

Clouds



Why are there clouds?

- Cloud Formation:

- ❖ Warm air rises, and cools
- ❖ The amount of water vapor needed for saturation decreases and relative humidity increases.
- ❖ Water vapor begins to condense in small drops around the nuclei, particles of dust, smoke and salt.
- ❖ Drops become suspended in air and form clouds.

Cloud Classification - height

- Clouds are classified by height and shape.
- Prefixes that describe the altitude of clouds
 - Cirro- high clouds; base starts at 6000m
 - Alto – middle elevation clouds; base is between 2000-6000m
 - Strato – clouds below 2000m

Cloud Classification Cont.

- Second part – “Shape”
 - Cirrus – curly, wispy or feathery
 - Stratus – “layered” or “sheet like”
 - Cumulus – puffy and vertical growth
 - Nimbo or Nimbus – cloud that could produce moderate to heavy precipitation

Stratus Clouds - shape

- Stratus- for layers or smooth even sheets.
 - Usually form at low altitudes
 - Associated with both fair weather and precipitation
 - Fog is a stratus cloud.



Cumulus Clouds-shape

- Cumulus clouds are described as puffy white clouds, often with white bases.
 - May tower to great heights.
 - Associated with fair weather and storms.



Cirrus Clouds-shape

- Cirrus clouds usually appear fibrous or curly.
 - High, thin white feathery clouds
 - Associated with fair weather but may indicate an approaching storm





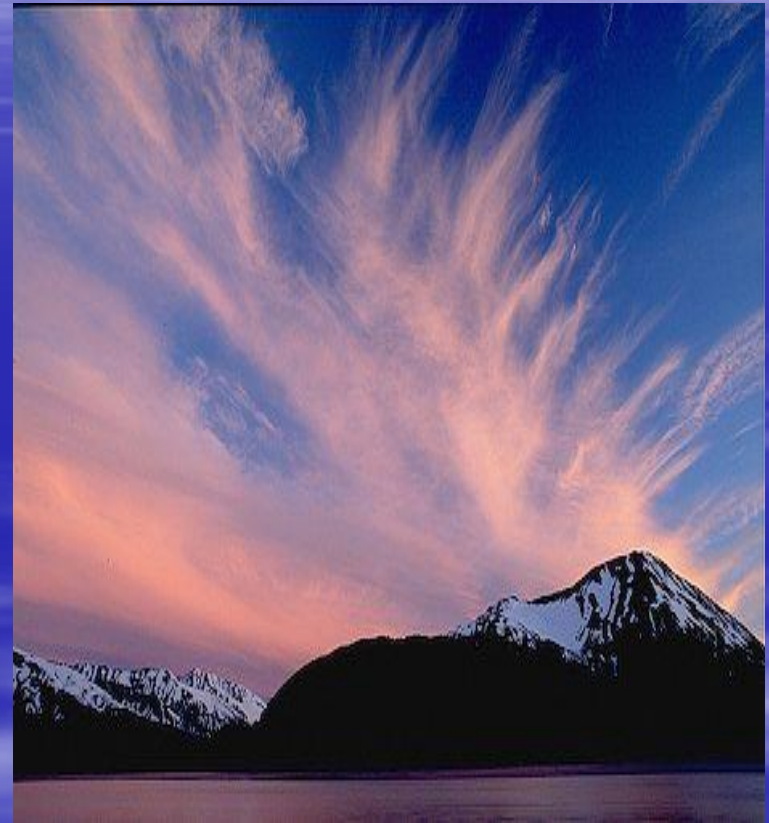
Cloud Classification Cont.

- Examples:
- Cirrostratus
 - High clouds, look like veils, usually with fair weather
- Altostratus
 - Middle level clouds, look like thick veils or sheets of grey
 - Produce light and continuous rain

Types of Clouds



altostratus



cirrus

Rain capacity of clouds

- Nimbus clouds – dark clouds associated with precipitation
 - Cumulonimbus cloud-it is both a cumulus cloud and a nimbus cloud; think thunderstorms
 - Nimbostratus clouds –bring long steady rain

Cloud Types



cumulonimbus



nimbostratus