

Formation and types of clouds.

Clouds are the result of the process:

- condensation (water vapor - liquid)
- resublimaciji steam (water vapor - solid)

Conditions necessary for the formation of clouds is the existence of:

- moisture in the air
- condensation nuclei
- temperature changes

**Clouds can be divided
in various ways:**

a) due to the amount of occurrence
can be distinguished:

1. High clouds
2. Medium clouds
3. Low clouds

b) Because of the shape we can be distinguished:

1. puffy clouds

2. layered clouds

3. feathery clouds

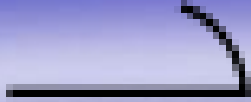
c) due to the internal structure:

1. Clouds of horizontal extent
2. Clouds of vertical extent

Chmury piętra wysokiego.

- Cirrus
- Cirrostratus
- Cirrocumulus

Cirrus – Ci



The boundaries of occurrence:

Lower: 8-10 km,
Upper: 13-16 km.

Building:

Ice crystals.



Cirrus clouds are single, with a delicate design, white color, without shadows, often with a silky luster and fibrous structure (the form lint, threads, fibers).



Cirrocumulus – Cc



The boundaries of occurrence:

Lower: 6-8 km,

Upper: 13-16 km.

Building:

Ice crystals

(occasionally supercooled water droplets).



Cirrocumulus layer or cloudbank consisting of small white flakes, glomeruli, wrinkles, curls, often similar to the wrinkles on the surface of the water or sand

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Cirrostratus – Cs



The boundaries of occurrence:

Lower: 7-8 km,

Upper: 13-16 km.

Building:

Mostly ice crystals.



Cirrostratus clouds are delicate, similar to a white veil, which covers the sky completely or partially and gives blue-sky milky, but it blurs the contours of the Sun or the Moon. They predict bad weather.

Medium level clouds

- **Altostratus**
- **Altostratus**

☁ Altocumulus – Ac



The boundaries of occurrence:

Lower: 2.5-5 km,
Upper 5-6 km.

Building:

Water droplets at
low negative
temperature as
the ice crystals.

Altostratus is white or gray school of clouds composed of lobes, rounded shapes, cylinders, "lamb's", often arranged in rows. They darken the sun.





Altostratus – As



The boundaries of occurrence:

Lower: 2.5-5 km,
upper 5-6 km.

Building:

Water droplets or ice crystals a mixture of supercooled water droplets.



Altostratus is gray or bluish layer of fibrous structure, ribbed, covering the sky completely or partially. The sun and the moon shine through as through frosted glass.

Low level clouds

- Nimbostratus
- Stratocumulus
- Stratus



Nimbostratus – Ns



The boundaries of occurrence:

Lower: 0.1-2 km,
top: 6-8 km.

Building:

In the upper part of crystals, water droplets in the bottom, in the middle - ice crystals and supercooled water droplets.



Nimbostratus is a uniform gray (often dark) thick layer of clouds, often frayed at the bottom (hanging from it streaks of precipitation). Completely obscures the sun and the moon.



Stratocumulus – Sc



The boundaries of occurrence:

Lower: 0.2-2 km,
upper 2-5 km.

Building:

Water droplets at a
low temperature
ice crystals.



Stratocumulus layer or cloudbank consisting of rounded shapes, cylinders, arranged on a regular basis about the gray color with darker places. Often cover the entire sky.

Stratus – St



The boundaries of occurrence:

Lower: 0.05-0.6 km,

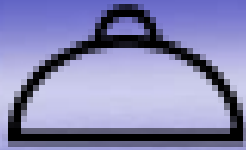
Upper: 1-2.5 km.

Building:

Water droplets at a low temperature ice crystals.

Clouds of vertical extent

- Cumulus
- Cumulonimbus



Cumulus – Cu



Alamy/David R. Frazier Photolibrary Inc.

The boundaries of occurrence:

Lower: 0.3-2.5 km,
top: 6-8 km.

Building:

Water droplets, and
when the
temperature drops
below 0 ° C - ice
crystals.



Cumulus cloud is a single, thick, shaped mounds, domes, towers based on the horizontal. Illuminated by the sun sides are shiny white and dark base.



Cumulonimbus – Cb



The boundaries of occurrence:

Lower: 0.6-2 km,

Upper: 8-12 km.

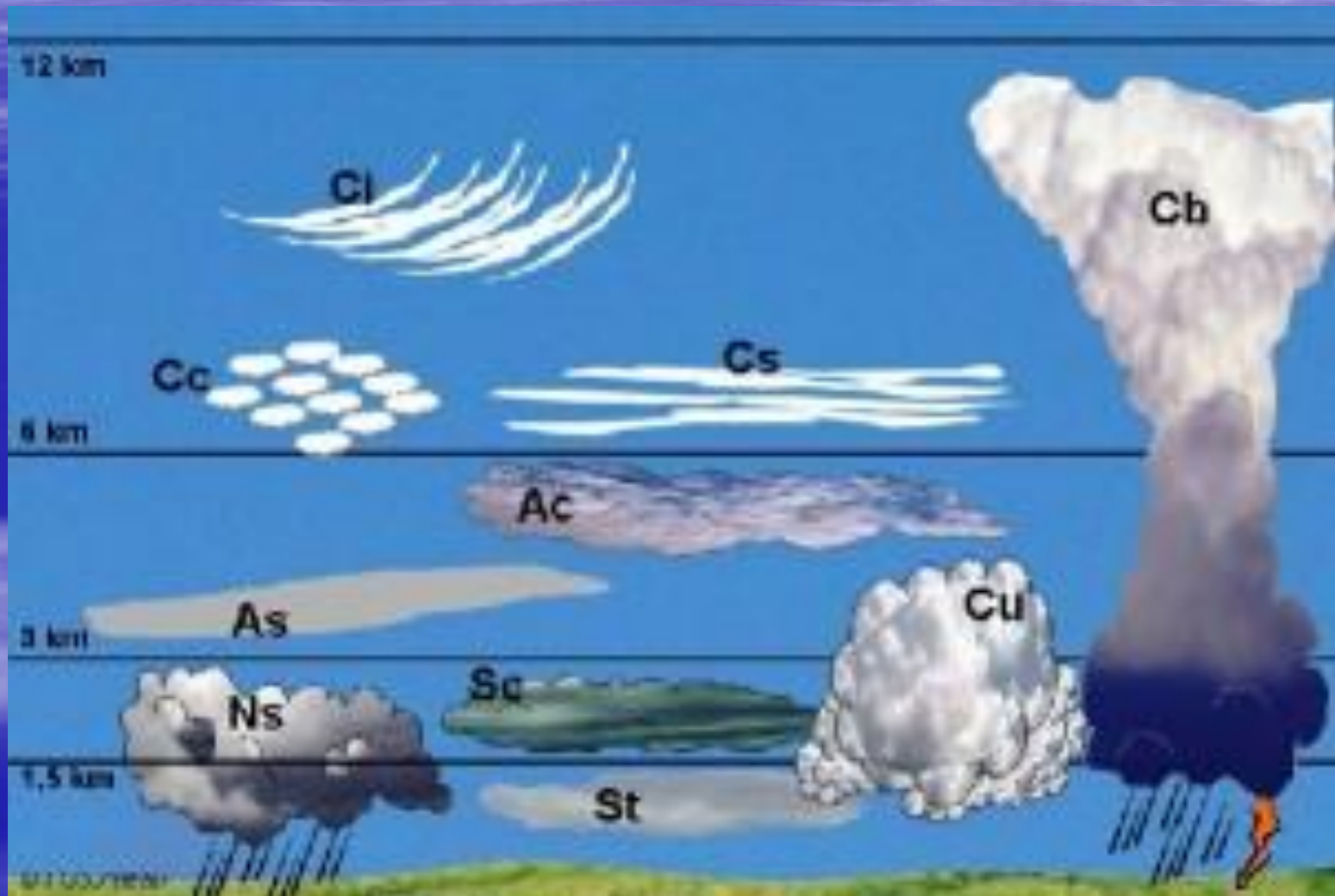
Building:

Ice crystals in the top portion, water droplets near the base, in the center - a mixture of ice crystals and supercooled water droplets.



Cumulonimbus is a single, powerful, dense cloud of strongly expanded in the vertical direction, taking the form of mountains or huge towers. The upper part shows a fibrous structure and often takes the shape of an anvil or vast plume. Sometimes, there are overhanging bulge, the so-called. Mamma.

Vertical distribution of various types of clouds in the atmosphere.



RAIN



DRIZZLE



SNOW



GROAT SNOW



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SPRING SNOW



GRAINS OF ICE



HAIL



Check your knowledge about
clouds and precipitation

GOOD LUCK

NIEPUBLICZNE GIMNAZJUM W SARBICACH