$\int c_p^{(d)} \left(\overline{T} - T_{00}\right) \frac{\hat{c}}{\hat{c}t} \left[ \overline{\rho}^{(d)} \overline{\widehat{m}}^{(H_2O)} \right] dz - \overline{F}_{net}^{(H_2O)} c_p^{(d)} \left( \widetilde{\overline{T}}_s - T_{00} \right) \quad = \quad \Delta \widehat{\mathcal{I}}_{\partial m^{(H_2O)}/\hat{c}t}^{(h)}$