1 Which cloud is that?

Choose a cloud or cloud layer and answer the questions from top to bottom. If there are several clouds in the sky, identify them one after another. First comes the genus – the full name follows on the next pages.

1 What does the cloud look like?

Fine fibres and streaks

White, silky threads, hooks or tufts. No shadows.



Cirrus
Ci · mares' tails

Good to know: Cirrus is made of ice and keeps glowing long after sunset.

Separate heaps or towers

Clearly outlined, flat at the bottom, billowing upwards.

2 What does the top look like?



Sharp outline like a cauliflower

Cumulus
Cu · heap cloud



Blurred, fibrous or an anvil; often lightning and thunder

Cumulonimbus
Cb · thunderstorm cloud

Only shreds? White against blue sky: Cumulus. Grey and low, often with rain: Stratus.

Many cloudlets, flakes or rolls

A field of similar parts: cloudlets, ripples, waves.

2 How big are the cloudlets?

Stretch out your arm and compare with your fingers. Only measure cloudlets high in the sky.



Narrower than the little finger

Cirrocumulus
Cc · mackerel sky



One to three fingers wide

Altocumulus
Ac · mid-level cloudlets



Wider than three fingers

Stratocumulus
Sc · low lumpy layer

An even layer or a veil

Large parts of the sky covered, without separate parts.

2 What can be seen of the sun?



Clearly, with shadows on the ground, often a ring

Cirrostratus
Cs · high veil



As if behind frosted glass, hardly any shadows

Altostratus
As · mid-level grey sheet



Not at all – dark, steady rain or snow

Nimbostratus
Ns · rain cloud layer



Not at all – very low, grey like fog

Stratus
St · low grey layer

From genus to full name

Up to four more parts follow the genus, always in this order. Only the genus is required; everything else is added when it can be seen:

Altocumulus	*stratiformis*	*translucidus undulatus*	*virga*	–
Genus · p. 1	Species · p. 2	Varieties · p. 3	Supplementary feature · p. 4	Accessory cloud · p. 4

In short: **Ac str tr un vir** – a sheet of cloudlets with the sun shining through, with waves and fall streaks.

2 Which species?

The species describes shape and internal structure. A cloud has **at most one** species. Find the genus and compare – the pictures show the feature on a typical cloud.

Cirrus Ci · What shape are the fibres?



fibratus
Straight or slightly curved fibres without hooks or tufts.



uncinus
Fibres that curve into hooks at the end – like commas.



spissatus
Dense patches that look grey against the sun.



castellanus
Small turrets rising from a common line.



floccus
Small, rounded tufts, often with fibrous trails below.

Cirrocumulus Cc · How are the grains arranged?



stratiformis
An extensive sheet of fine grains or ripples.



lenticularis
Smooth, lens- or almond-shaped clouds.



castellanus
Grains with small turrets on a common base.



floccus
Small tufts with a ragged underside.

Cirrostratus Cs · What does the veil look like?



fibratus
A fibrous, streaky veil.



nebulosus
A uniform veil without any recognisable detail.

Altocumulus Ac and *Stratocumulus* Sc · What shape are the elements?



stratiformis
An extensive field or layer of elements.



lenticularis
Smooth lenses or almonds that stay in the same place for a long time – often near mountains or with föhn winds.



castellanus
Turrets rising from a common base like battlements.



floccus
Separate tufts with a ragged underside, often with virga.



volutus
A single, long, horizontal roll.

Stratus St · What does the layer look like?



nebulosus
A uniform grey layer without structure.



fractus
Torn, ragged shreds.

Cumulus Cu · How tall is the cloud?



humilis
Flat, clearly wider than tall.



mediocris
About as tall as wide, with small bulging tops.



congestus
Towering, often taller than wide, with cauliflower tops.



fractus
Ragged shreds that constantly change shape.

Cumulonimbus Cb · What does the summit look like?



calvus
Smooth and blurred, but not yet fibrous.



capillatus
Clearly fibrous, often spread out as an anvil.

Altostratus and **Nimbostratus** have no species – continue straight with the varieties (p. 3) and supplementary features (p. 4).

3 Which varieties?

Varieties describe how the cloud elements are arranged and how transparent the cloud is. A cloud can have **several** varieties – or none. “With” lists the genera they occur with.

Arrangement

Fibres, waves, bands, holes, layers



intortus in

Tangled fibres

The fibres are irregularly curved and entangled.

with Ci



vertebratus ve

Fish bones

The fibres are arranged like ribs or fish bones along a central line.

with Ci



undulatus un

Waves

The cloud shows regular, parallel waves or ripples.

with Cc · Cs · Ac · As · Sc · St



radiatus ra

Radiating bands

Long, parallel bands that seem to radiate from a point on the horizon.

with Ci · Ac · As · Sc · Cu



lacunosus la

Holes like a net

Regularly spaced, round gaps – like a net or a honeycomb.

with Cc · Ac · Sc



duplicatus du

Several layers on top of each other

Two or more layers or bands at slightly different heights.

with Ci · Cs · Ac · As · Sc

Transparency

How much light gets through?



translucidus tr

Sun shines through

The cloud is thin enough for the sun or moon to shine through.

with Ac · As · Sc · St



perlucidus pe

Sky in the gaps

There are distinct gaps between the elements through which you can see the sky.

with Ac · Sc



opacus op

Opaque

The cloud is so dense that the sun or moon is completely hidden.

with Ac · As · Sc · St

Note: *translucidus* (translucent) and *opacus* (opaque) exclude each other – a cloud can only be one of the two. *perlucidus* (with gaps) goes with both.

Examples of full names



Cirrus fibratus vertebratus

Ci fib ve

Straight fibres arranged like a fish skeleton.



Cumulus mediocris radiatus

Cu med ra

Medium-sized heap clouds in long rows (cloud streets).



Stratocumulus stratiformis opacus undulatus

Sc str op un

Dense, wavy layer of cloudlets hiding the sun.



Cumulonimbus capillatus incus praecipitatio

Cb cap inc pra

Thunderstorm cloud with a fibrous anvil and rain reaching the ground.

Advanced: mother clouds

The very end of the name can say which cloud a cloud came from. ***…genitus***: part of the mother cloud has developed into a new cloud, and the mother cloud is still there – e.g. *Stratocumulus cumulogenitus* from spreading Cumulus tops. ***…mutatus***: the mother cloud has changed completely – e.g. *Cirrostratus cirromutatus*, a veil that used to be Cirrus. Contrails are called *homogenitus* (“made by humans”).

4 Supplementary features and accessory clouds

Supplementary features are attached to the cloud or fall out of it. Accessory clouds are smaller clouds that belong to a main cloud. A cloud can have **several** of both.

Supplementary features



incus **inc**
Anvil
The summit spreads out sideways, flat and fibrous, like an anvil.
with Cb



mamma **mam**
Pouches underneath
Hanging, rounded bulges on the underside of the cloud.
with Ci · Cc · Ac · As · Sc · Cb



virga **vir**
Fall streaks
Trails of rain or snow below the cloud that do not reach the ground.
with Cc · Ac · As · Ns · Sc · Cu · Cb



praecipitatio **pra**
Precipitation reaching the ground
Rain, snow or hail visibly reaches the ground.
with As · Ns · Sc · St · Cu · Cb



arcus **arc**
Shelf or roll cloud
A dark, horizontal roll on the leading edge of the cloud, often ahead of a thunderstorm.
with Cu · Cb



tuba **tub**
Funnel cloud
A trunk or funnel hanging down from the base of the cloud.
with Cu · Cb



asperitas **asp**
Rough, wave-like underside
Chaotic waves on the underside, like a rough sea seen from below.
with Ac · Sc



fluctus **flu**
Breaking waves
Short-lived, curling waves on the edge of the cloud, like breakers.
with Ci · Ac · Sc · St · Cu



murus **mur**
Wall cloud
A lowered, often rotating wall of cloud beneath the thunderstorm.
with Cb



cauda **cau**
Tail cloud
A horizontal, tail-like band extending from the wall cloud.
with Cb



cavum **cav**
Hole in the cloud
A round hole in a thin layer, often with fall streaks in the middle.
with Cc · Ac

Accessory clouds



pileus **pil**
Cap above the summit
A small, smooth cap just above or on the summit.
with Cu · Cb



velum **vel**
Veil around the towers
An extensive thin veil through which the cloud towers grow.
with Cu · Cb



pannus **pan**
Dark shreds underneath
Ragged, dark shreds below the main cloud, usually in rain.
with As · Ns · Cu · Cb



flumen **flm**
Inflow band
A band of low clouds flowing towards the thunderstorm (beaver tail).
with Cb

All pictures are drawings (made with AI, checked by experts), not photos. Terms follow the WMO International Cloud Atlas (2017). Free to copy for teaching, courses and personal use.