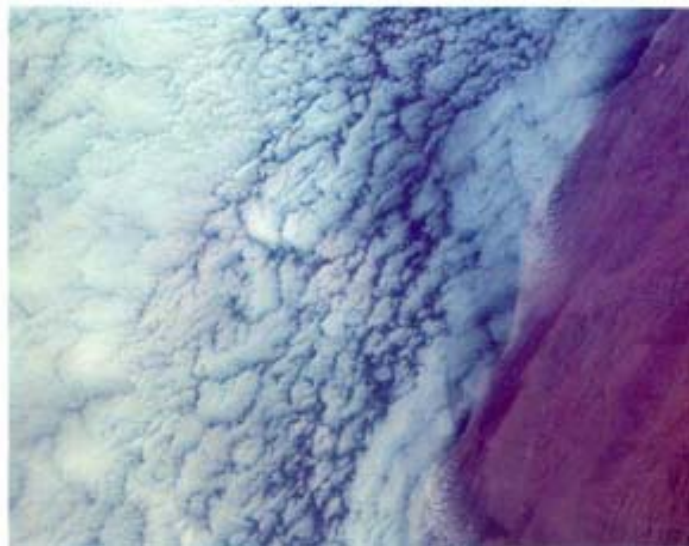




National Aeronautics and
Space Administration

Cloud Patterns





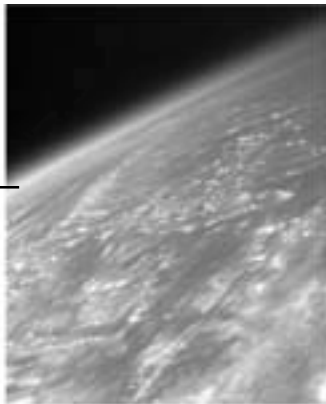
Location: Earth limb
Latitude: N/A Longitude: N/A
Date: October 4, 1997
Type of Image: EarthKAM
Image ID #: STS086.ESC.08150528
Dimensions: N/A

Location: Trinidad
Latitude: 10.52°N Longitude: 62.32°W
Date: March 23, 1996
Type of Image: EarthKAM
Image ID #: STS076.ESC.01080335
Dimensions: 214.23 km x 143.18 km

Location: Amazon
Latitude: 1.79°S Longitude: 53.47°S
Date: March 23, 1996
Type of Image: EarthKAM
Image ID #: STS076.ESC.01080736
Dimensions: 214.05 km x 143.06 km

Location: Namibia
Latitude: 18.51°S Longitude: 11.58°E
Date: October 4, 1997
Type of Image: EarthKAM
Image ID #: STS086.ESC.08114835
Dimensions: 117.53 km x 78.55 km

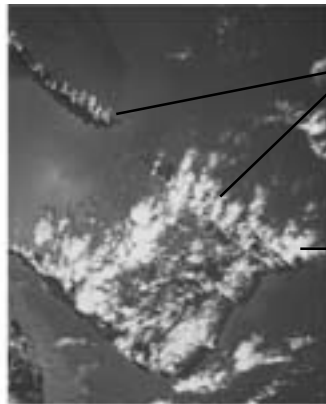
STS086.ESC.08150528 – Earth limb



What do different types of clouds look like from space?

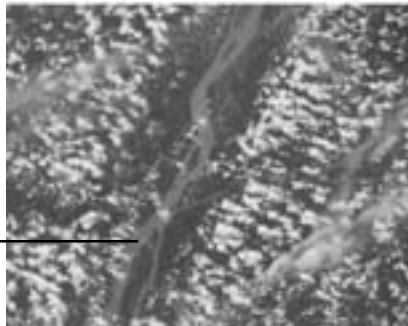
a. Earth limb (outer edge of the Earth when it appears as a disk against space)

Trinidad – STS076.ESC.01080335



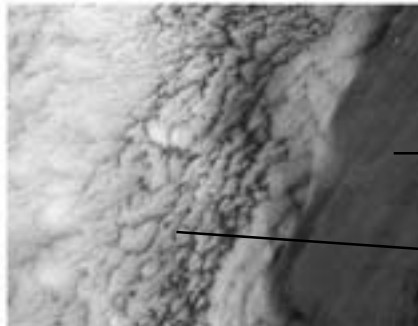
Can you tell which way the wind is blowing?

b. Trinidad



c. Amazon River

STS076.ESC.01080736 – Amazon



d. Namibia

South Atlantic Ocean

Namibia – STS086.ESC.08114835

What are the roles of water and land in cloud formation?



The Earth's surface plays an important role in the formation of clouds—collections of water and ice droplets. As shown in this composite, clouds often form just over the land or just over the water, and can be indicators of surface features or near-surface processes.

The top left image is a high oblique view of clouds over water. The Earth limb (a) shows the thickness of atmosphere. The top right image is of clouds over Trinidad (b). Clouds have formed only over the land through the combined actions of transpiration (the release of moisture through leaves) from the trees and the uplift of air over the islands. The bottom left image is of clouds along the Amazon River (c). Transpiration from the heavy vegetation growth in the Amazon basin provides the trigger for cloud formation over the land but not over the river. Regions that have been cleared of forest generally have fewer clouds. Finally, the bottom right image is of coastal fog along Namibia (d). Where the cool waters off the southwest coast of Africa meet the warm land, low stratus clouds form. Occasionally this fog drapes inland a small distance, providing the only moisture to this desert region.

Additional information:

EarthKAM images and lessons:

<http://www.earthkam.ucsd.edu>

JSC *Earth From Space* image database:

<http://earth.jsc.nasa.gov>

NASA Spacelink:

<http://spacelink.nasa.gov>