Geoscientific Model Development Discussions

Interactive
Comment

Interactive comment on "A description of the FAMOUS (version XDBUA) climate model and control run" *by* R. S. Smith et al.

R. S. Smith et al.

Firstly, our thanks go to our editor and the referees for taking the time to read the ms, and for their positive remarks. In line with their comments we've made some changes to the text and figures, as detailed below.

Pg 148/9 see comment to Referee #1

Pg 151- acronyms have been more thoroughly defined throughout

Pg 152.12 see comment to Ref#1.

Pg 152.20+ this parameterisation is briefly explained for HadCM3 in Gordon (2000) - the citation has now been more clearly made. We haven't tried varying the pattern, although the model doesn't seem sensitive to the magnitude, other than in the degree of bulk salinity drift. See also comment to Ref#1.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

Pg 155. we've added a notes on this to section 3.4 and 4. Seasonality is changed a little: Antarctic winter (JJA) temperatures are a little lower in XDBUA than ADTAN and sea ice extent, particularly in the Ross Sea, is a little greater, whilst things are pretty much unchanged in summer.

Fig4. see comment to Ref#1

Sect4. The simulations have indeed been published, and are those cited when the models are first mention - Gordon (2000) and Cox (2000). We've tried to make the use of the citations clearer.

Table3. the first two columns of the table have been changed to reflect whether the errors are warm or cold, although the "change in error" column has been left as is (but relabelled) to show whether the change is better/worse rather than warmer/cooler

Fig13. the figure has been changed for the revised ms. There's only very slightly more AABW in XDBUA than ADTAN, and it's not clear why. It may just be very long timescale variability - the Atlantic max. certainly fluctuates by a Sverdrup or so over centuries, and our ADTAN run isn't really long enough to tell. As mentioned above, the Antarctic seasonal cycle is a little larger in XDBUA than ADTAN, which may be a factor.

Fig14. the inconsistencies in this figure mainly result from whether HadOCC was included in the simulation or not. All runs have T and S in the ocean, only XDBUA and HadCM3LC have Alk and DIC. ADTAN has now been included in the T and S plots, but we can't add any other runs to the DIC and Alk panels. The lack of DIC and Alk in HadCM3 is the only reason HadCM3LC is considered at all in the ms. - HadCM3LC is the only coupled version of the UM to have contained HadOCC before our current work on FAMOUS.

Interactive comment on Geosci. Model Dev. Discuss., 1, 147, 2008.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper