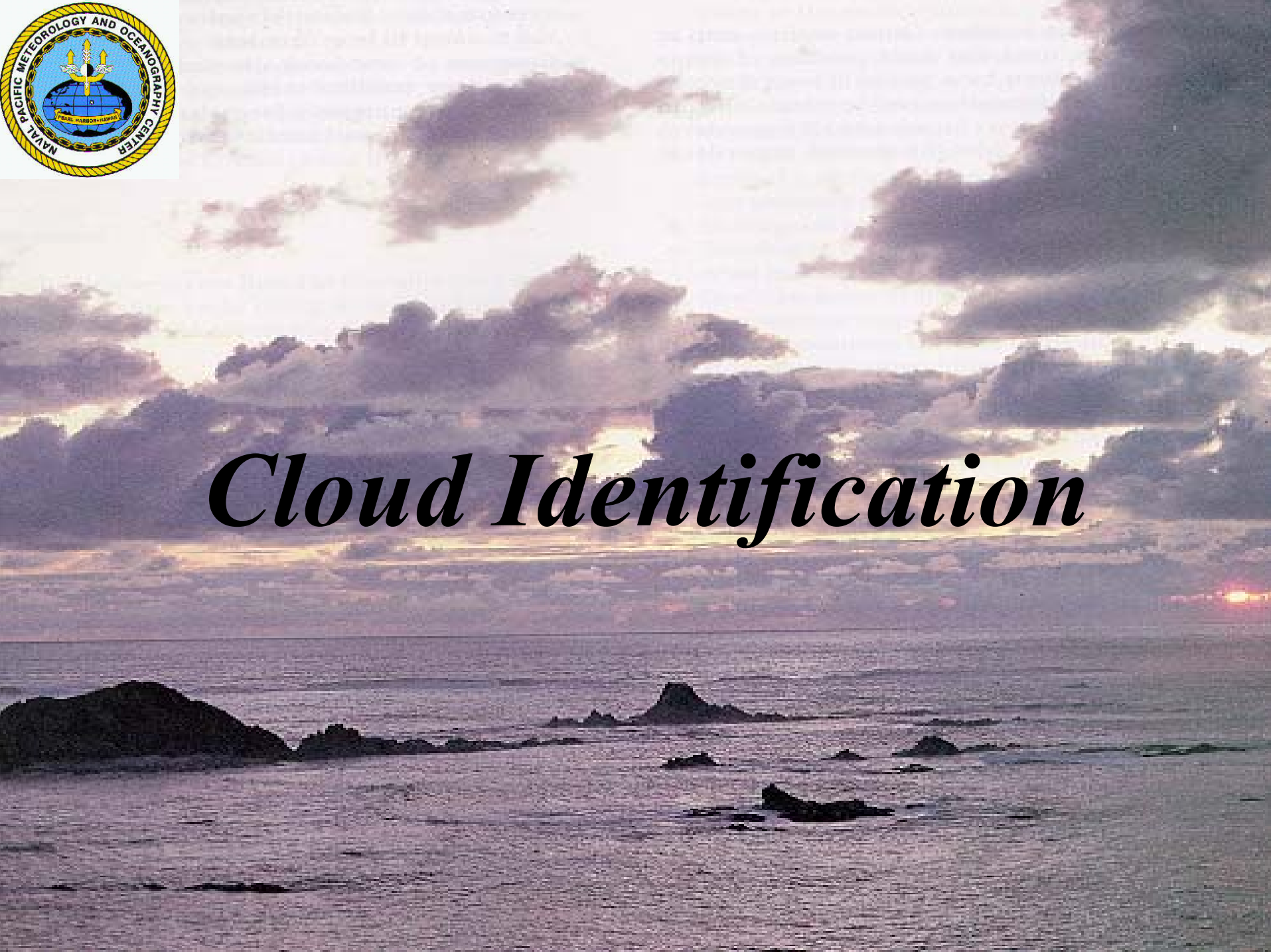




Cloud Identification





Three Basic Cloud Types

- **Cumulus**
- **Stratus**
- **Cirrus**

Cumulus Clouds

- **Appear very white in color and become darker as they build in size**
- **Feature horizontal bases and heaping tops**

Stratus Clouds

- Appear as a uniform gray layer
- Cover the sky



Cirrus Clouds

- Appear as a thin and wispy layer

Three Cloud Layers (Etages)

- **Low Clouds C_L**
- **Mid Clouds C_M**
- **High Clouds C_H**

Low Etage

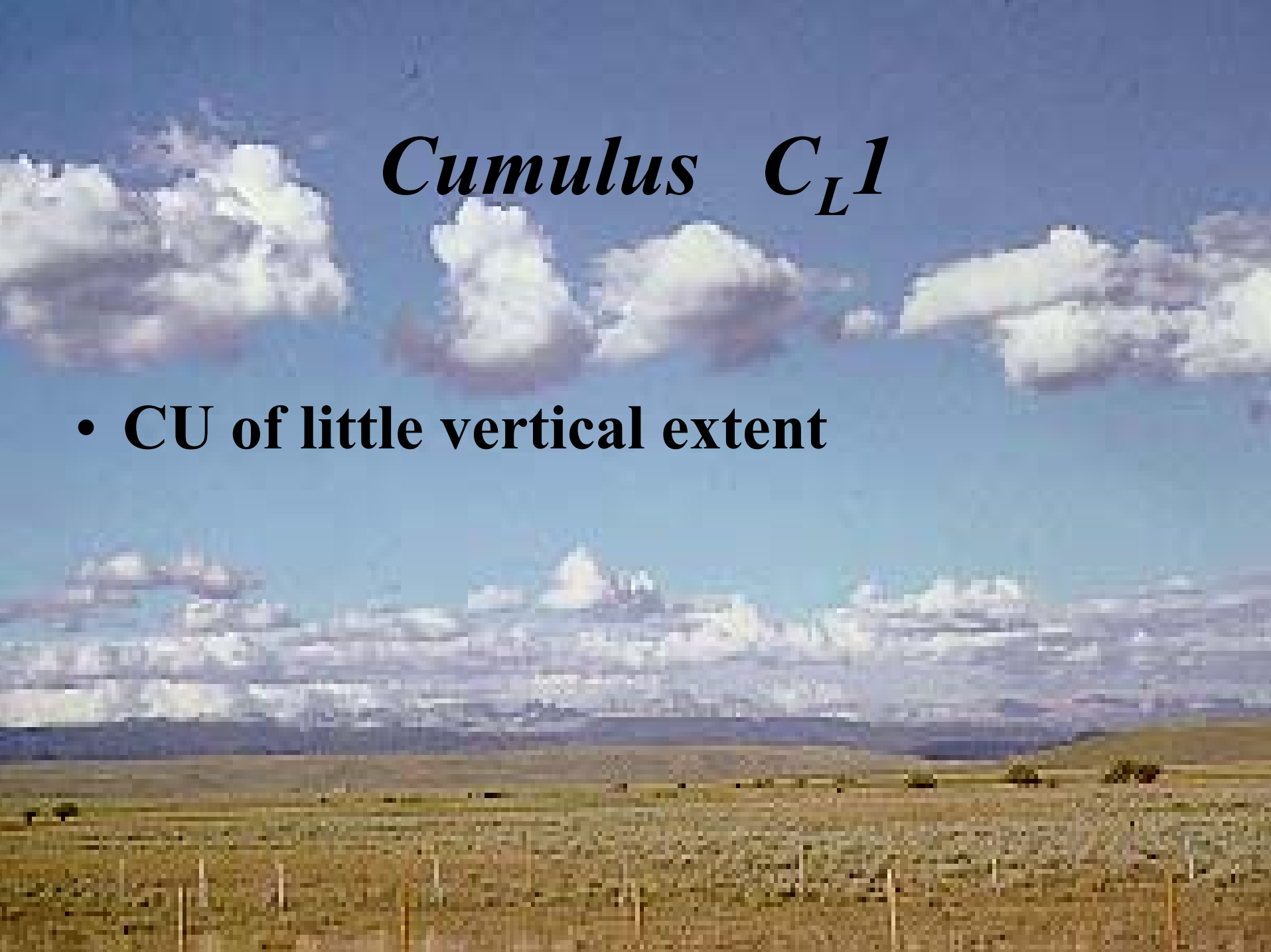
(up to 6,500 ft)

- **Cumulus (C_L1)**
- **Towering cumulus (C_L2, C_L3)**
- **Stratocumulus (C_L4, C_L5)**
- **Stratus (C_L6)**
- **Stratus fractus or cumulus fractus (C_L7)**
- **Cumulus and stratocumulus (C_L8)**
- **Cumulonimbus (C_L9)**



Cumulus C_L1

- **CU of little vertical extent**



Cumulus C_L2

- **CU of moderate or strong towering vertical development**
- **Normally accompanied by other CU or SC with bases at the same level**

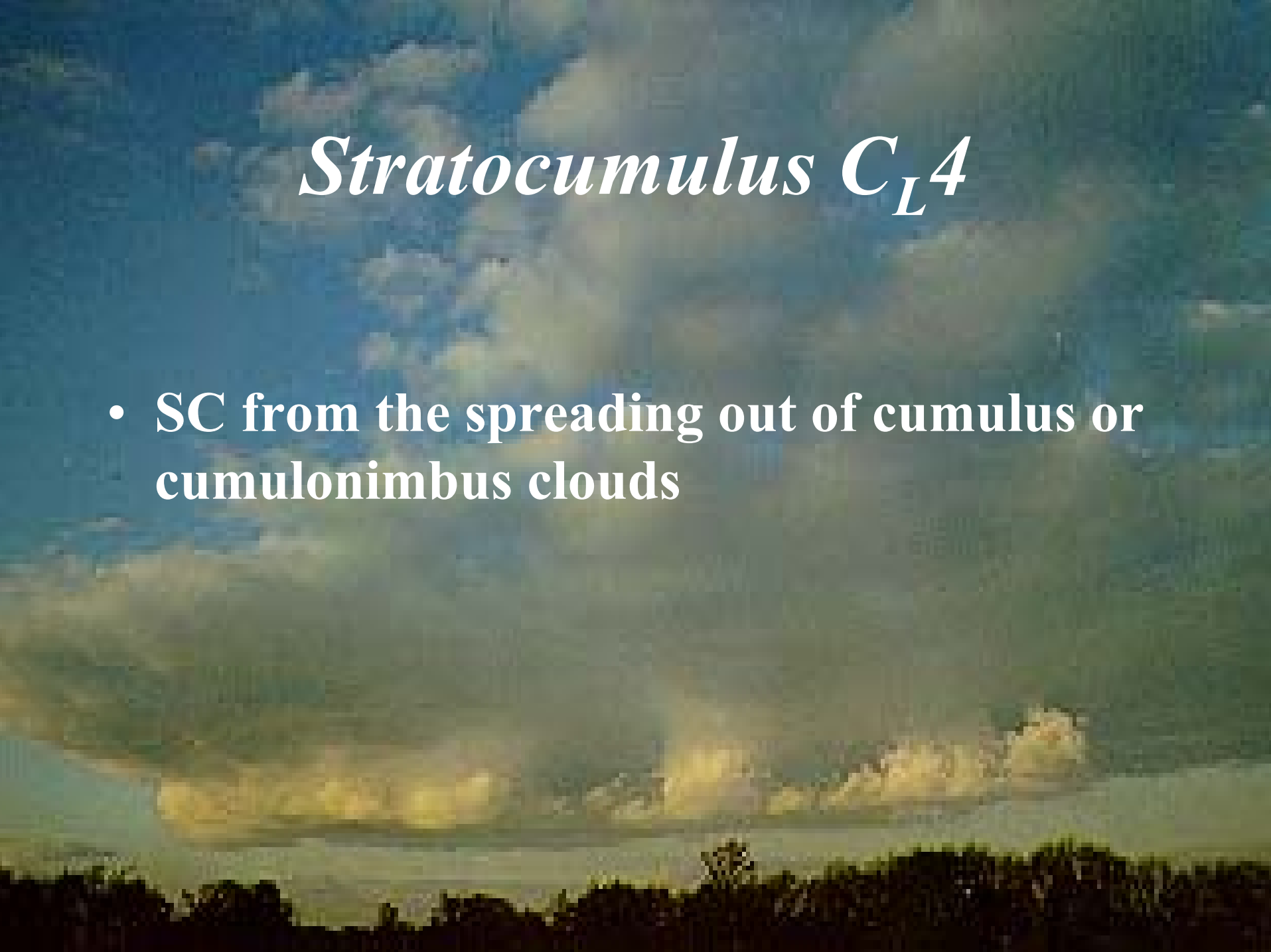


Towering Cumulus C_L3

- **Earliest form of a cumulonimbus**
- **Contains a summit which lacks cirriform development (no anvil)**

Stratocumulus C_L4

- SC from the spreading out of cumulus or cumulonimbus clouds



Stratocumulus C_L5

- Includes all SC clouds not formed from the spreading out of cumulus

Stratus C_L6

- **Continuous sheet or gray layer**





*Stratus Fractus or
Cumulus Fractus C_L7*

- Usually found beneath the base of CB clouds that are precipitating

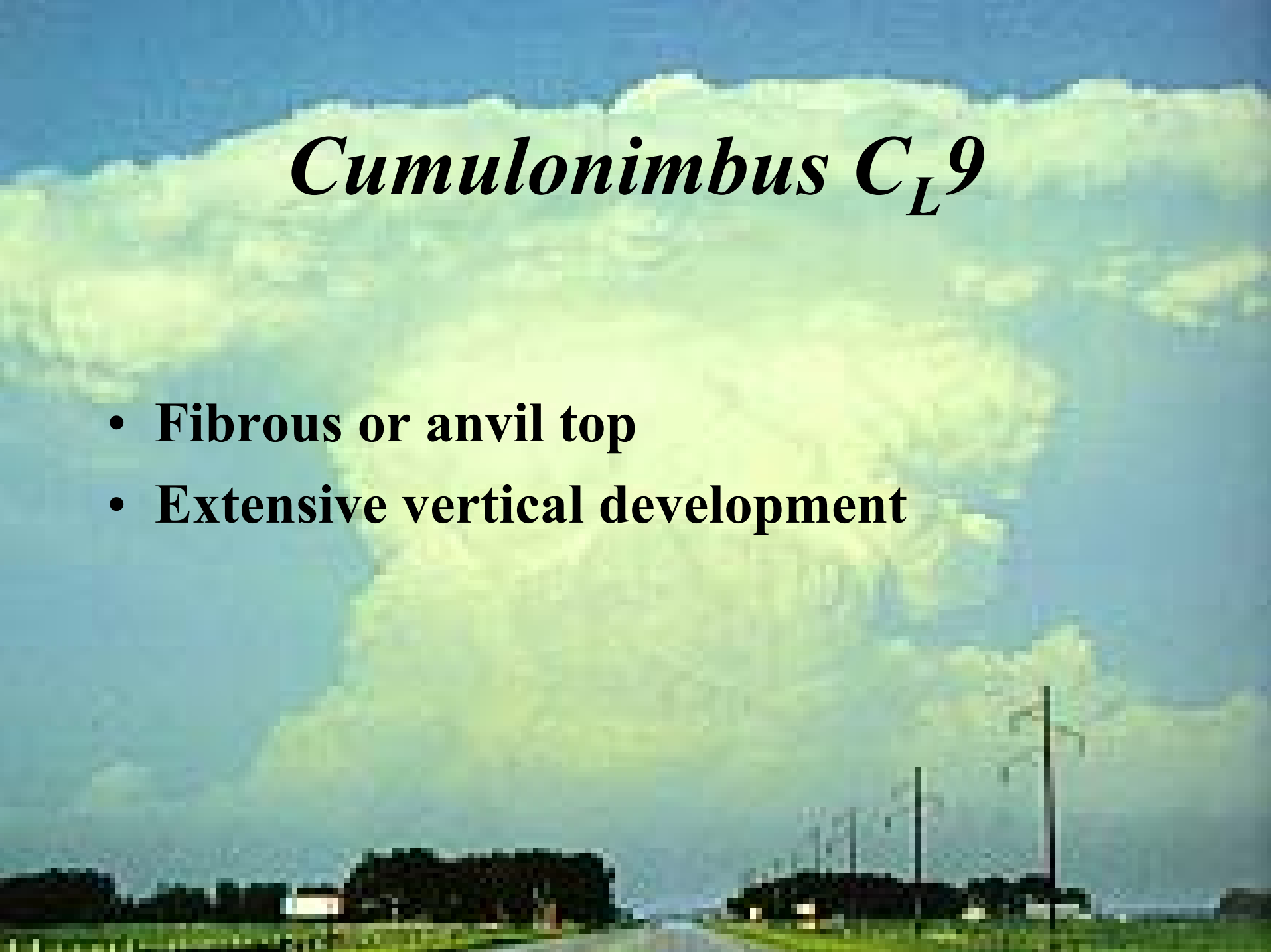
Cumulus and Stratocumulus

C_L8

- **Combination of both CU and SC**
- **Formed by means other than the spreading of cumulus**

Cumulonimbus C_L9

- **Fibrous or anvil top**
- **Extensive vertical development**



Cumulonimbus Mammatus

C_L^9

- **Massive appearance**
- **Fibrous or anvil top**

Mid Etage

(6,500 -18,000 ft)

- **Altostratus (C_M1)**
- **Altostratus or nimbostratus (C_M2)**
- **Altostratus ($C_M3, C_M4, C_M5, C_M6, C_M8, C_M9$)**
- **Altostratus or altostratus with altostratus (C_M7)**

Altostratus C_M1

- **Greater part of cloud is semitransparent**

Altostratus or Nimbostratus C_M2

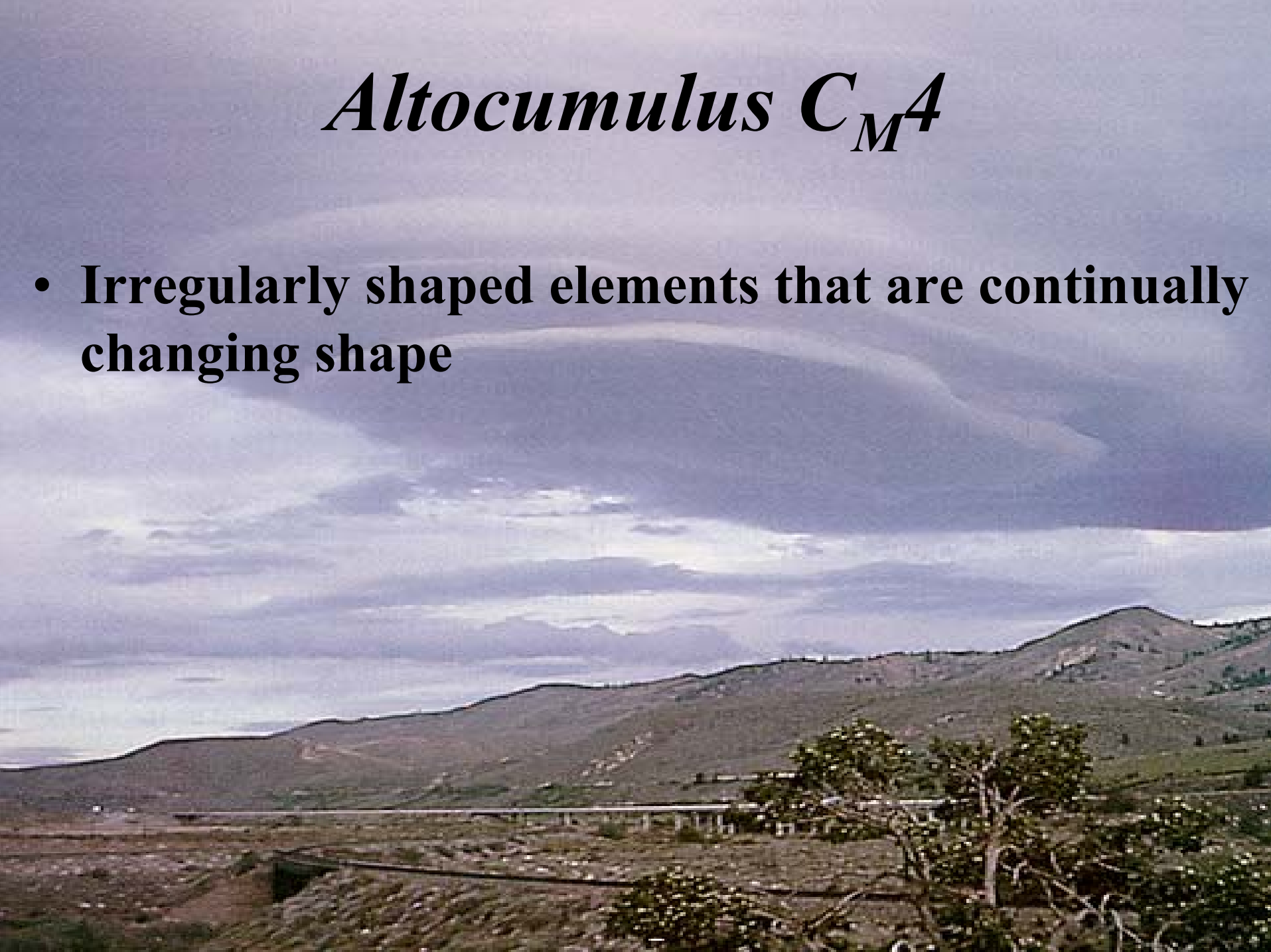
- **Denser and darker cloud which produces heavier precipitation**

Alto cumulus C_M3

- **Predominately semitransparent**
- **Does not progressively invade the sky**

Alto cumulus C_M4

- Irregularly shaped elements that are continually changing shape

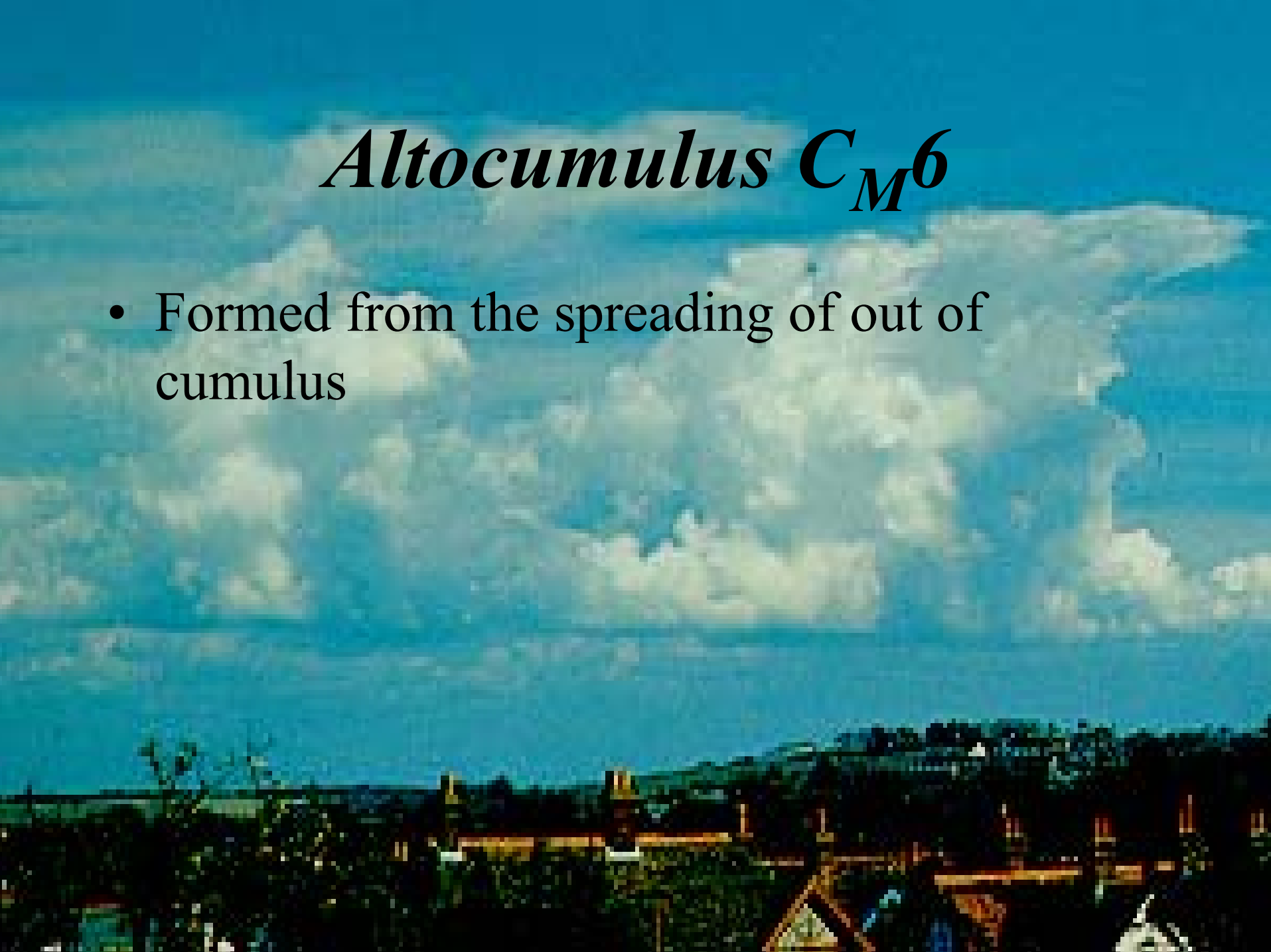


Alto cumulus C_M5

- Arranged in semitransparent bands in one or more continuous layers

Alto cumulus C_M6

- Formed from the spreading of out of cumulus

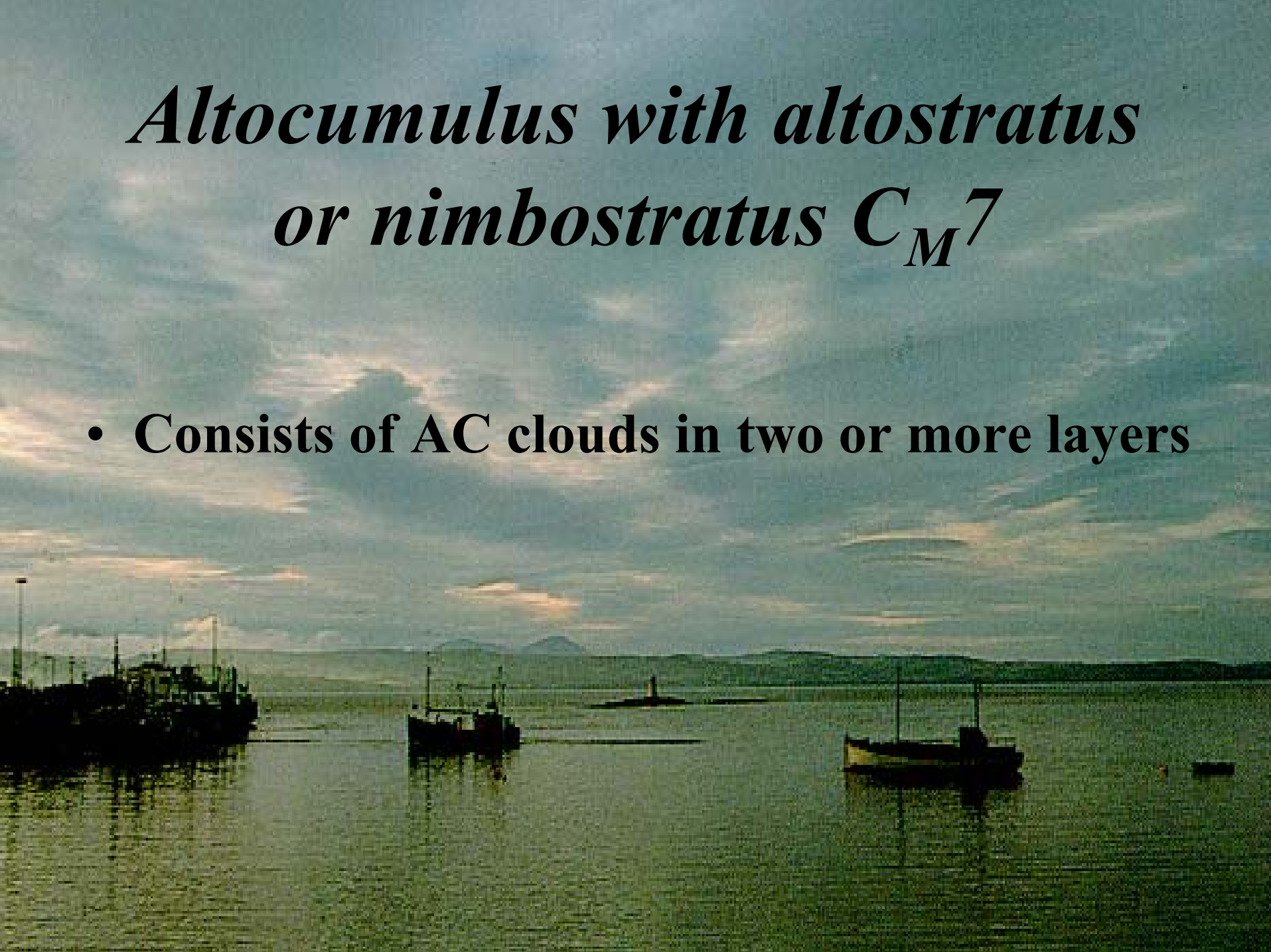


Alto cumulus C_M7

- **Consists of two or more layers of AC**
- **Alto cumulus together with altostratus or nimbostratus**

*Alto cumulus with altostratus
or nimbostratus C_M7*

- **Consists of AC clouds in two or more layers**



Alto cumulus C_M8

- **Contain tufts or sprouting in the form of small towers or battlements**

The background of the slide is a photograph of a sunset or sunrise over a body of water. The sun is low on the horizon, creating a bright, hazy glow that reflects on the water's surface. The sky is filled with soft, wispy clouds in shades of blue, green, and yellow. In the top right corner, there is a large, dark, pixelated object that appears to be a tree or a similar natural element, rendered in a low-resolution, blocky style.

Alto cumulus C_M9

- **Chaotic sky- occurs at multiple levels**

High Etage

(16,500- 45,000 ft)

- **Cirrus** (C_H1, C_H2, C_H3, C_H4)
- **Cirrus and Cirrostratus or Cirrostratus**
alone (C_H5, C_H6)
- **Cirrostratus** (C_H7, C_H8)
- **Cirrocumulus** (C_H9)



Cirrus C_H1

- **Filaments, strands, or hooks that do not progressively invade the sky**

Cirrus C_H1

- **Filaments, strands, or hooks that do not progressively invade the sky**

Cirrus C_H2

- Dense, found in patches or entangled sheaves that usually do not increase in size

Cirrus C_H3

- **Dense cloud often in the form of an anvil**
- **Transformed from upper levels of a CB**

Cirrus C_H4

- **Hooks and filaments that progressively invade the sky**
- **Becomes more dense**

Cirrus and Cirrostratus or Cirrostratus C_H5

- **Progressively increasing but below 45° elevation**



Cirrostratus C_H6

- **Increasing and above 45° elevation**

Cirrostratus C_H^7

- **Uniform veil covering the sky**
- **Can produce the halo phenomenon**

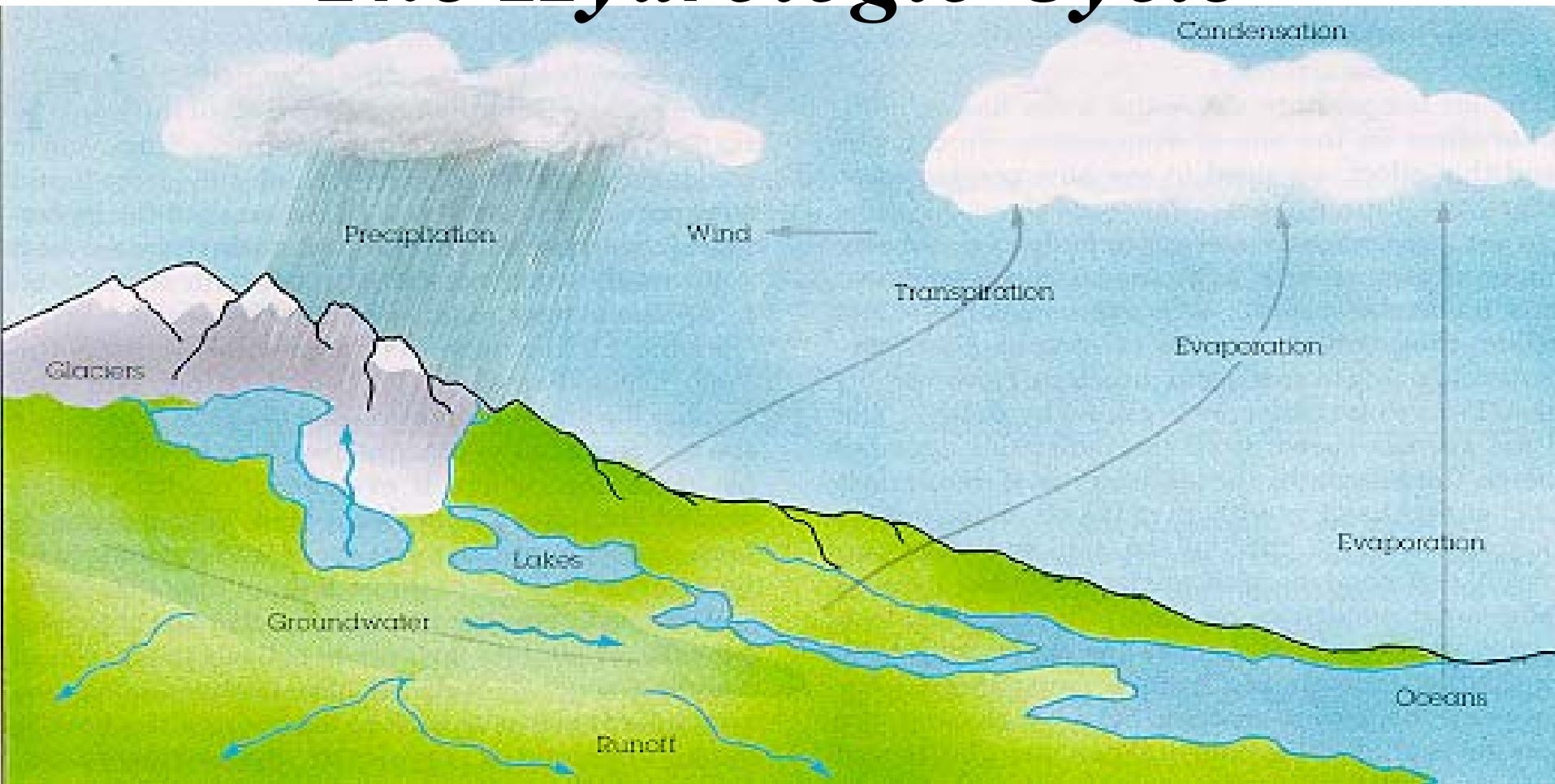
Cirrostratus $C_H\delta$

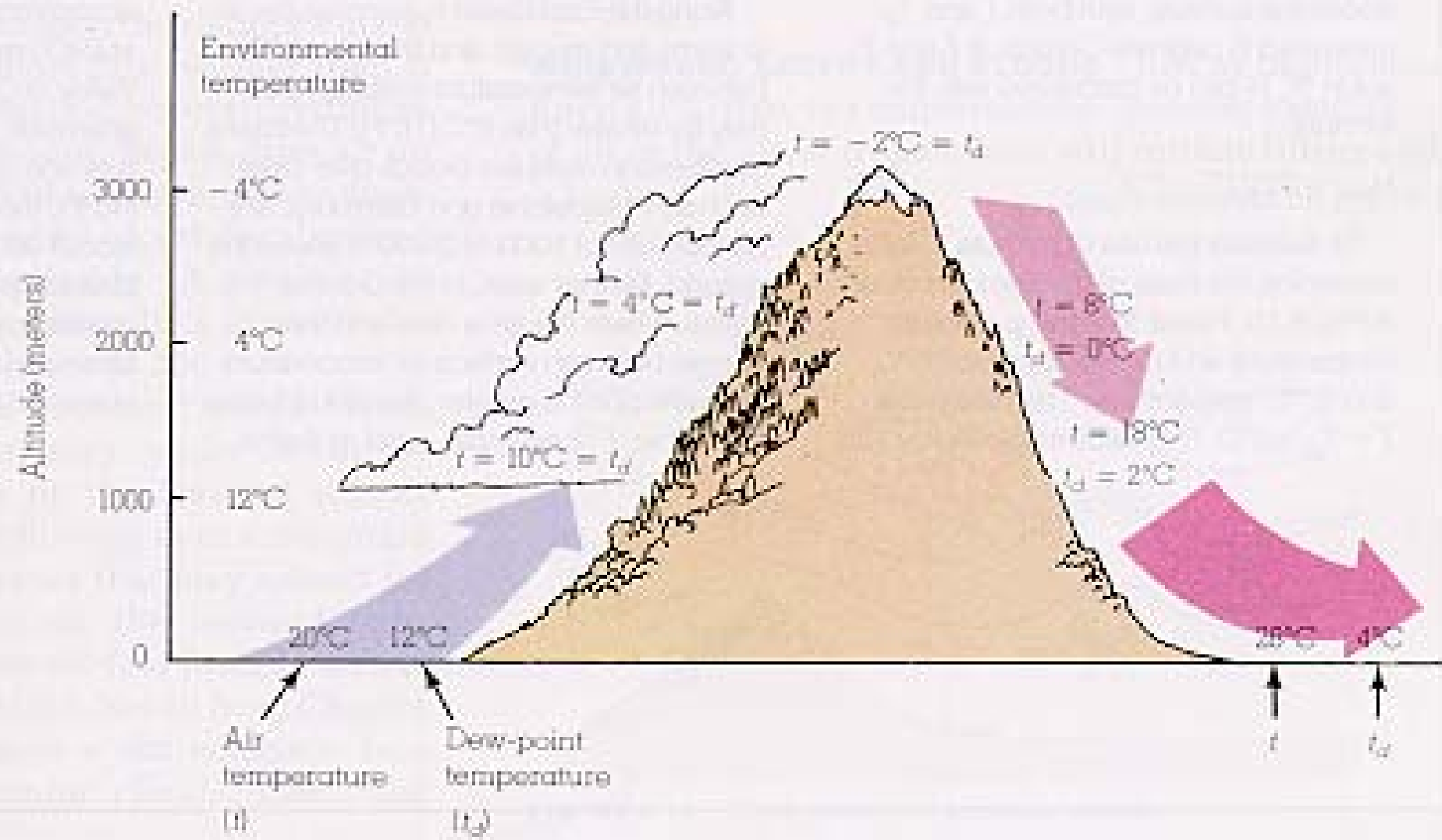
- No longer progressively invades the sky
- Does not completely cover the sky

Cirrocumulus C_H9

- Referred to as a mackerel sky

The Hydrologic Cycle





Cloud Development

- Surface heating and Convection
- Topography
- Convergence

Convection



Topography and Clouds

