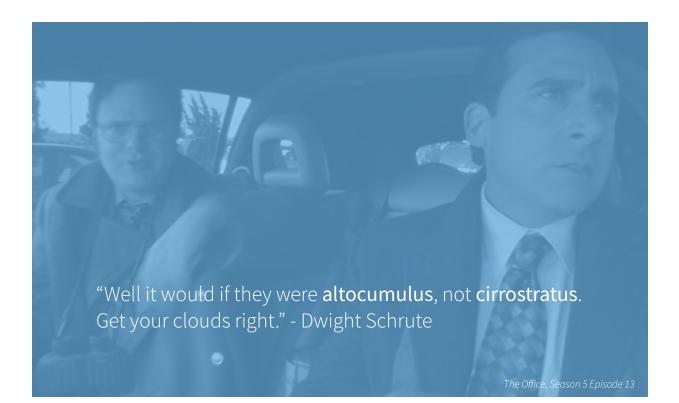
Cirrostratus vs. Cirrocumulus

Cirrostratus and cirrocumulus clouds are both found at the same altitude and can be seen in close proximation with one another. If you're deciding between the two, and the cloud in question is featureless, or perhaps somewhat fibrous, chances are you're observing a cirrostratus cloud. Cirrocumulus clouds contain more features than cirrostratus clouds, whereas a cirrostratus cloud is more of a featureless layer.

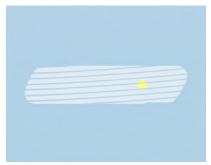
Cirrostratus vs. Altostratus



Cirrostratus and altostratus clouds are both layer clouds. A key difference is that if you see an optical phenomena in a cloud and are trying to decide between the two, you're probably looking at a cirrostratus cloud. Cirrostratus clouds are lighter in color, you can always see the sun's position through a cirrostratus cloud, which is not always the case with altostratus clouds, which are darker and lower to the ground.



Cirrostratus Cloud Species

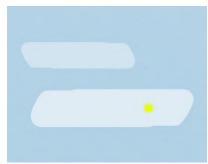




Cirrostratus fibratus Fiberlike, hairlike

Cirrostratus nebulosus Full of vapor, lacking detail

Cirrostratus Cloud Varieties





Cirrostratus duplicatus Multilayered

Cirrostratus undulatus Wavelike, undulating

Cirrostratus Cloud Accessories & Other Clouds



Cirrostratus homomutatus Mutated from a homogenitus



Cirrostratus nebulosus

Altocumulus MID-ALTITUDE CLOUD HEAPS

Altocumulus Clouds: Mid-altitude Cloud Heaps

Middle-altitude cumuliform clouds often arranged in heaps or rolls

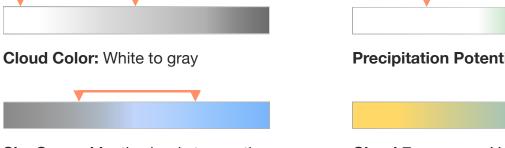
Altocumulus clouds are typically found in groups or heaps clumped together. They're found in the middle layer of the troposphere, lower than cirrocumulus and higher than their cumulus and stratocumulus counterparts. The term mackerel sky is also common to altocumulus (and cirrocumulus) clouds that display a pattern resembling fish scales. Of all the ten different cloud types, altocumulus clouds are one of the most diverse and dynamic in terms of their appearance.

These clouds can take on a handful of shapes and sizes. They can include cloud heaps that resemble towering castles (castellanus cloud species), can sometimes resemble a lock of wool (cloud species floccus), can cover the entire sky (stratiformis cloud species), and can even come in the shape of roll clouds (volutus cloud species).

Altocumulus are also known for creating UFO-shaped clouds (lenticularis cloud species), are responsible for a lot of the uncommon fallstreak hole sightings you might be lucky enough to see (cavum cloud feature), and on the rarest of occasion, can produce a wavy, chaotic appearance (asperitas cloud feature).

Altocumulus Cloud Facts

Cloud Level (Étage): Altitude/Height:	Middle 2-7 km (7,000-23,000 ft)
Latin Term:	Derives from alto-, meaning high, and cumulo-, meaning heap
Abbreviation:	Altocumulus can be abbreviated as Ac
	_

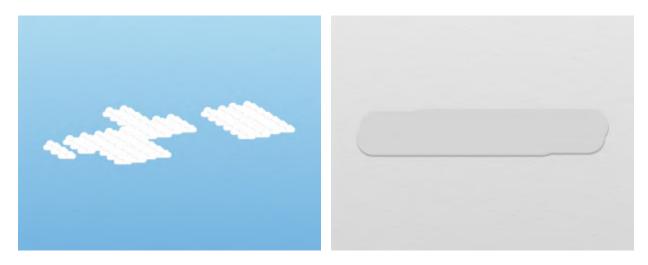


Sky Cover: Mostly cloudy to mostly sunny

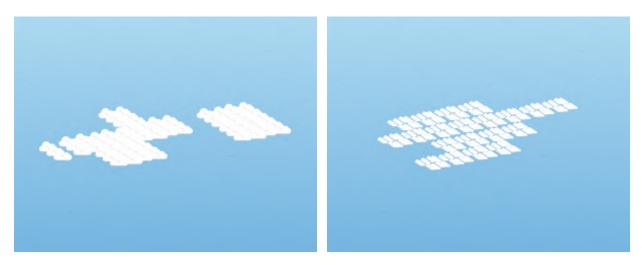


Cloud Frequency: Very common

Altocumulus vs. Altostratus



While altocumulus and altostratus clouds are found at the same altitude, altostratus clouds are generally a featureless layer, where altocumulus clouds typically have plenty of features. Altostratus clouds are absent of cloud species, so if you're deciding between an altostratus and altocumulus cloud and what you're observing looks to have an associated cloud species, you should lean towards an altocumulus.



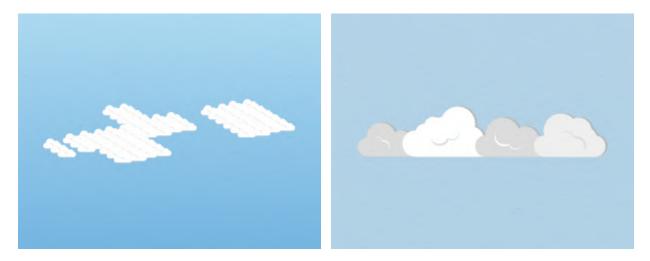
Altocumulus vs. Cirrocumulus

Altocumulus and cirrocumulus clouds share many of the same cloud species, but cirrocumulus clouds are higher in altitude, so their cloudlets are smaller. Cirrocumulus clouds are found with cirrus and cirrostratus clouds in near proximity. Altocumulus clouds are also more commonly observed than cirrocumulus. It's more common to see the sky covered by a layer of altocumulus clouds than cirrocumulus clouds.

Altocumulus vs. Cumulus



Altocumulus clouds are generally seen as patches of clouds grouped together, either in rolls, sheets, or heaps. Cumulus clouds are more often seen as individual clouds. Cumulus clouds are also much closer to the ground. A key reminder trying to determine the difference between cumulus and altocumulus clouds are that the two cloud types don't have any shared cloud species.



Altocumulus vs. Stratocumulus

Altocumulus clouds are more closely related to stratocumulus clouds than they are to cumulus clouds. They share almost all of the same cloud species, cloud varieties, and other cloud features. Their altitude is their biggest differentiator, with stratocumulus clouds being closer to the ground. Stratocumulus cloud formations are seemingly bigger, and are generally a bit darker than altocumulus clouds.

Altocumulus Cloud Species



Altocumulus castellanus Rising towers, turrets



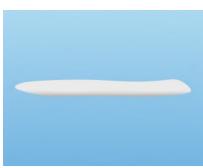
Altocumulus floccus Puffy, ragged tufts



Altocumulus lenticularis Lens-shaped, resembling a UFO



Altocumulus stratiformis Horizontal, layer-like form



Altocumulus volutus Tube-shaped roll cloud

Altocumulus Cloud Varieties



Altocumulus duplicatus Multilayered



Altocumulus lacunosus Perforated, round frayed holes



Altocumulus opacus Opaque, masks the sun



Altocumulus perlucidus Transparent by small gaps



Altocumulus radiatus Parallel bands and strips



Altocumulus translucidus See-through, sun's position visible

Altocumulus Cloud Varieties (cont.)



Altocumulus undulatus Wavelike, undulating

Altocumulus Cloud Supplementary Features



Altocumulus asperitas Chaotic, wavy underneath



Altocumulus cavum Fallstreak hole, hole punch



Altocumulus fluctus Kelvin-Helmholtz waves, curls



Altocumulus mamma Sac-like, resembling cow udders



Altocumulus virga Evaporating rain strips





Altostratus MID-ALTITUDE GRAY LAYER

Altostratus Clouds: Mid-altitude Gray Layer

Sheet of featureless, gray clouds in the middle cloud level capable of masking the sun

Altostratus clouds are found in the middle cloud level. Unlike their altocumulus counterpart, they're often boring to look at. Along with nimbostratus clouds, these clouds don't have any species associated with them.

But they do come with a handful of cloud varieties, which can help you make the determination if you're looking at an altostratus cloud. If you see a cloud covering the sky's entirety that's not very close to the ground, and it's positioned such that it's visible through the clouds but giving off a 'frosted glass' appearance, chances are good that you're observing a cloud classified as altostratus translucidus. If the cloud is opaque and you can't see the sun's position, consider it an altostratus opacus.

These clouds can also be responsible for precipitation, though it's short-lived and not common. You might also find scud clouds (pannus cloud accessory) underneath the main cloud layer, which can be one more indication that you're looking at an altostratus cloud.

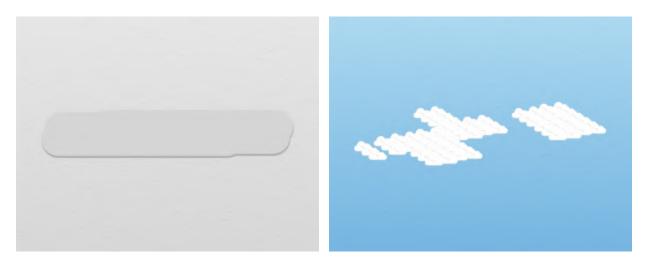
Altostratus Cloud Facts

Cloud Level (Étage): Altitude/Height: Latin Term: Abbreviation:	Middle 2-7 km (7,000-23,000 ft) Derives from alto-, meaning high, and strato- meaning layer Altostratus can be abbreviated as As	
Cloud Color: Gray to dark gray		Precipitation Potential: Uncommon

Sky Cover: Cloudy to mostly cloudy

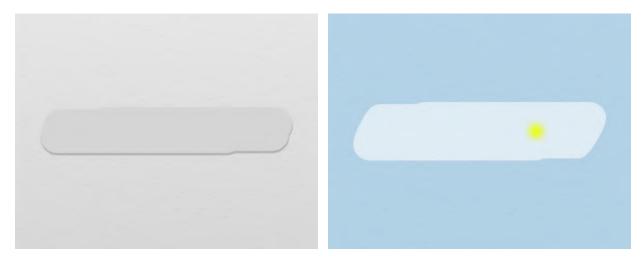


Altostratus vs. Altocumulus



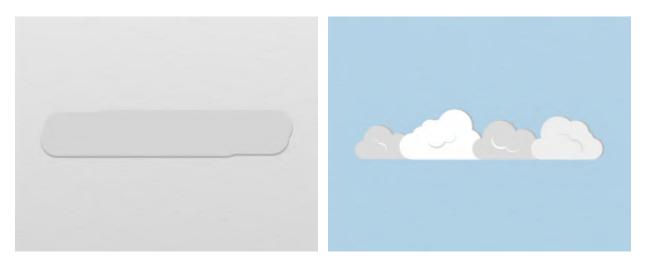
While altostratus and altocumulus clouds are found at the same altitude, altostratus clouds are generally a featureless layer, where altocumulus clouds typically have plenty of features. Altostratus clouds are absent of cloud species, so if you're deciding between an altostratus and altocumulus cloud and what you're observing looks to have an associated cloud species, you should lean towards an altocumulus.

Altostratus vs. Cirrostratus



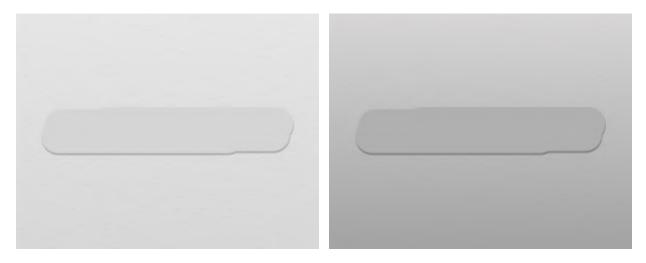
Cirrostratus and altostratus clouds are both layer clouds. A key difference is that if you see an optical phenomena in a cloud and are trying to decide between the two, you're probably looking at a cirrostratus cloud. Cirrostratus clouds are lighter in color, you can always see the sun's position through a cirrostratus cloud, which is not always the case with altostratus clouds, which are darker and lower to the ground.

Altostratus vs. Stratocumulus



Altostratus clouds are generally a featureless layer cloud, whereas stratocumulus clouds have more detail. Remember, if you're trying to decide between an altostratus and stratocumulus cloud, and the cloud being observed has been determined to have an associated cloud species, it's not an altostratus cloud.

Altostratus vs. Stratus



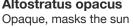
Both altostratus clouds and stratus clouds are both layer clouds, so they can certainly look the same. Altostratus clouds are higher in altitude though, which means they won't touch the ground or mask the tops of tall buildings like a stratus cloud would. When deciding between these clouds, if you're able to see further off in the distance, chances are likely that you're looking at an altostratus cloud.

Altostratus Cloud Varieties



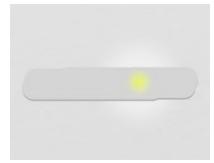
Altostratus duplicatus Multilayered

Altostratus opacus





Altostratus radiatus Parallel bands and strips





Altostratus translucidus See-through, sun's position visible

Altostratus undulatus Wavelike, undulating

Altostratus Cloud Supplementary Features



Altostratus mamma Sac-like, resembling cow udders



Altostratus praecipitatio Precipitation reaching the surface



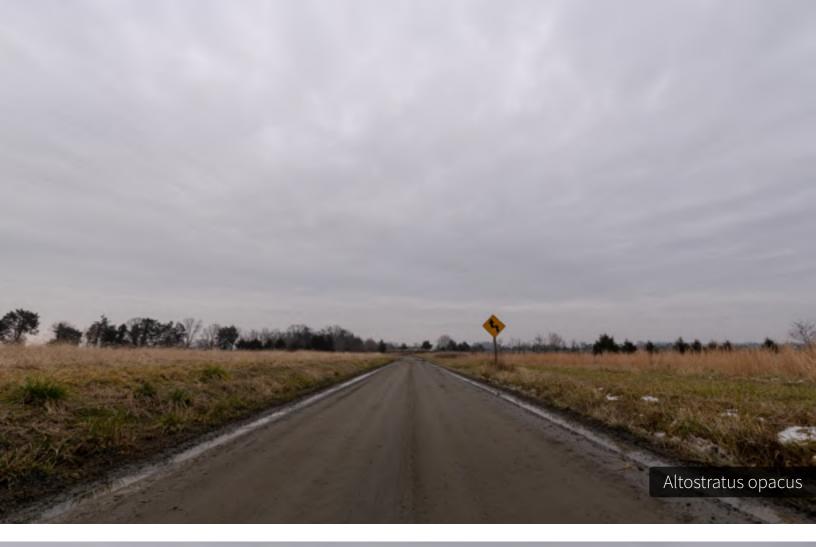
Altostratus virga Evaporating rain strips

Altostratus Cloud Accessories & Other Clouds



Altostratus pannus Ragged frazzles, scud







Nimbostratus PRECIPITATION LAYER

Nimbostratus Clouds: Precipitation Layer

Dark and featureless layer cloud responsible for rainy and snowy weather

Nimbostratus clouds are associated with rainy, dreary days. They're also responsible for snowy weather. Either way, these clouds are best known precipitation (and might be the cause for your outdoor activities to be postponed).

Though it's difficult to tell visually, these clouds can be put into the category of multilevel clouds, meaning the base of a nimbostratus cloud can be found relatively close to the ground, but the tops of them can extend upwards into the middle cloud level. The thickness of a nimbostratus cloud helps give it a darker appearance than most.

Of the ten main cloud types, only two are consistent precipitation producers: nimbostratus and cumulonimbus. Nimbostratus are responsible for continuous precipitation where cumulonimbus are more likely associated with more dramatic weather, including quick-hitting extreme downpours. So if it's raining, and has been raining all day, you're in the presence of a nimbostratus cloud.

Nimbostratus Cloud Facts

Cloud Level (Étage): Altitude/Height:	Middle, though its cloud base extends into the lower level 0.5-5.5 km (2,000-18,000 ft)	
Latin Term:	Derives from nimbo-, meaning rain, and strato-, meaning layer	
Abbreviation:	Nimbostratus can be abbreviated as Ns	



Cloud Color: Light gray to very dark gray

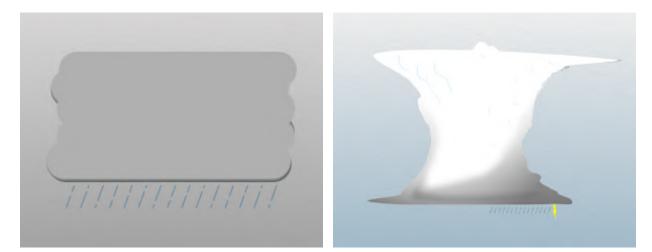


Sky Cover: Cloudy to mostly cloudy

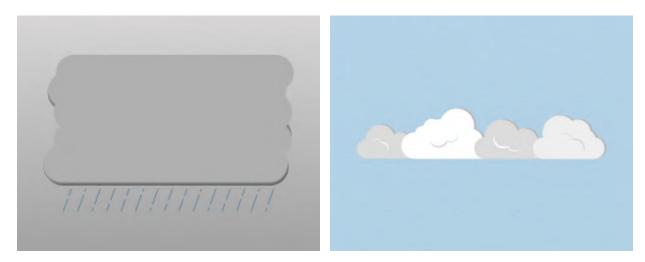


Cloud Frequency: Common

Nimbostratus vs. Cumulonimbus



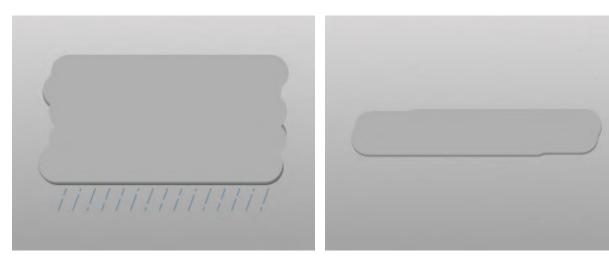
Both cumulonimbus clouds and nimbostratus clouds have precipitation, and when underneath them, it might be tough to differentiate the two. If the precipitation is particularly heavy, or if the rain is accompanied by thunder, lightning, or other cloud features like a wall cloud (murus cloud feature), shelf cloud (arcus cloud feature), or a tail cloud (cauda cloud feature), you're under a cumulonimbus cloud.



Nimbostratus vs. Stratocumulus

When deciding between nimbostratus and stratocumulus clouds, remember that nimbostratus clouds are associated with precipitation, where stratocumulus clouds only produce precipitation in certain conditions. Nimbostratus clouds are generally featureless and don't have any associated cloud species or varieties, while stratocumulus clouds have plenty of species and varieties to go around.

Nimbostratus vs. Stratus



Both nimbostratus and stratus cloud bases can be found at the same height, are both relatively featureless, and are both the same light gray to dark gray color. The biggest differentiator is that nimbostratus clouds contain rain, whereas stratus clouds only precipitate on certain occasions. If it's raining, chances are it's a nimbostratus cloud. If it isn't, it's a stratus cloud.



Nimbostratus Cloud Supplementary Features





Nimbostratus praecipitatio Precipitation reaching the surface

Nimbostratus virga Evaporating rain strips

Nimbostratus Cloud Accessories & Other Clouds



Nimbostratus pannus Ragged frazzles, scud







Cumulonimbus Thunderstorms

Cumulonimbus Clouds: Thunderstorms

Dark-based storm cloud capable of impressive vertical growth and heavy precipitation

Cumulonimbus clouds are responsible for stormy weather. If you're looking up at a cloud that's causing rainy and windy conditions, creating hail, thunder, and lightning, chances are you got yourself a cumulonimbus cloud.

If you're observing this cloud from a distance, what will stand out most is the cloud's impressive height, as it's the only cloud that extends through all three cloud levels. Its base can be very low to the ground, and its top can extend to the highest layer of the troposphere. The top of the cloud might take on a bald appearance (calvus cloud species), or it can take on a hairy and fibrous upper portion (capillatus cloud species).

The more potent cumulonimbus clouds can create a handful of cloud features. Above the main cloud, an anvil cloud (incus cloud feature) can form, where the cloud hits the top of the troposphere and spreads out across the sky. Additionally, you might find the most dramatic examples of mammatus clouds (mamma cloud feature) in the upper portion of a cumulonimbus, caused by pockets of cool, sinking air.

Cumulonimbus Cloud Facts

Cloud Level (Étage): Altitude/Height:	Low, though it extends into the middle and high levels 0.5-16 km (2,000-52,000 ft)
Latin Term:	Derives from cumulo-, meaning heap, and nimbo-, meaning rain
Abbreviation:	Cumulonimbus can be abbreviated as Cb



Cloud Color: Light gray to very dark gray



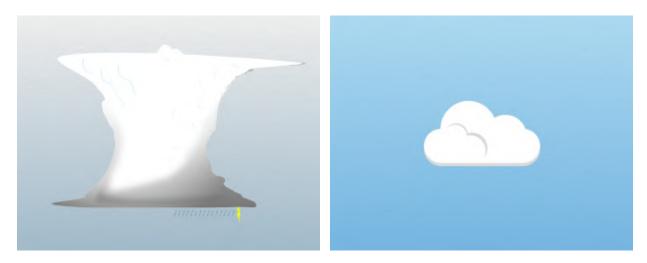
Sky Cover: Cloudy to partly sunny



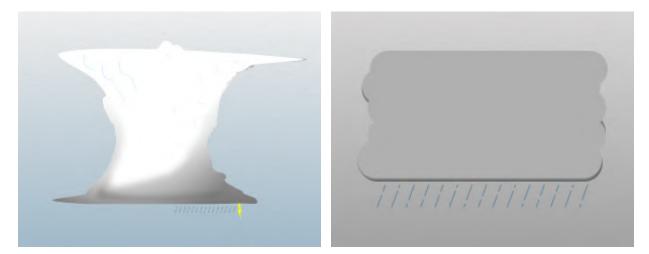
Precipitation Potential: Very common



Cumulonimbus vs. Cumulus



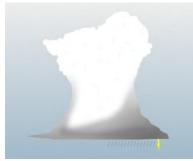
Fully developed cumulonimbus clouds are much different than typical fair-weather cumulus clouds, but a cumulus congestus cloud is the precursor to a cumulonimbus cloud. If you're trying to decide between the two, and the cloud in question has precipitation, lightning, or a fibrous upper portion, you can consider it a cumulonimbus cloud. Otherwise, it would be identified as a cumulus cloud.



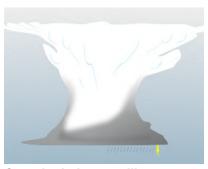
Cumulonimbus vs. Nimbostratus

Both cumulonimbus clouds and nimbostratus clouds have precipitation, and when underneath them, it might be tough to differentiate the two. If the precipitation is particularly heavy, or if the rain is accompanied by thunder, lightning, or other cloud features like a wall cloud (murus cloud feature), shelf cloud (arcus cloud feature), or a tail cloud (cauda cloud feature), you're under a cumulonimbus cloud.

Cumulonimbus Cloud Species

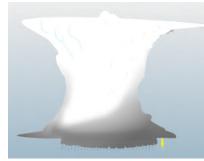


Cumulonimbus calvus Without cirriform, hairless

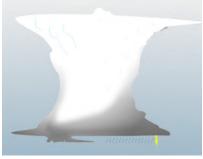


Cumulonimbus capillatus Fibrous upper portion

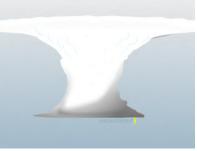
Cumulonimbus Cloud Supplementary Features



Cumulonimbus arcus Shelf cloud, gust collar



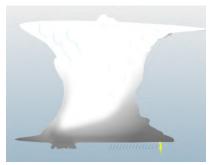
Cumulonimbus cauda Tail cloud, attached to murus



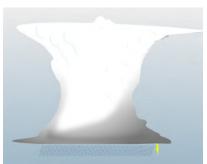
Cumulonimbus incus Anvil above a cumulonimbus



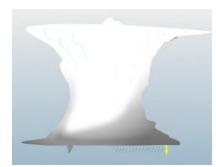
Cumulonimbus mamma Sac-like, resembling cow udders



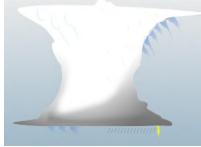
Cumulonimbus murus Wall cloud, cloud lowering



Cumulonimbus praecipitatio Precipitation reaching the surface

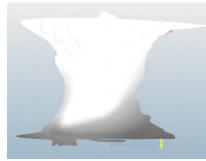


Cumulonimbus tuba Funnel cloud, tornado

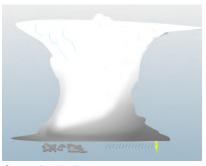


Cumulonimbus virga Evaporating rain strips

Cumulonimbus Cloud Accessories & Other Clouds



Cumulonimbus flumen Beaver tail. detached from murus



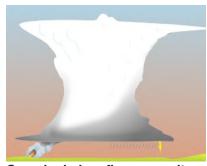
Cumulonimbus pannus Ragged frazzles, scud



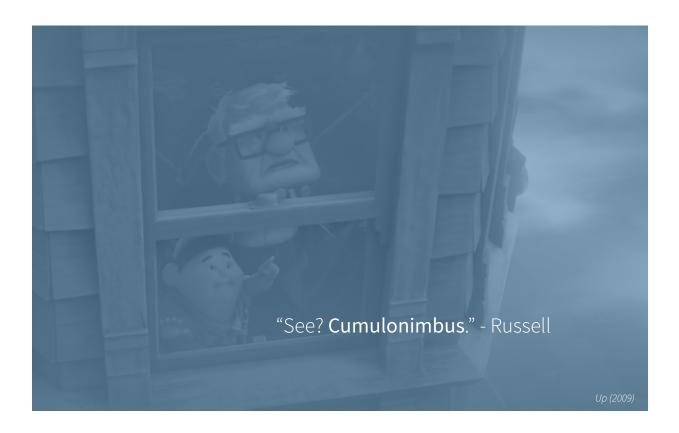
Cumulonimbus pileus Cap or hood over a cumuliform



Cumulonimbus velum Horizontal cloud veil



Cumulonimbus flammagenitus Pyrocumulus, caused from fire







Cumulus Low, puffy, fair-weather

Cumulus Clouds: Low, Puffy, Fair-weather

Low-altitude, fluffy heaps of clouds with cotton-like appearance

Cumulus clouds are the clouds that we all drew as kids. They're cotton ball clouds, popcorn clouds, and the clouds in the opening scene of The Simpsons. Though they come in different shapes and sizes, they're generally the easiest type of cloud to pick out of the ten different cloud types. When the average person is asked to visualize a cloud, cumulus clouds are generally the first to come to mind.

The different sizes of cumulus clouds are described by their four associated species. If the cumulus cloud you're looking at is wider than it is tall, then it's a cumulus humilis. If it's as wide as it is tall, then it's a cumulus mediocris. But when a cumulus cloud is taller than it is wide, known as cumulus congestus, things can get interesting. If a cumulus congestus cloud continues its vertical growth, they're capable of producing rain, and can eventually morph into a cumulonimbus cloud.

Finally, if you see a cumulus cloud that's ragged and broken up, consider it of the species cumulus fractus. You might witness these clouds in the evening as cumulus clouds begin to dissipate, or perhaps on a windy day.

Cumulus Cloud Facts

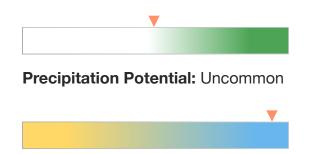
Cloud Level (Étage):	Low, but capable of extending into higher levels (congestus)
Altitude/Height:	0.2-2 km (2,000-7,000 ft)
Latin Term:	Derives from cumulo-, meaning heap
Abbreviation:	Cumulus can be abbreviated as Cu



Cloud Color: White to gray

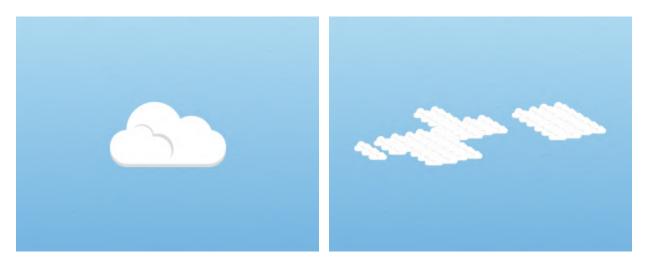


Sky Cover: Mostly sunny to sunny

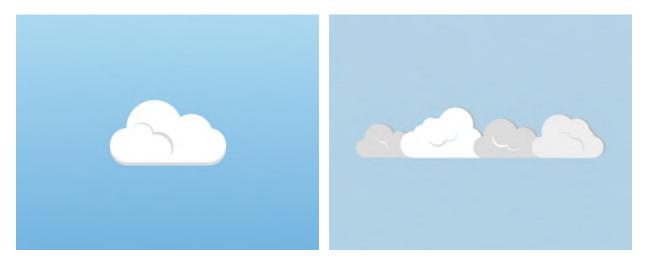


Cloud Frequency: Very common

Cumulus vs. Altocumulus



Altocumulus clouds are generally seen as patches of clouds grouped together, either in rolls, sheets, or heaps. Cumulus clouds are more often seen as individual clouds. Cumulus clouds are also much closer to the ground. A key reminder trying to determine the difference between cumulus and altocumulus clouds are that the two cloud types don't have any shared cloud species.



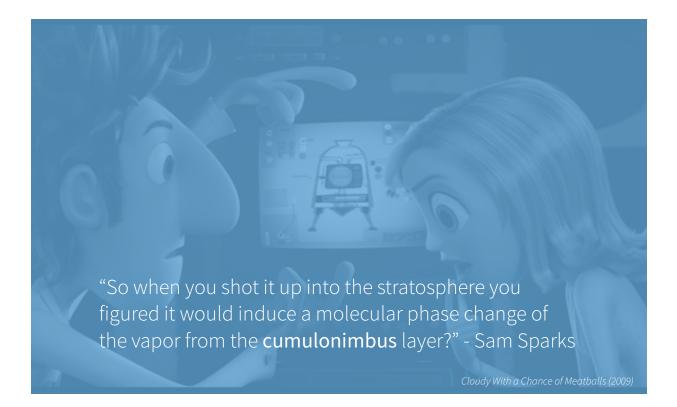
Cumulus vs. Stratocumulus

Both cumulus and stratocumulus clouds are found at the same height, but stratocumulus clouds are more of a layer cloud than a cumulus cloud, usually found in conjoined groups or clumps of clouds. Additionally, stratocumulus clouds are generally darker than cumulus clouds. It's also important to note that both clouds don't share any cloud species or varieties besides the radiatus cloud variety.

Cumulus vs. Cumulonimbus



Fully developed cumulonimbus clouds are much different than typical fair-weather cumulus clouds, but a cumulus congestus cloud is the precursor to a cumulonimbus cloud. If you're trying to decide between the two, and the cloud in question has precipitation, lightning, or a fibrous upper portion, you can consider it a cumulonimbus cloud. Otherwise, it would be identified as a cumulus cloud.



Cumulus Cloud Species



Cumulus congestus Vertical, cauliflower outline



Cumulus fractus Ragged, broken up



Cumulus humilis Flattened, wider than it is tall



Cumulus mediocris Medium height, tall as it is wide

Cumulus Cloud Varieties



Cumulus radiatus Parallel bands and strips

Cumulus Cloud Supplementary Features



Cumulus arcus Shelf cloud, gust collar



Cumulus fluctus Kelvin-Helmholtz waves, curls



Cumulus praecipitatio Precipitation reaching the surface



Cumulus tuba Funnel cloud, tornado



Cumulus virga Evaporating rain strips

Cumulus Cloud Accessories & Other Clouds



Cumulus pannus Ragged frazzles, scud



Cumulus pileus Cap or hood over a cumuliform



Cumulus velum Horizontal cloud veil



Cumulus cataractagenitus Waterfall condensation and spray



Cumulus flammagenitus Pyrocumulus, caused from fire



Cumulus homogenitus Caused by human activity



Stratus LOW, FEATURELESS LAYER

Stratus Clouds: Low, Featureless Layer

Gray, featureless low-altitude layer cloud capable of ground contact

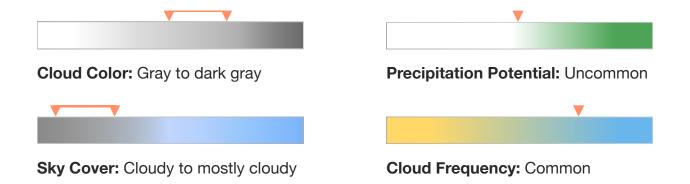
When you think of a cloudy, dreary day, you might have stratus clouds on your mind. Stratus clouds are blanket clouds that sit low to the ground, and on occasion, come in contact with the ground, better known as fog. If you're a city dweller, you might know stratus clouds by their ability to obscure the tops of tall buildings.

These clouds only have two species associated with them: nebulosus and fractus. Stratus nebulosus clouds are arguably the dullest of the clouds out there. They're featureless, lack detail, and probably wouldn't be considered picturesque. Stratus fractus aren't exactly picturesque either, but at least there's a little detail, as these clouds are broken up shards of stratus clouds.

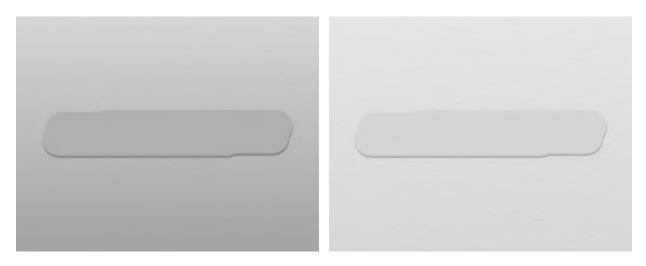
Depending on the conditions, stratus clouds can mask the sun (opacus cloud variety), though sometimes the sun can be observed (translucidus cloud variety). It's also possible to find wavelike, undulating features in them (undulatus cloud variety). Regardless, stratus clouds aren't the most memorable cloud and often leave you wishing for sunnier days.

Stratus Cloud Facts

Cloud Level (Étage):	Low
Altitude/Height:	0-2 km (0-7,000 ft)
Latin Term:	Derives from strato-, meaning layer
Abbreviation:	Stratus can be abbreviated as St

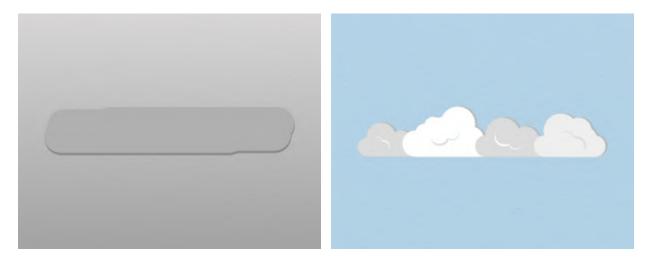


Stratus vs. Altostratus



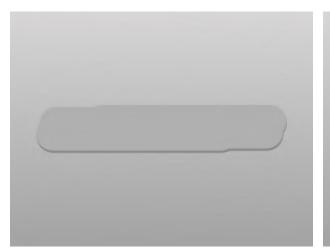
Both altostratus clouds and stratus clouds are both layer clouds, so they can certainly look the same. Altostratus clouds are higher in altitude though, which means they won't touch the ground or mask the tops of tall buildings like a stratus cloud would. When deciding between these clouds, if you're able to see further off in the distance, chances are likely that you're looking at an altostratus cloud.

Stratus vs. Stratocumulus



Both stratus and stratocumulus clouds are found at the same altitude. But if you're deciding between a stratus and stratocumulus cloud, remember that stratus clouds are generally featureless layer clouds. On the contrary, stratocumulus clouds can contain plenty of features. Both clouds don't share any of the same cloud species, which can help differentiate the two.

Stratus vs. Nimbostratus





Both nimbostratus and stratus cloud bases can be found at the same height, are both relatively featureless, and are both the same light gray to dark gray color. The biggest differentiator is that nimbostratus clouds contain rain, whereas stratus clouds only precipitate on certain occasions. If it's raining, chances are it's a nimbostratus cloud. If it isn't, it's a stratus cloud.



Stratus Cloud Species





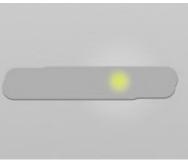
Stratus fractus Ragged, broken up

Stratus nebulosus Full of vapor, lacking detail

Stratus Cloud Varieties



Stratus opacus Opaque, masks the sun

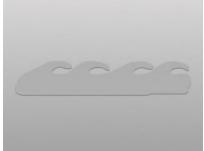


Stratus translucidus See-through, sun's position visible

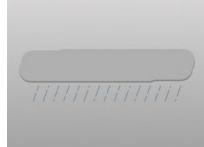


Stratus undulatus Wavelike, undulating

Stratus Cloud Supplementary Features



Stratus fluctus Kelvin-Helmholtz waves, curls

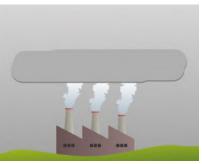


Stratus praecipitatio Precipitation reaching the surface

Stratus Cloud Accessories & Other Clouds



Stratus cataractagenitus Waterfall condensation and spray

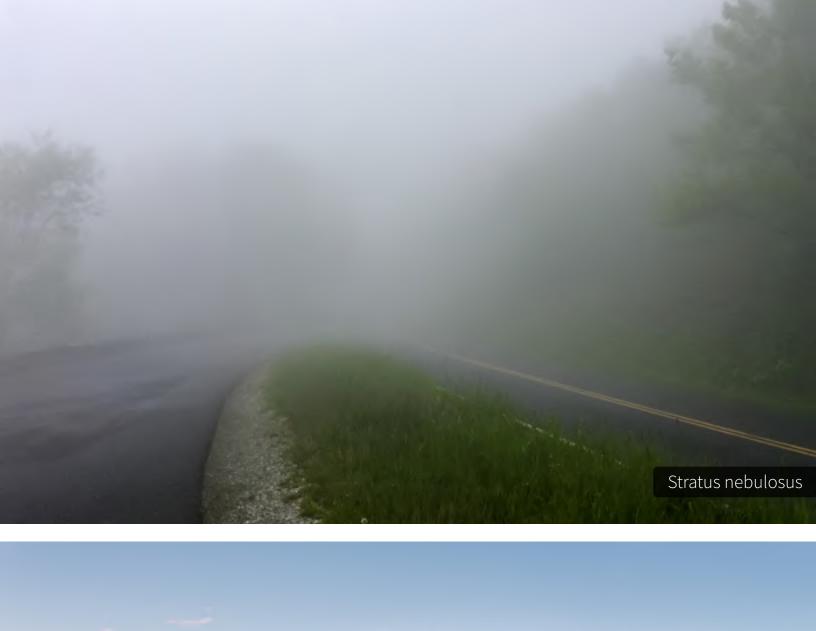


Stratus homogenitus Caused by human activity



Stratus silvagenitus Evaporation from a forest





Stratocumulus

LOW, PUFFY LAYER

FARTE A

Stratocumulus Clouds: Low, Puffy Layer

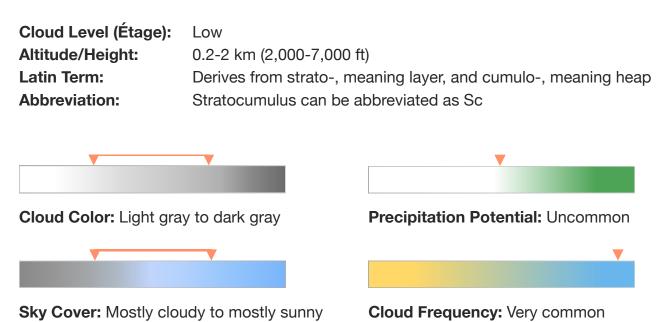
Thicker, low-altitude, and somewhat conjoined heaps of clouds

Consider stratocumulus clouds a mix of stratus and cumulus clouds, hence the name (strato- and cumulo- are latin for layer and heap, respectively). They're a layer of puffy clouds, and can usually be found as conjoined heaps, similar to altocumulus clouds. In many ways, these clouds are like altocumulus clouds closer to the ground.

Similar to altocumulus, stratocumulus clouds come in many different shapes and sizes and have a handful of associated species, varieties, and features, more than any of the ten main cloud types in fact. They come in various cloud species that describe forms of rising turret formations (castellanus cloud species), wooly locks (floccus cloud species), smooth lens shaped (lenticularis cloud species), layer form blanketing the sky (stratiformis cloud species), and even as a roll cloud (volutus cloud species).

More dramatic versions of stratocumulus clouds include (but aren't limited to) chaotic and wavy features (asperitas cloud feature), sac-like features (mamma cloud feature), and can even have the rare Kelvin-Helmholtz wave cloud (fluctus cloud feature) association. Stratocumulus clouds are diverse and capable of many different looks.

Stratocumulus Cloud Facts

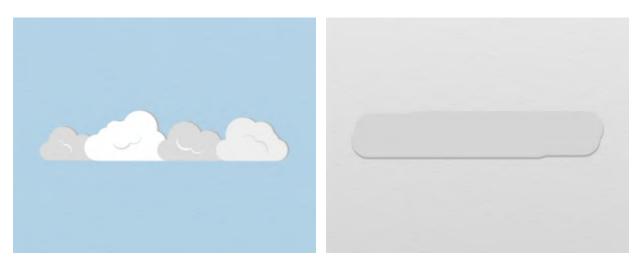


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Stratocumulus vs. Altocumulus



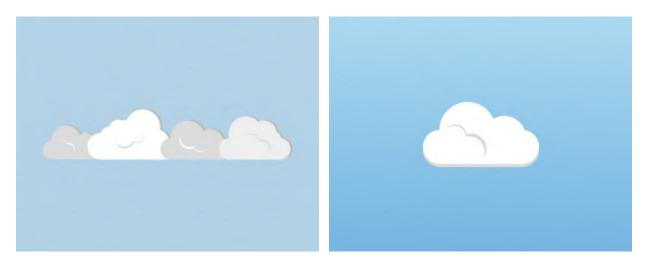
Stratocumulus clouds are more closely related to altocumulus clouds than they are to cumulus clouds. They share almost all of the same cloud species, cloud varieties, and other cloud features. Their altitude is their biggest differentiator, with stratocumulus clouds being closer to the ground. Stratocumulus cloud formations are seemingly bigger, and are generally a bit darker than altocumulus clouds.



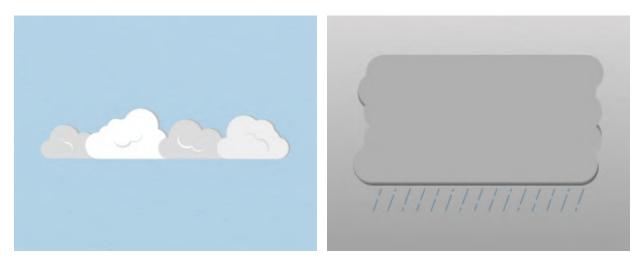
Stratocumulus vs. Altostratus

Stratocumulus clouds have more detail, whereas altostratus clouds are generally a featureless layer cloud. Remember, if you're trying to decide between an altostratus and stratocumulus cloud, and the cloud being observed has been determined to have an associated cloud species, it's not an altostratus cloud.

Stratocumulus vs. Cumulus



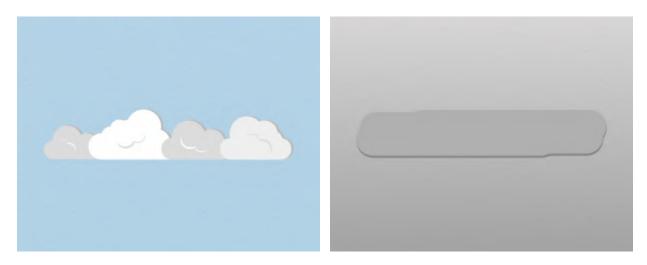
Both stratocumulus and cumulus clouds are found at the same height, but stratocumulus clouds are more of a layer cloud than a cumulus cloud, usually found in conjoined groups or clumps of clouds. Additionally, stratocumulus clouds are generally darker than cumulus clouds. It's also important to note that both clouds don't share any cloud species or varieties besides the radiatus cloud variety.



Stratocumulus vs. Nimbostratus

When deciding between nimbostratus and stratocumulus clouds, remember that nimbostratus clouds are associated with precipitation, where stratocumulus clouds only produce precipitation in certain conditions. Nimbostratus clouds are generally featureless and don't have any associated cloud species or varieties, while stratocumulus clouds have plenty of species and varieties to go around.

Stratocumulus vs. Stratus



Both stratus and stratocumulus clouds are found at the same altitude. But if you're deciding between a stratus and stratocumulus cloud, remember that stratus clouds are generally featureless layer clouds. On the contrary, stratocumulus clouds can contain plenty of features. Both clouds don't share any of the same cloud species, which can help differentiate the two.



Stratocumulus Cloud Species



Stratocumulus castellanus Rising towers, turrets



Stratocumulus floccus Puffy, ragged tufts



Stratocumulus lenticularis Lens-shaped, resembling a UFO

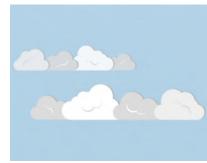




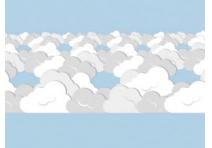
Stratocumulus stratiformis Horizontal, layer-like form

Stratocumulus volutus Tube-shaped roll cloud

Stratocumulus Cloud Varieties



Stratocumulus duplicatus Multilayered



Stratocumulus lacunosus Perforated, round frayed holes



Stratocumulus opacus Opaque, masks the sun



Stratocumulus perlucidus Transparent by small gaps



Stratocumulus radiatus Parallel bands and strips



Stratocumulus translucidus See-through, sun's position visible

Stratocumulus Cloud Varieties (cont.)



Stratocumulus undulatus Wavelike, undulating

Stratocumulus Cloud Supplementary Features



Stratocumulus asperitas Chaotic, wavy underneath



Stratocumulus cavum Fallstreak hole, hole punch



Stratocumulus fluctus Kelvin-Helmholtz waves, curls



Stratocumulus mamma Sac-like, resembling cow udders



Stratocumulus praecipitatio Precipitation reaching the surface



Stratocumulus virga Evaporating rain strips





The 'What's This Cloud' Mission

You don't have to be a meteorologist or fluent in Latin to learn about clouds. Cloud identification can be a hobby that can be enjoyed by people both young and old. Whether you're a student, pilot, meteorologist, teacher, or a general weather enthusiast, our mission is to help make cloud identification a fun and accessible hobby for everyone.

We think every individual can benefit from learning more about the weather. Even just a little bit. Our hypothesis is that cloud identification is a great way to get people more interested in our ever changing atmosphere. So why not create educational materials and resources revolving around identifying clouds and cloud types?

Between our website, social media accounts, and other tools and products, it's our hope to make the hobby of cloudspotting fun and educational. Thanks for joining us on our journey!

Meet the Team Behind What's This Cloud



Greg's passion for weather began growing up in New Jersey, watching Jim Cantore on television in the 90s, forecasting the incoming squall lines during the summer season. Since then, he's been chasing storms in the high plains of eastern Colorado, central Virginia, and beyond.

Follow him on Twitter at @GregGoodson.



Growing up in Maryland, Austin's passion for meteorology began after Hurricane Isabel rolled through the area in 2003. Austin is a graduate of University of Colorado Boulder with a degree in Atmospheric and Oceanic Sciences and serves as an on-air meteorologist at WSAW-TV in central Wisconsin.

Follow him on Twitter at @AustinKopnitsky.

Further Expand Your Knowledge of Cloud Identification in Three Steps

1. Join the @WhatsThisCloud community on Instagram to learn more about cloud types, participate in quizzes, & much more.



2. Check out our cloud classification lessons and practice your cloud identification skills with step-by-step instructions.

VIEW LESSONS

3. Check out our cloud identification guide and learn the ins and outs of cloud identification and classification.

VIEW GUIDE

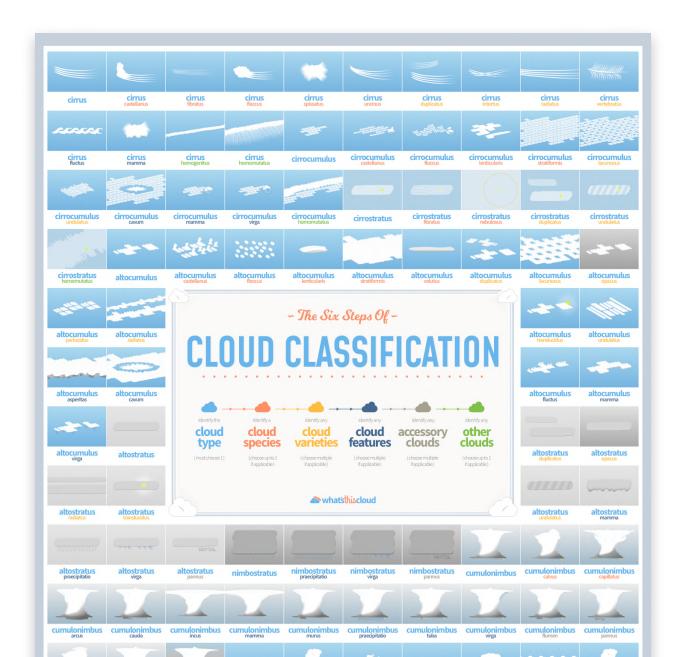


Cloud Classification Poster

\$25 USD (24 x 36, print only)

Featuring 126 illustrations of all cloud types and subtype combinations on one giant 24"x36" print.



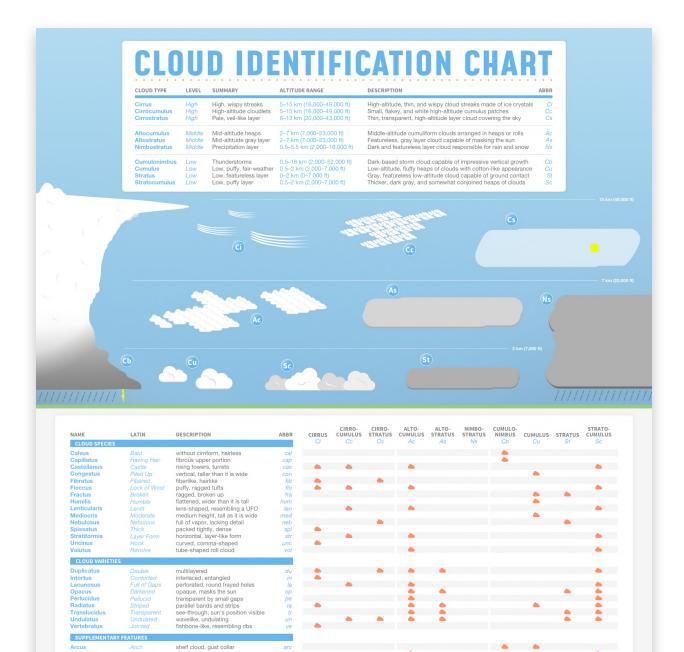


Cloud Identification Chart

\$20 USD (18 x 24, print only)

An 18"x24" print designed as a learning tool to help supercharge your cloud identification skills.

VIEW POSTER

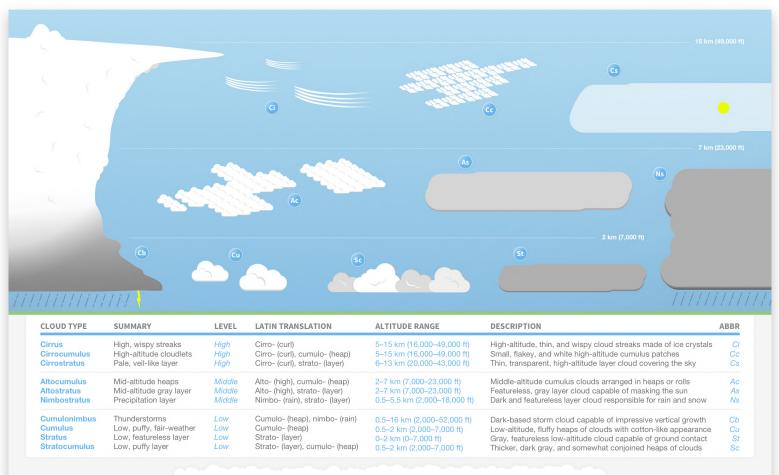


Cloud Types Poster

\$20 USD (24 x 36, print only)

Your introduction to cloud types with illustrations and descriptions on a large 36"x24" print.





The Ten Different Types of Clouds

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Thanks for reading... cirrus-ly!

If there's anything else you'd like to chat about, we'd love to hear from you and encourage you to get in touch with us! The three best ways to get in touch would be over email, Twitter, and Instagram.

Direct message us at @whatsthiscloud on Instagram or @whatsthiscloud on Twitter. Or flood my inbox with an email at greg@whatsthiscloud.com.

Message us and we'll respond to you quickly... unless we're storm chasing.

All photographs, images, illustrations, and media found in this document (except for the television show/movie quote images where clouds are mentioned) are property of and copyright by Why So Cirrus LLC (that's our company name — get it?). It took us a long time to find these clouds and take these photos. Get in touch with us if you're interested in any of them for whatever reason. Happy cloudspotting, friends!