Key equations to remember

Heat storage and its application to mixed layers (T constant with height):

$$\Delta H_s = \int \frac{\partial}{\partial t}(\rho c T) dz \tag{1}$$

Coriolis parameter:

$$f = 2\Omega \sin(\phi) \tag{2}$$

Geostrophic wind balance:

$$U_g = -\frac{1}{\rho f}\frac{\partial P}{\partial y}; \qquad V_g = \frac{1}{\rho f}\frac{\partial P}{\partial x} \tag{3}$$

Shear stresses:

$$\tau_{zx,visc} = \mu \frac{\partial u}{\partial z}; \qquad \tau_{zx,Reynolds} = \rho K \frac{\partial u}{\partial z} \tag{4}$$

Richardson number:

$$Ri = \frac{S}{\left|\frac{\partial V}{\partial z}\right|^2} \tag{5}$$

where S is the static stability parameter

$$S = \frac{g}{T_v}\frac{\partial \theta_v}{\partial z} \tag{6}$$

Turbulence kinetic energy:

$$TKE = \frac{1}{2}\overline{(u')^2} + \frac{1}{2}\overline{(v')^2} + \frac{1}{2}\overline{(w')^2} \tag{7}$$

In addition, you should know the equation of state; the essential concepts of energy conservation applied to a surface and a finite layer; the relationship between dynamic and kinematic viscosity.