

November 12, 2021

To the handling editor,

We request a change to Equation #3 in Davis et al., “Specified dynamics scheme impacts on wave-mean flow dynamics, convection, and tracer transport in CESM2 (WACCM6)”, which is currently in production.

In our final submitted manuscript, Equation #3, which is intended to define the global mean of any quantity, x , is given as,

$$\langle x \rangle = \frac{1}{p_1 - p_2} \int_{p=p_2}^{p_1} \left(\frac{1}{2} \int_{\phi=-90}^{90} [x] \cos(\phi) d\phi \right) dp$$

However, this equation is in error and will produce an incorrect value. The value of “1/2” is for an integration in radians, not degrees. We request that the equation be revised as,

$$\langle x \rangle = \frac{1}{p_1 - p_2} \int_{p=p_2}^{p_1} \left(\frac{\pi}{360} \int_{\phi=-90}^{90} [x] \cos(\phi) d\phi \right) dp$$

The new factor accounts for the conversion of the integration from radians to degrees, and preserves the value of ϕ as latitude in degrees for consistency with the other equations.

Thank you,
The authors