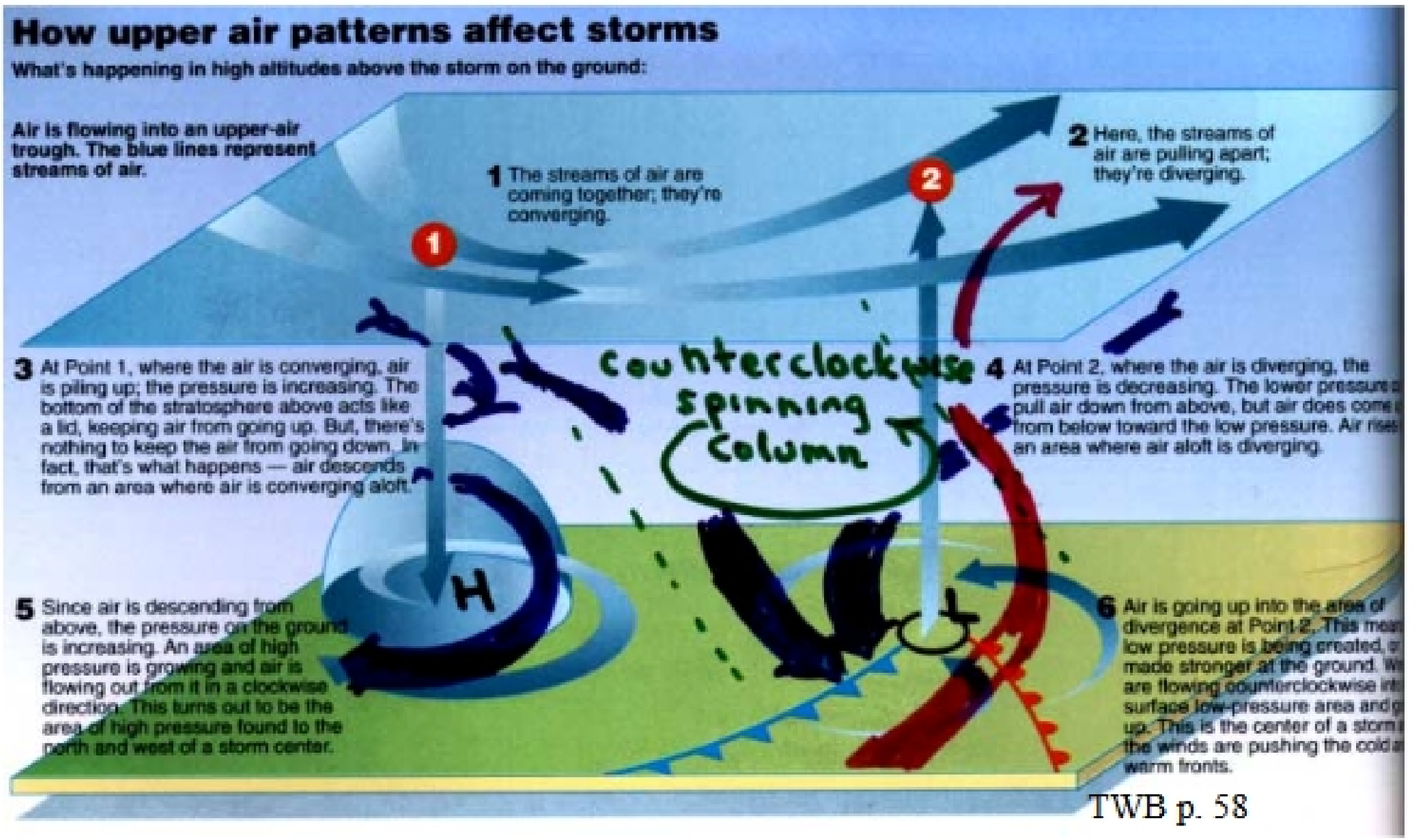
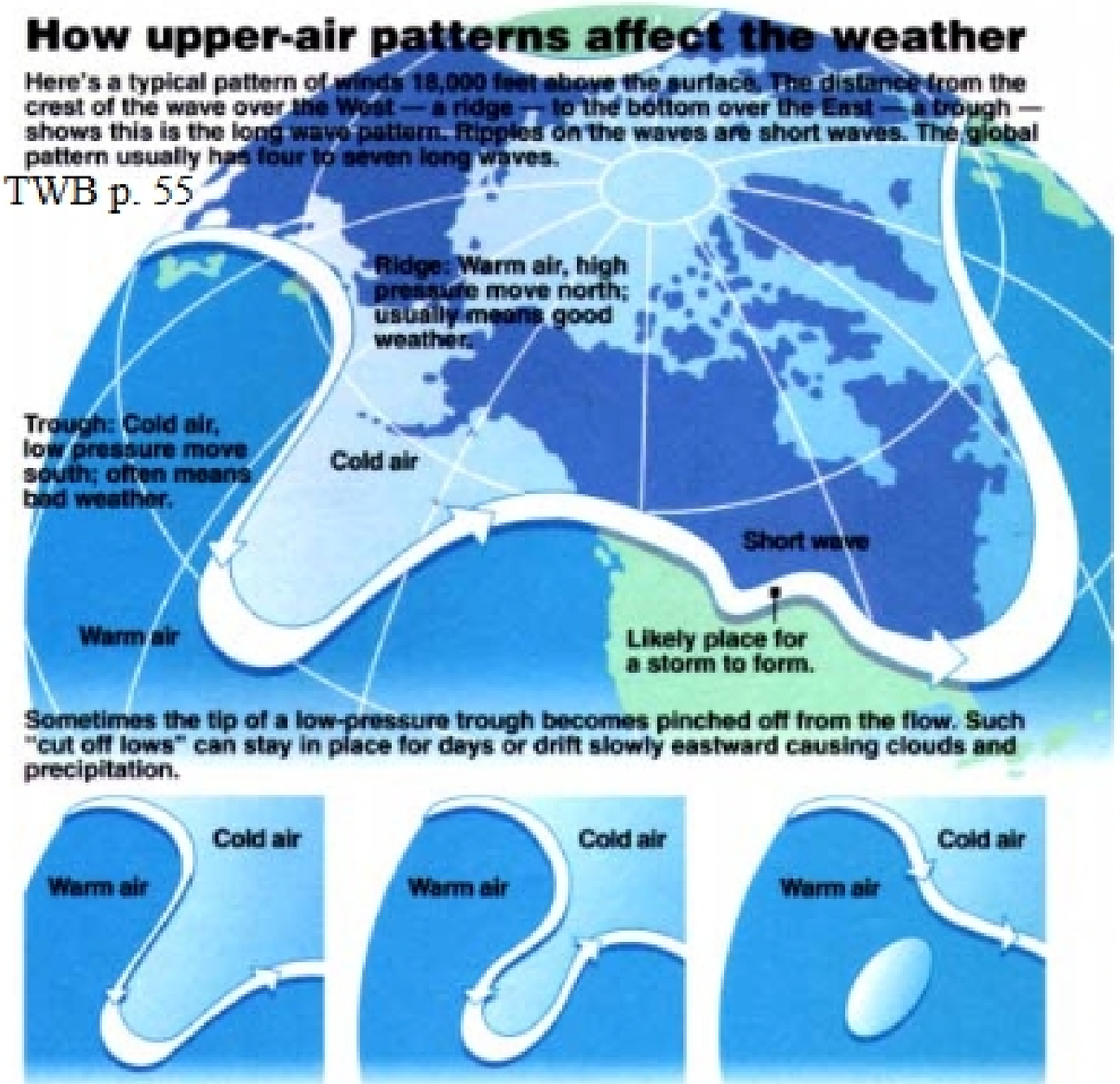
Lecture 15. Upper Atmospheric Cyclone Structure



TWB p. 58

ET Cyclone mainly draws warm air up/poleward, cold air down/equatorward. Core of cyclone rotates counterclockwise, tilts westward with height.

Long and Short Waves



TWB p. 55

Long waves - 3000-5000 km ridge to trough, nearly stationary.

Short waves: 1000-2000 km ridge to trough, move with 500 mb winds. ...not always easily distinguishable.

Troughs: 'cyclonic' (counterclockwise - NH) spin of winds

Ridges: 'anticyclonic' (clockwise - NH) spin

Movement of Short Waves Through Long Waves

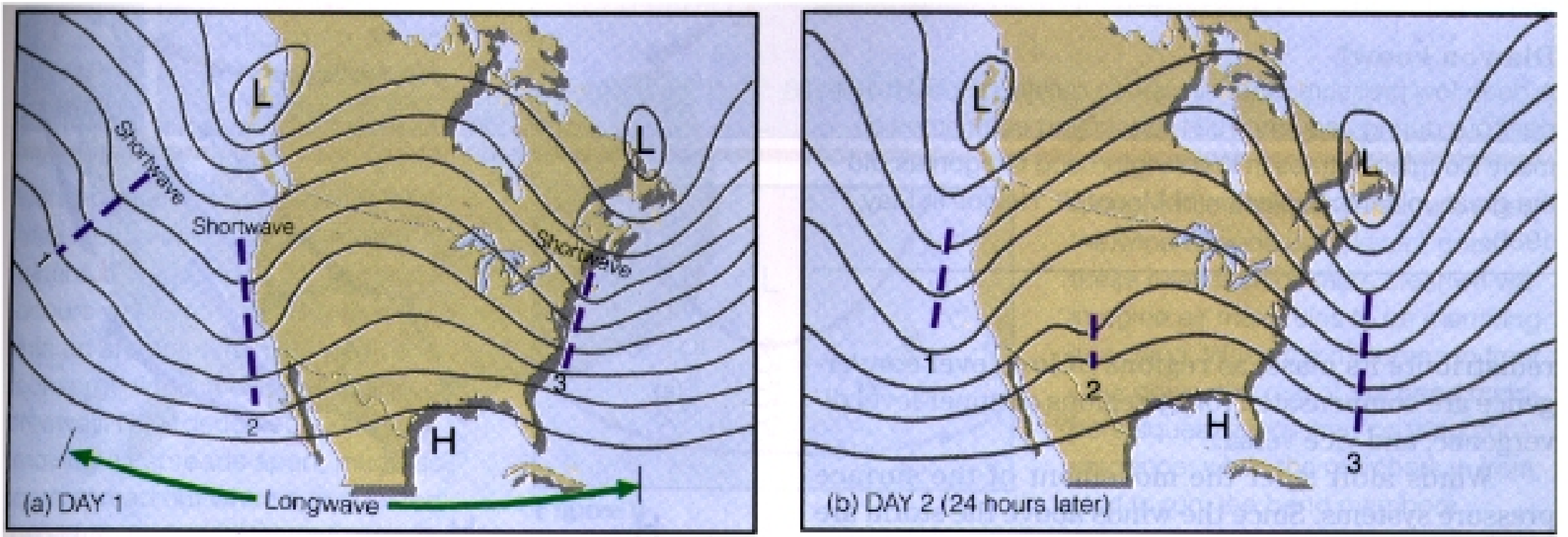


Figure 8.22
(a) Upper-air chart showing a longwave with three shortwaves embedded in the flow. (b) Twenty-four hours later the shortwaves have moved rapidly around the longwave. Notice that the shortwaves labeled 1 and 3 tend to deepen the longwave trough, while shortwave 2 has weakened as it moves into a ridge.

EOM