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Corrigendum: Turbulent diapycnal fluxes as a pilot Essential Ocean Variable

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A Corrigendum on

Turbulent diapycnal fluxes as a pilot Essential Ocean Variable

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Error in Figure/Table

In the published article, there was an error in Table 1 as published. The equations for eddy diffusion coefficients K_T, K_S, and K_ρ in the "Mathematical Definition" column wrongly all began with K_ρ. The corrected Table 1 and its caption "b is buoyancy; q is enthalpy; S is the salinity concentration; and C is an arbitrary scalar tracer concentration. u',v',w' are microscale perturbations of ocean velocities. ρ is the water density. g is the gravitational constant. N is the buoyancy frequency. c_p is the water thermal capacity. θ is the potential

TABLE 1 Ocean Turbulent Mixing variable and its sub-variables.

	Name	Description	Mathematical Definition	Units
Essential Ocean Variable	J_b, J_q, J_S, J_C	Subsurface turbulent fluxes	$J_b = -\frac{g}{\rho_0}\overline{\{w'\rho'\}} \approx K_\rho N^2$	W kg-1
			$J_q = -\rho c_p\overline{\{w'\theta'\}} \approx \rho c_p K_\theta \frac{d\bar{\theta}}{dz}$	W m-2
			$J_S = -\overline{\{w'S'\}} \approx K_S \frac{d\bar{S}}{dz}$	psu m s-1
			$J_C = -\overline{\{w'C'\}} \approx K_C \frac{d\bar{C}}{dz}$	[C] m s-1
Sub-variables	ϵ	Rate of turbulent kinetic energy dissipation per unit mass	$\epsilon = 7.5\ \nu \int_{k_0}^{k_c} \phi_{u_z}^2(k)dk$	W kg-1
	χ	Rate of temperature dissipation per unit mass	$\chi = 6\kappa_\theta \int_{k_0}^{k_c} \phi_{\theta_z}^2(k)dk$	K^2 s-1
	Γ	Mixing coefficient	$\Gamma = \frac{\chi N^2}{2\epsilon\left(\frac{\partial\bar{\theta}}{\partial z}\right)^2}$	unitless
	K_T, K_S, K_ρ	Eddy diffusion coefficient across density surfaces (of temperature, salinity, density, oxygen, nutrients, etc.)	$K_T = \chi_\theta/2\theta_z^2$ $K_S = \chi_S/2S_z^2$ $K_\rho = \Gamma\epsilon/N^2$	m-2 s-1
Supporting variables	$\frac{d\bar{t}}{dz}$, $\frac{d\bar{S}}{dz}$, $\frac{d\bar{C}}{dz}$	Background vertical gradient of temperature, salinity, and tracer C		K m-1, psu m-1, [C] m-1

b is buoyancy; q is enthalpy; S is the salinity concentration; and C is an arbitrary scalar tracer concentration. u′,v′,w′ are microscale perturbations of ocean velocities. ρ is the water density. g is the gravitational constant. N is the buoyancy frequency. c_p is the water thermal capacity. θ is the potential temperature. k_0,k_c represents the wavenumber range for spectral integration. ϕ_{u_z} and ϕ_{θ_z} are the spectra of vertical shear and temperature gradient.

temperature. k_0,k_c represents the wavenumber range for spectral integration. ϕ_{u_z} and ϕ_{θ_z} are the spectra of vertical shear and temperature gradient." appear below.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

Publisher's note