EXPLORING EARTH: Investigating Clouds

Observing Clouds

Scientists study clouds from space and from Earth.

NASA satellites such as Aqua, CALIPSO, and CEO-CAPE orbit Earth and use powerful instruments to collect information about clouds, dust particles, and severe weather patterns. But satellites can’t do all the work! NASA also uses instruments on the ground to look up into the atmosphere, gathering another set of data to compare to satellite observations.

Citizen scientists across the US can participate in cloud research at home, at school, and in the community. Using the GLOBE Observer app, people can collect data about clouds and share it with scientists who work in collaboration with NASA. Together, citizens and scientists are doing important research that helps us predict daily weather and understand our planet’s changing climate.
INVESTIGATE THE SKY TODAY!

1. What shape clouds do you see in the sky right now?

- [ ] Cumulus
  Heaped and puffy, clear edges
- [ ] Cirrus
  Thin, wispy
- [ ] Stratus
  Layered, sheet-like

2. Now try drawing all the clouds you can see. The sky is big. To make an accurate observation, it is helpful to orient yourself north, divide the sky into quadrants, and sketch what you see in each one. No clouds today? That’s real data, too; so make a note.

3. How full is the sky today? Can you estimate cloud cover?

- [ ] No clouds
  0% coverage
- [ ] Few
  1-10% coverage
- [ ] Isolated
  10-25% coverage
- [ ] Scattered
  25-50% coverage
- [ ] Broken
  50-90% coverage
- [ ] Overcast
  90%-100% coverage

Join a community of participants working with NASA to collect important scientific data about clouds. Learn more and download an app to contribute your cloud observations: observer.globe.gov

Scientists study clouds from above using satellites, and from below on Earth. From above, NASA’s satellite instruments observe and collect information about clouds and various properties of Earth’s atmosphere. From below, citizen scientists make observations and share their data with researchers collaborating with NASA.