CLOUD TYPES

Radiation Fog

Radiational cooling of the ground

Los Angeles **smog**

Contrails are formed by the condensation and freezing of the water vapor as jet exhaust mixes with very cold air, similar to formation of steam fog.

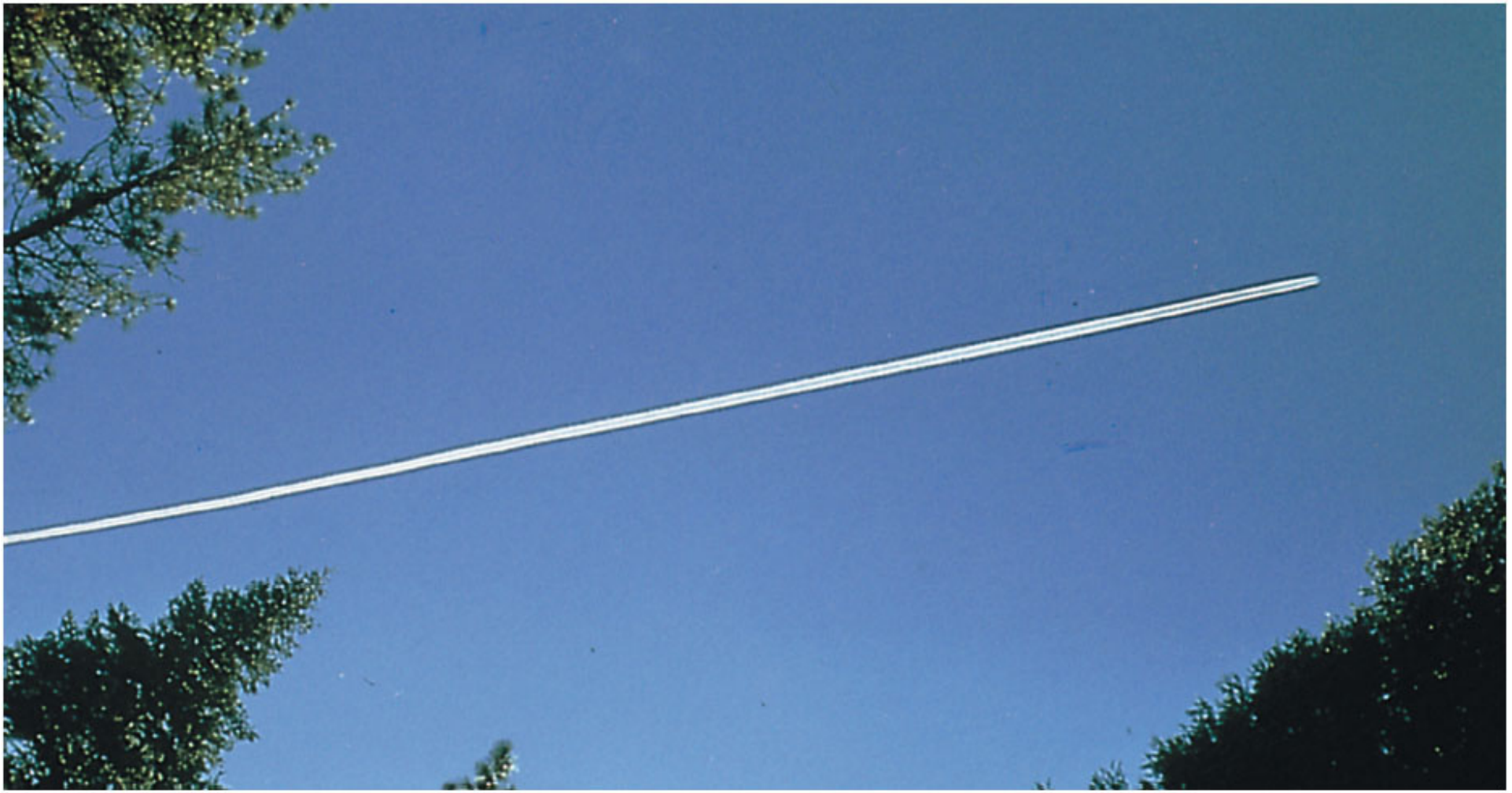


Fig. 4-34, p.106

Jean-Baptiste Lamarck (1744-1829),
a French naturalist, made a first attempt
at classifying clouds…

⬅ …but **Luke Howard** (1772-1864) was more successful with a classification based on the latin names cirrus, cumulus, and stratus.

In 1887 the British meteorologist **Ralph Abercromby** traveled around the world to make sure that “all clouds were the same”.

In 1891, Luke Howard’s classification was recommended at the International Conference in Munich.

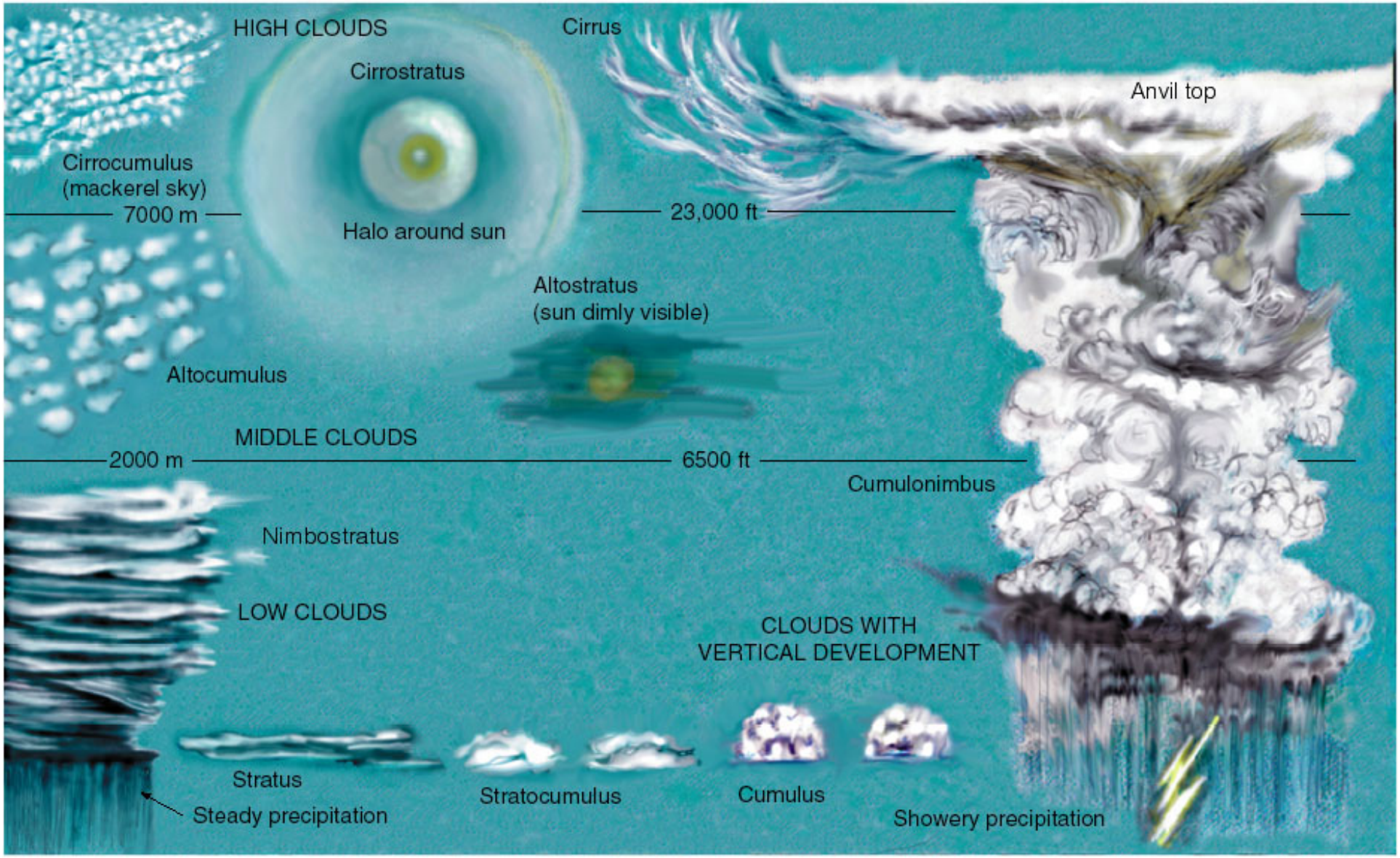


Fig. 4-30, p.104

Cirrus

Fig. 4-19, p.97

Fig. 4-20, p.98

Fig. 4-21, p.98

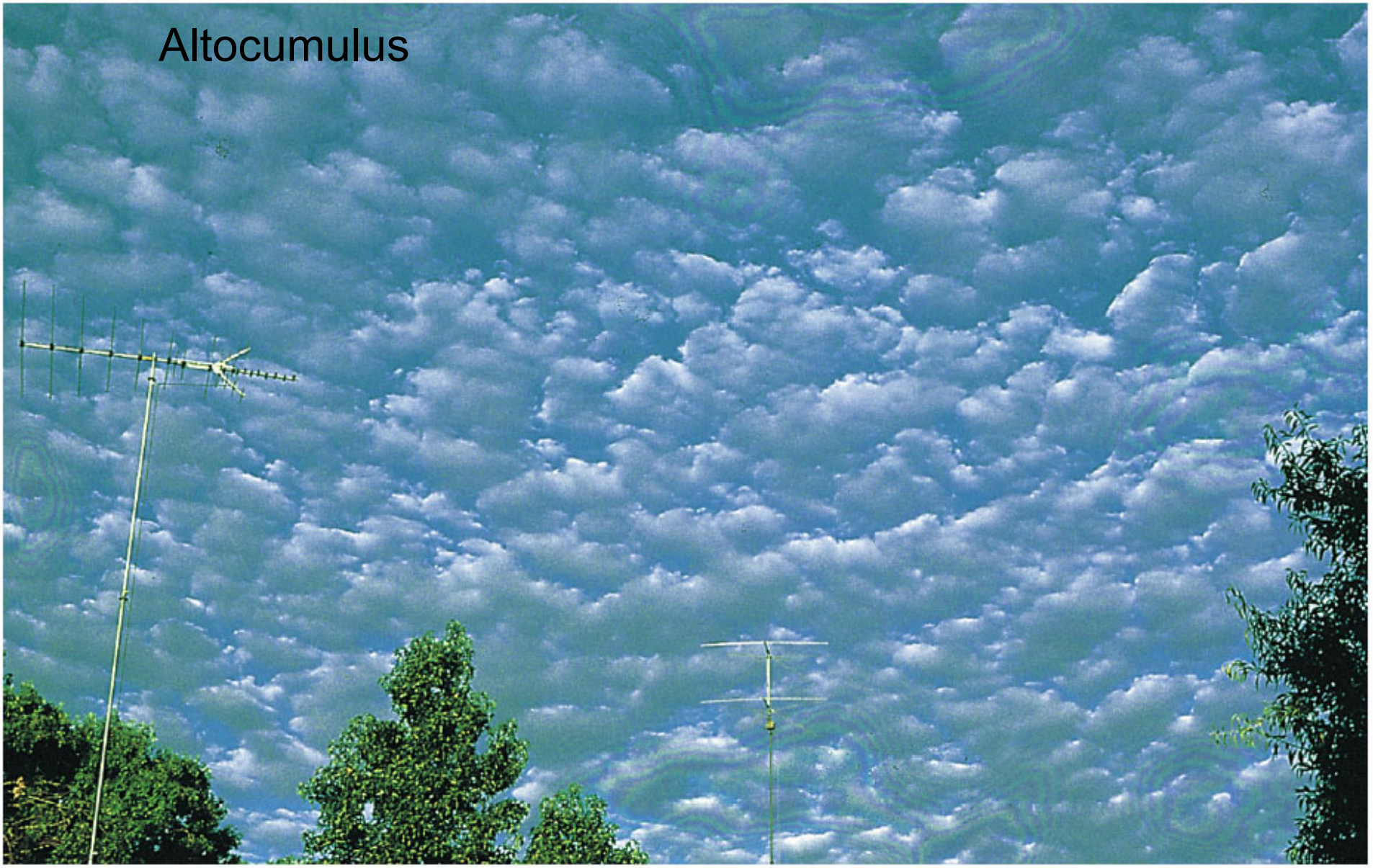


Fig. 4-22, p.99

Altocumulus mixed with altostratus

Fig. 4-23, p.99

Nimbostratus

Fig. 4-24, p.100

Broken stratocumulus

Fig. 4-25, p.100

Stratus

Fig. 4-26, p.101

Small fair-weather cumulus

Fig. 4-27, p.101

A marine cloudscape: Cumulus under distant altostratus

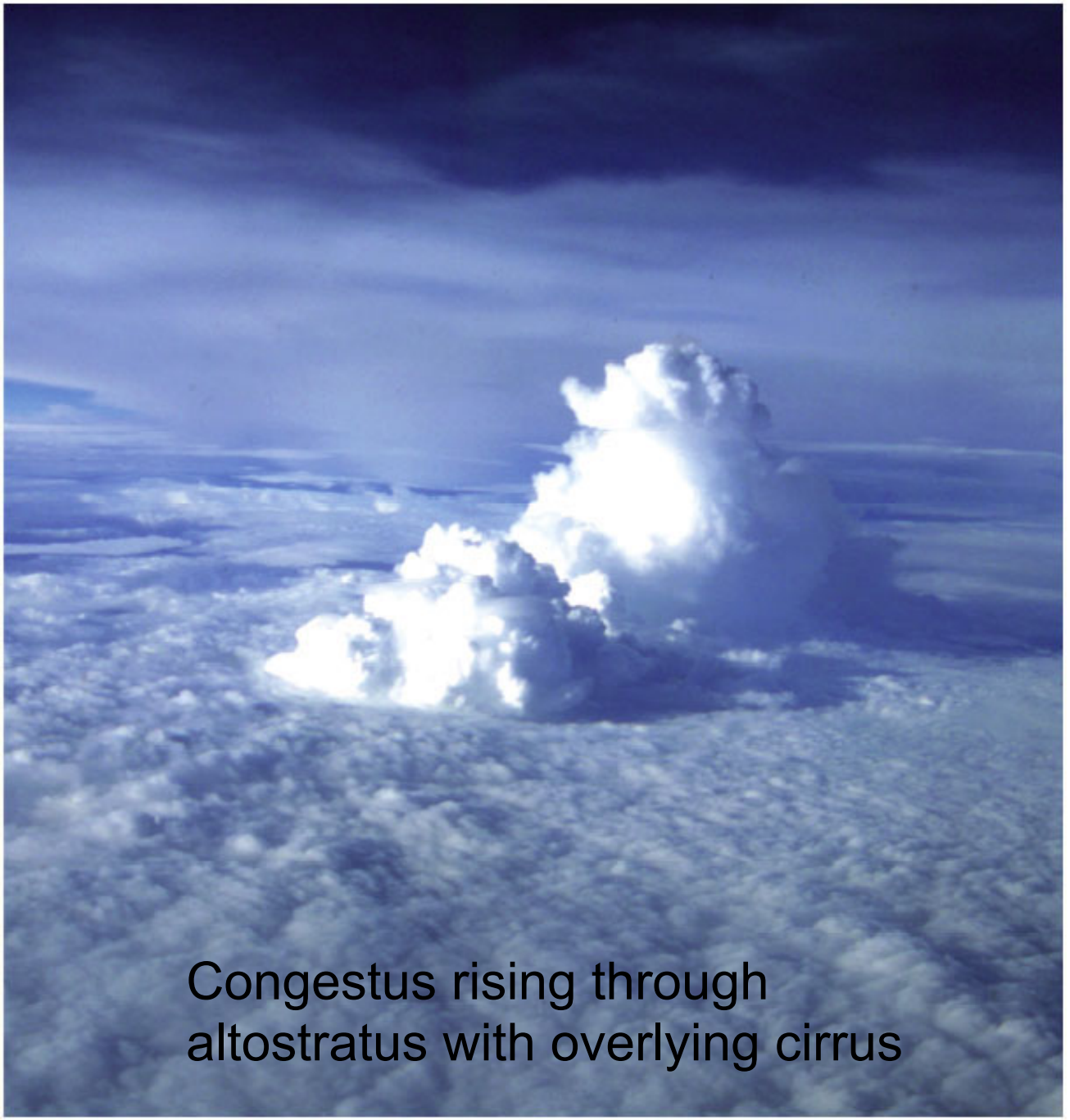
Cumulus

‘Pyrocumulus’ forming as a result of buoyant air created by a fire

Condensation level

Cumulus congestus

Fig. 4-28, p.102



Congestus rising through
altostratus with overlying cirrus

Fig. 5-11, p.119

Cumulonimbus with ice crystal anvil extending to left

Fig. 4-29, p.103

Mammatus on underside of a cumulonimbus anvil

Fig. 4-33, p.106

Lenticular clouds

Fig. 5-14, p.121

Pileus cloud atop a growing cumulus congestus cloud

Fig. 4-32, p.105

Nacreous clouds form in the ultracold polar lower stratosphere.
CFCs + nacreous clouds form the Antarctic ozone hole

Fig. 4-35, p.107

Noctilucent clouds near the mesopause (75-90 km altitude), seen in high latitudes

Fig. 4-36, p.107