

From Clear to Overcast: How Sky Cover Is Measured

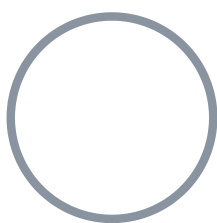
By the rock. August 9, 2026. Grounded in National Weather Service definitions.

The short version

Sky cover is measured in oktas: eighths of the dome above you covered by cloud. Zero to one okta is clear or sunny, one to two is mostly clear, three to five is partly cloudy, six to seven is mostly cloudy, and eight is overcast. The words are bands over a number, which is why two forecasts can describe one sky differently at the edges.

Grading in eighths

Observers, and now satellites and models, divide the sky into eight imaginary slices and count how many are hidden by cloud. That count, zero through eight, is the okta. Every familiar sky word is just an okta range wearing clothes.



clear



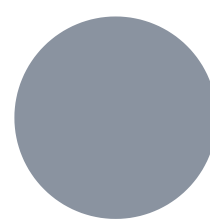
mostly clear



partly cloudy



mostly cloudy



overcast

The dome, filling by eighths. The words change at the band edges; the sky itself never heard of either.

The official bands

- **Clear or sunny:** zero to one okta. The sun operates unopposed.
- **Mostly clear, mostly sunny:** one to two oktas. A cloud or two, allowed on aesthetic grounds.
- **Partly cloudy, partly sunny:** three to five oktas. The sky is half committed, and both phrasings are legal.
- **Mostly cloudy:** six to seven oktas. Sun cameos only.
- **Overcast:** eight oktas. A full gray ceiling, wall to wall.

Why apps disagree about one sky

A five okta sky sits on the border between partly and mostly cloudy, and different providers round differently, sample different hours, or blend different models. Neither app is lying; both are translating a number near a boundary into words that only change at boundaries. Day versus night phrasing adds more wobble, since partly sunny needs a sun to be partly.

Cloud cover and your plans

High thin cirrus can cover eight oktas and still cast usable sunlight, while a single towering cumulus can own the afternoon. Pair the coverage word with cloud height and thickness when it matters: photographers chase interesting partly skies, solar panels prefer low okta counts, and stargazers want zero and are rarely accommodated.

Check your understanding

1. What is an okta?

- ☐ A. A cloud eight miles up
- ☐ B. One eighth of the sky dome, used to grade cloud cover
- ☐ C. A unit of sunlight intensity

2. The sky is six oktas covered. The official word is:

- ☐ A. Partly cloudy
- ☐ B. Mostly cloudy
- ☐ C. Overcast

3. Two apps call the same afternoon partly cloudy and mostly cloudy. The likely reason?

- ☐ A. One app is broken
- ☐ B. The sky sits near a band edge and they rounded or sampled differently
- ☐ C. Clouds moved between their updates only

4. Coverage wise, partly sunny compared to partly cloudy is:

- ☐ A. One okta clearer
- ☐ B. The same three to five okta band, daytime phrasing
- ☐ C. Officially undefined

5. At an airport with no human observer, cloud cover is measured by:

- ☐ A. Pilots radioing estimates
- ☐ B. A ceilometer firing laser pulses upward
- ☐ C. The control tower's cameras

Answer key

1. What is an okta?

B. One eighth of the sky dome, used to grade cloud cover — Sky cover is counted in eighths of the visible dome, zero through eight.

2. The sky is six oktas covered. The official word is:

B. Mostly cloudy — Six to seven oktas is mostly cloudy. Overcast is reserved for the full eight.

3. Two apps call the same afternoon partly cloudy and mostly cloudy. The likely reason?

B. The sky sits near a band edge and they rounded or sampled differently — Border skies translate to different words depending on rounding, timing, and model blend. The number is close either way.

4. Coverage wise, partly sunny compared to partly cloudy is:

B. The same three to five okta band, daytime phrasing — Same band, different mood. Partly sunny simply requires a sun to be partly.

5. At an airport with no human observer, cloud cover is measured by:

B. A ceilometer firing laser pulses upward — Ceilometers time laser reflections off cloud bases, and satellites fill in the view from above.

Questions people actually ask

What is the difference between partly cloudy and partly sunny?

Coverage wise, nothing: both mean three to five oktas. Partly sunny is a daytime phrasing; at night the sun half of the pair retires.

Does overcast mean rain is coming?

Not by itself. Overcast reports coverage, not intent. Thick low overcast often precedes rain; high thin overcast may just gray the light.

How is sky cover measured without a human observer?

Ceilometers fire laser pulses upward at airports, and satellites estimate coverage from above; models blend both with their own cloud physics.

Why did the rock's forecast say mostly cloudy when I could see sun?

Six oktas leaves two for the sun to sneak through. Mostly cloudy skies deal in cameos, and you caught one.