

CONTROVERSY DOWN UNDER

A series of papers and newspapers stories raise the questions: Are Southern Oceans Enhancing or Retarding Global Warming? Is Antarctica Melting or Growing? Are Phantom Eddies Roaming the Southern Seas?

SOUTHERN OCEANS

While Reuters presents a CSIRO Marine paper http://news.aol.com/science/story/_a/southern-ocean-current-faces-slowdown/n20070322020509990014?cid=911 which proposes a slowdown in the southern hemispheric circulation due to the melting of the icecap could serve to enhance global warming, University of Arizona researchers in a paper presented suggest just the opposite is more likely as they find the southern oceans are absorbing more heat and carbon dioxide than earlier thought <http://www.physorg.com/news84542296.html> and http://www.geotimes.org/feb07/NN_warming.html

As Dr. Gary Sharp of the Center for Climate/Ocean Resources Study noted the CSIRO story is analogous to the many recent stories about the slowing of the Atlantic Gulf Stream and probably just as overdramatic and unlikely given the lack of long-term data on both overturning rates and temperature/salinity at depth for the region.

Dr. Bob Carter, of the Marine Geophysical Laboratory of James Cook University in Australia agrees “It is unlikely that any minor changes documented by Rintoul and his comrades can be shown to lie outside the natural variability of the system. Anyway, given a time constant for a thermohaline circulation of around 1000 years, any changes being engendered in Antarctica would not show up globally for many hundred years or more.” Bob recommends two papers that demonstrate that variability on a long-term climatic scale:

Hall, I.R., McCave, I.N., Shackleton, N.J., Weedon, G.P. & Harris, S.E. 2001 Glacial intensification of deep Pacific inflow & ventilation. Nature 412, 809-811.

Carter, R.M., Fulthorpe, C.S. & Lu, H. 2004 Canterbury Drifts at Ocean Drilling Program Site 1119, New Zealand: climatic modulation of southwest Pacific intermediate water flows since 3.9 Ma. Geology 32, 1005-1008.

ANTARCTICA GROWING OR MELTING?

While some researchers and the media continue to report the Antarctic ice is decreasing, NASA satellite show the extent of ice has been rising since 1979, with only brief interruptions as during the unusual summer of 2001/02.

In a 2005 study published in Science, a team of researchers led by Dr. Curt Davis found an overall gain in ice mass in Antarctica over a ten year period. As their abstract indicated “Satellite radar altimetry measurements indicate that the East Antarctic ice-sheet interior north of 81.6°S increased in mass by 45 ± 7 billion metric tons per year

from 1992 to 2003. Comparisons with contemporaneous meteorological model snowfall estimates suggest that the gain in mass was associated with increased precipitation. A gain of this magnitude is enough to slow sea-level rise by 0.12 ± 0.02 millimeters per year.

The IPCC SPM in February noted sea ice extent in the Antarctic continues to show inter-annual variability and localized changes but no statistically significant average trends, consistent with a lack of warming reflected in atmospheric temperatures.

MEANWHILE PHANTOM COLD POOLS IN THE AUSTRALIAN NEWS?

While the battle over Antarctica and the southern oceans is going on, the media in Australia is focused on what they describe as two huge deep whirlpools of cold water off the eastern Australia's coast reported by CSIRO with temperatures as much as 10F below normal and sea levels nearly a meter below normal as of March 14th.

<http://www.news.com.au/story/0,23599,21379283-2,00.html>. See Warwick Hughes's interesting blog response <http://www.warwickhughes.com/blog/?p=100#more-100>