Figures for Chapter 1

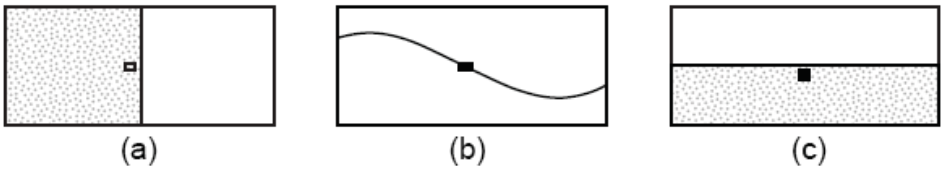


Fig. 1.1 Heavier (shaded) and lighter fluids separated by amovable partition. The dot represents the center of gravity of the two-fluid system. (b) fluids in motion following the removel of the partition. (c) Equilibrium configuration of the fluids after the motion has been dissipated by friction.

Fig. 1.2 The kinetic energy cycle.

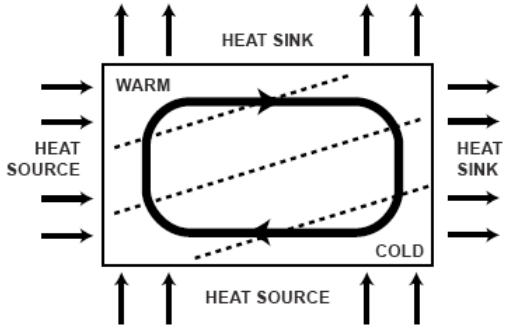


Fig. 1.3 Steady state circulation (heavy arrows) in a liquid, driven by the distribution of heat sources and sinks as indicated. Dashed lines denote isotherms.

Fig. 1.4 Schematic of air parcels circulating in the atmosphere. The Colored shading represents potential temperature or moist static energy, with pink indicating higher values and blue lower values. Air parcels acquire latent and sensible heat during the time that they reside within the boundary layer, raising their moist static energy. They conserve moist static energy as they ascend rapidly in updrafts in clouds, and they cool by radiative transfer as they descend much more slowly in clear air.

Figures for Chapter 1

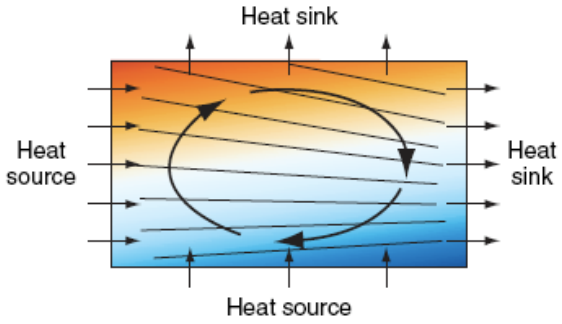


Fig. 1.5 The pressure field that would develop in association with the steady state circulation cell shown in the previous figure. The solid lines represent pressure surfaces.

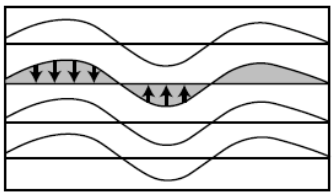


Fig. 1.6 Idealized vertical cross-section of density, denoted by the curved lines, in a stably stratified fluid. The horizontal lines represent the mean level of the density surfaces, averaged over the domain. Vertical arrows denote the restoring force due to the departure of the density from the domain averaged value.

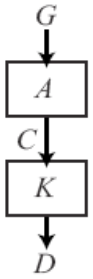


Fig. 1.7 Schematic illustration of the kinetic energy cycle.

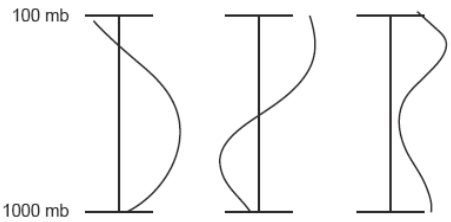
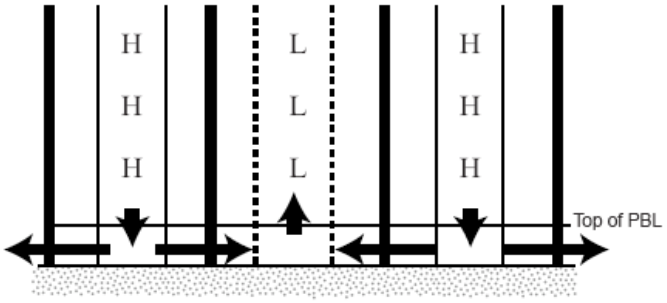


Fig. 1.8 Idealized vertical profiles of (left) the release of available potential energy; (center) the vertical flux of geoponential, positive values upward; (right) the generation of kinetic energy by the cross-isobar flow.

Figures for Chapter 1



Sketch for Exercise 1.21

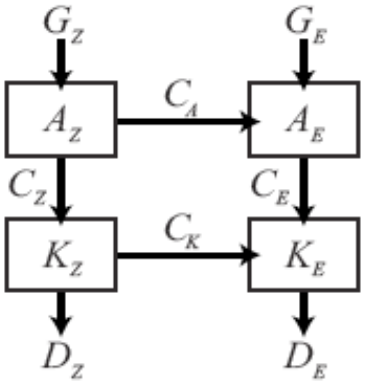


Fig. 1.9 Partitioning of the kinetic energy into zonally symmetric (Z) and eddy (E) componernts. After Lorenz (1955).

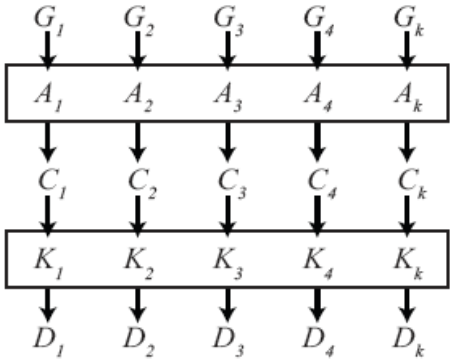


Fig. 1.10 Partitioning of the kinetic energy cycle by zonal wavenumber.