

# Corrigendum

In Chapter 2, Equations (2.3) and (2.4) should be

$$\begin{aligned}\partial_t U + (\nabla \cdot \mathbf{V}u) - \partial_x(p\phi_\eta) + \partial_\eta(p\phi_x) &= F_U \\ \partial_t V + (\nabla \cdot \mathbf{V}v) - \partial_y(p\phi_\eta) + \partial_\eta(p\phi_y) &= F_V\end{aligned}$$

In Chapter 2, Governing Equations, the correct equation (2.33) should be:

$$F_{V_{cor}} = - \left( f + u \frac{\partial m}{\partial y} - v \frac{\partial m}{\partial x} \right) U + eW \sin \alpha_r - \frac{vW}{r_e}$$

In Chapter 3, Model Discretization, the correct equations (3.12) and (3.26) are:

$$\delta_\tau \phi'' + \frac{1}{\mu_d^{t^*}} [m\Omega''^{\tau+\Delta\tau} \phi_\eta - \overline{gW''^\tau}] = R_\phi^{t^*}$$

$$\delta_\tau \phi'' + \frac{1}{\mu_d^{t^*}} [m\Omega''^{\tau+\Delta\tau} \delta_\eta \phi - \overline{gW''^\tau}] = R_\phi^{t^*}$$

Also in Chapter 3, page 18, the correct equation for  $V$  component of the Coriolis and curvature term is

$$F_{V_{cor}} = - \left( \overline{f^y} + \overline{\bar{u}^x \delta_y m} - \overline{\bar{v}^y \delta_x m} \right) \overline{U^{xy}} + \overline{e^y W^{y\eta}} \overline{\sin \alpha_r^y} - \frac{v \overline{W^{y\eta}}}{r_e}$$

In Chapter 4, Turbulent Mixing and Model Filters, the term  $D$  in equation (4.6) has been corrected to:

$$D = \frac{1}{2} \left[ D_{11}^2 + D_{22}^2 + D_{33}^2 \right] + (\overline{D_{12}^{xy}})^2 + (\overline{D_{13}^{x\eta}})^2 + (\overline{D_{23}^{y\eta}})^2$$