

R. J. Stouffer · S. Manabe

Equilibrium response of thermohaline circulation to large changes in atmospheric CO₂ concentration

Published online: 19 February 2004
© Springer-Verlag 2004

Climate Dynamics (2003) 20:759–773

Figure 7 shown below replaces Fig. 7 of the paper entitled “Equilibrium response of thermohaline circulation to large changes in atmospheric CO₂ concentration”. The time series of the intensity of Atlantic thermohaline circulation from the 4x_C experiment in the original version of Fig. 7 is in error. It indicated incorrectly that the intensity of the thermohaline circulation (THC) becomes negative during the period between model years 500 and 1300 of the time integration. Although the intensity decreases to ~ 2 Sverdrup (Sverdrup = $10^6 \text{ m}^3 \text{ s}^{-1}$) between the 300th and 900th year as indicated in the revised Fig. 7 shown below, it never becomes negative throughout the course of the 4x_C time integration. The discussion of the 4x_C time series in the published paper is consistent with the corrected time series in new Fig. 7. The time series from other time integrations (i.e., control, 2x_C, and 1/2x_C) are correct, and remain unchanged in the revised figure.

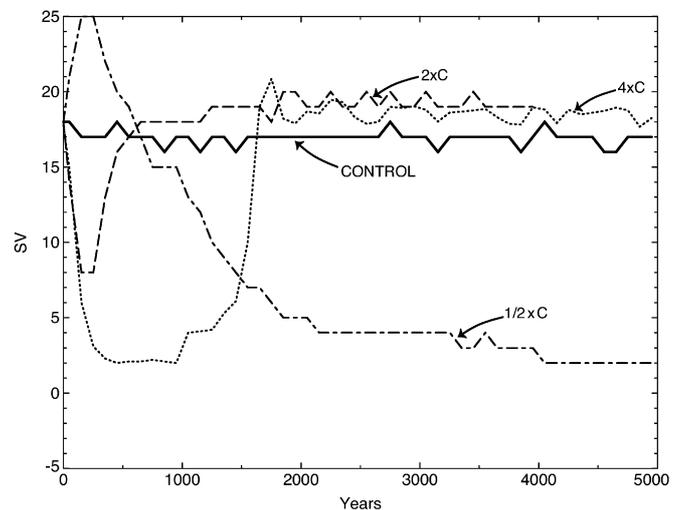


Fig. 7 The temporal variation of the 100-year mean intensity of the THC in the Atlantic Ocean. Solid line: control. Dashed line: 2x_C. Dotted line: 4x_C. Dash-dotted line: 1/2x_C. Here, the intensity of the THC is defined as the maximum value of its streamfunction of the deep overturning circulation in the North Atlantic Ocean. Units are in Sverdrup ($=10^6 \text{ m}^3 \text{ s}^{-1}$)

The online version of the original article can be found at <http://dx.doi.org/10.1007/s00382-002-0302-4>

R. J. Stouffer (✉)
Geophysical Fluid Dynamics Laboratory/NOAA,
PO Box 308, Forrestal Campus, Princeton University,
Princeton, NJ 08542, USA
E-mail: Ronald.Stouffer@noaa.gov

S. Manabe
Program in Atmospheric and Oceanic Sciences,
Princeton University, PO Box CN710, Sayre Hall,
Forrestal Campus, Princeton, NJ 08544-0710, USA