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Correction to "Revisiting the Earth's sea-level and energy budgets from 1961 to 2008"

John A. Church, Neil J. White, Leonard F. Konikow, Catia M. Domingues, J. Graham Cogley, Eric Rignot, Jonathan M. Gregory, Michiel R. van den Broeke, Andrew J. Monaghan, and Isabella Velicogna

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[1] In the paper "Revisiting the Earth's sea-level and energy budgets from 1961 to 2008" by John A. Church et al. (*Geophysical Research Letters*, *38*, L18601, doi:10.1029/2011GL048794, 2011), the 0–700 m thermosteric sea level and ocean heat content time series, updated from *Domingues et al*. [2008], did not reflect global estimates because the contribution from the South Indian Ocean was accidentally omitted. This error does not lead to visible differences in Figure 2a or Table 1 and only contributes to a minimal difference in Figure 3. However, it does affect the shallow ocean (larger by 22%–24%), the total ocean (larger by 13%–14%), the total storage (larger by 12%–13%), and the total forcing minus total storage (reduced by 3%) terms in Table 2. The corrected Table 2 is reproduced below. The overall conclusions are also not affected by the above error. The corrected time series (version 2.0) used herein are available at http://www.cmar.csiro.au/sealevel/thermal_expansion_ocean_heat_timeseries.html.

Reference

Domingues, C. M., J. A. Church, N. J. White, P. J. Gleckler, S. E. Wijffels, P. M. Barker, and J. R. Dunn (2008), Improved estimates of upper-ocean warming and multi-decadal sea-level rise, *Nature*, *453*(7198), 1090–1093, doi:10.1038/nature07080.

Table 2. The Earth's Heat Budget[a]

Component	1972–2008	1993–2008
Shallow ocean (0–700 m)	137.1	57.0
Deep ocean (700–3000 m)	49.7	20.7
Abyssal ocean (3000 m bottom)	30.7	12.8
Total ocean storage	**217.5**[b]	**90.5**
Glaciers (Latent only)	3.0	1.7
Antarctica (Latent only)	1.4	0.8
Greenland (Latent only)	0.7	0.6
Sea ice	2.5	1.0
Continents	4.7	2.0
Atmosphere	2.0	1.2
Total other storage	**14.2**	**7.3**
Total storage	**231.7**	**97.8**
Solar + Ozone + well-mixed GHGs	1461.7	709.6
Energy consumption	13.0	6.5
Volcanic	−207.8	−14.6
Outgoing radiation	−343.4	−199.3
Total forcing	**923.6**	**502.2**
Total forcing − Total storage	**691.9**	**404.4**

[a]The integrated changes in the heat storage and the radiative forcing are in units of 10^{+21} J. The total forcing minus the total storage is the amount of energy that must be balanced by the aerosol cooling (or other climate forcing).
[b]Bold numbers indicate sum of other rows, as indicated in first column.

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