

Interactive
Comment

Interactive comment on “Adjustment of the basin-scale circulation at 26° N to variations in Gulf Stream, deep western boundary current and Ekman transports as observed by the Rapid array” by H. L. Bryden et al.

Anonymous Referee #1

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Resumee

The paper investigates one year of data from the RAPID array. The focus is on variations in the Gulf Stream transport associated changes in the MOC. Geostrophic transports in the interior ocean are estimated from pressure differences across the basin, baroclinic transports from the T and S measurements, and barotropic components from the bottom pressure. It is found that bottom pressure changes in unison across the whole basin, suggesting a filling of the whole Atlantic north of the section. A strong compensation between different components of the transport (barotropic/-clinc, GS,

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Ekman) is found, yielding total MOC variations of only 3 -4 Sv.

Recommendation

The paper describes important findings from a new dataset and should be published. Some minor comments are listed below.

Minor remarks

Introduction, 1st para: a map would help the reader to follow the description of the array, and in particular the local details near Abaco.

p 882 l 19: figure 14 instead of 12

p 887 l 22: compenating -> compensating

At several places in the paper correlations are given. It would be useful to accompany them by an indication of their statistical significance.

Figure 3 is too small - the labels are unreadable.

Interactive comment on Ocean Sci. Discuss., 6, 871, 2009.

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