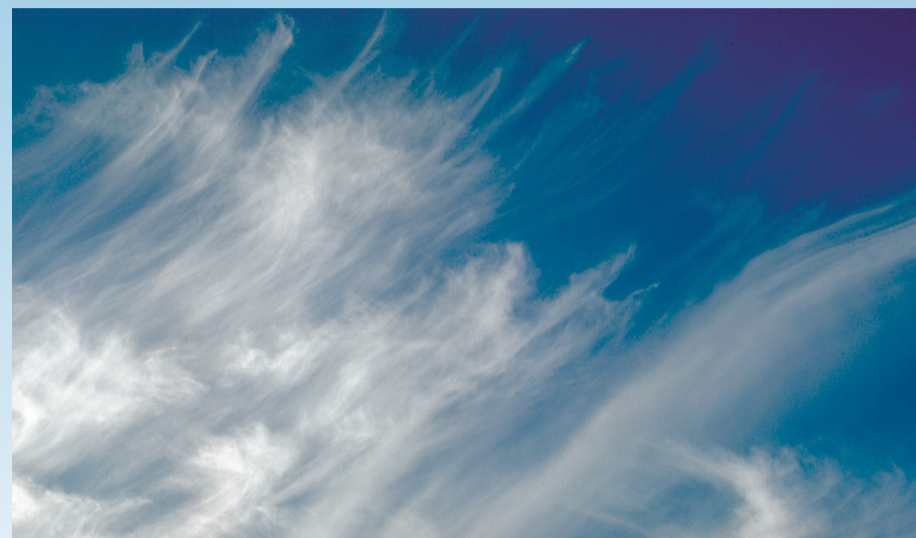


# New Zealand Cloud Types

## Cirrus Ci



White, fibrous-looking cloud made of ice crystals. This cloud is often the first sign of an approaching front. Cirrus streaks are sometimes known as *mares' tails*.

Photographer: Unknown Location: Unknown

## Cirrostratus Cs



Whitish veil-like high cloud made of ice crystals. It is usually translucent and has a smooth appearance. The sun, when viewed through Cs, is often seen to be surrounded by a rainbow-like ring called a *solar halo*. This cloud often invades the sky well ahead of a frontal system and may thicken to As as the front approaches.

Photographer: Peter Kreft Location: Wellington

## Cirrocumulus Cc



Whitish high cloud made of ice crystals and composed of small billow-like cloud elements. This cloud type is not often observed.

Photographer: John Crouch Location: Hutt Valley

## High Clouds

Base usually above 6000m (20000ft) over New Zealand

- Ci Cirrus  
hair-like or streaky ice cloud
- Cs Cirrostratus  
layer of ice cloud
- Cc Cirrocumulus  
billowy ice cloud

## Middle Clouds

Base usually between 2000m (6500ft) and 6000m (20000ft) over New Zealand, but Ns may lower to near the Earth's surface.

- Ac Alto cumulus  
billowy cloud at middle levels
- As Altostratus  
layer cloud at middle levels
- Ns Nimbostratus  
rainy layer cloud

## Low Clouds

Base usually below 2000m (6500ft) over New Zealand

- St Stratus  
layer cloud
- Cu Cumulus  
heaped cloud
- Cb Cumulonimbus  
rainy heaped cloud
- Sc Stratocumulus  
flattened heaped cloud

## Alto cumulus Ac



A grey or whitish middle-level cloud that generally has some shading and texture. Ac may follow Cs during the approach of a front.

Photographer: Peter Kreft Location: Wellington

## Alto cumulus Lenticularis Ac



This middle-level wave cloud often forms when a layer of air is lifted over hills or mountains in *stable* conditions. Ac *lentic* can occur as single lens-shaped clouds or as many lens-shaped clouds 'stacked like pancakes'.

Photo: Peter Fisher Location: Near Lumsden

## Northwest Arch Ac/As/Cs



This middle and high cloud often forms east of New Zealand's main mountain ranges as a result of an increasing northwest flow ahead of a frontal system. At first single Ac lentic form but, as the front approaches, upper-level moisture increases and an *arch cloud* develops of Ac, As and Cs. This *arch cloud* displays a very sharp western edge.

Photo: Sarah Garlick Location: North of Christchurch

## Altostratus As



A greyish or blueish middle-level cloud sheet. It usually develops from gradually thickening Cs, and it may thicken further and lower to Ns. Unlike Cs, *solar halos* are not observed with this cloud. The low cloud in this photo is Sc.

Photographer: Peter Kreft Location: Wellington

## Nimbostratus Ns



Dark grey middle-level cloud usually associated with a frontal system. The cloud base can be hard to see because of more or less continuously falling rain or snow beneath it. The base may lower to near ground level as precipitation increases the low-level moisture.

Photographer: Peter Kreft Location: Wellington

## Stratus St



A low-level cloud which can occur in layers or patches. St often forms when low-level air is moistened by frontal rain, and when warm moist air moves over a cool sea. If under other clouds St appears grey; it looks white if in direct sunlight as in the photo. Fog is a type of St that forms on the ground, often under slow-moving anticyclones.

Photographer: John Crouch Location: Wellington

## Stratocumulus Sc



Grey or whitish layer cloud, often with a lumpy looking base. Sc can be formed by low-level turbulence and also by Cu spreading out when reaching a stable layer. Sc layers are usually only about 300m (1000ft) to 600m (2000ft) thick. Sc is common in anticyclonic conditions, particularly over the sea.

Photographer: Paul Mallinson Location: Hutt Valley

## Cumulus Humilis Cu



A low-level heaped cloud that is also called *fair weather cumulus*. It has little vertical development and individual clouds are short lived. These clouds form in weak thermals rising from the the Earth's surface during fair weather.

Photographer: Peter Knudsen Location: Near Greytown

## Towering Cumulus TCu



This heaped cloud usually has a sharp horizontal base and a cauliflower-shaped top. TCu may grow from Cu into Cb if the conditions are suitable. The vertical extent of TCu (and Cb) is much greater than Ac and Cc, the higher-altitude types of cumulus.

Photographer: Peter Kreft Location: Wellington

## Cumulonimbus Cb



Tall heaped cloud, usually with an anvil-shaped top. In New Zealand, Cb tops may reach 10,000m (35,000ft). Cb clouds can occur individually, in organised groups, as *squall lines* or embedded in fronts. They often produce thunderstorms with strong wind gusts, hail, heavy showers and even tornadoes.

Photographer: Allister Gorman Location: Wellington