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Interactive comment on “Southwestern Tropical Atlantic coral growth response to atmospheric circulation changes induced by ozone depletion in Antarctica” by H. Evangelista et al.

Anonymous Referee #2

Received and published: 12 November 2015

This article describes the plausible impact of the changing Westerly Winds in the Southern Hemisphere on Coral reefs off of the Brazilian coasts. I feel this paper may need major revisions in the writing but the hypothesis is good.

Changes in the westerly winds occur because of the changes in the temperature gradient across the Southern Ocean. This would have occurred with or without the ozone loss but is merely accelerated by it. Putting the ozone loss in the forefront, the title, implies that these types of impacts will stop once the stratospheric ozone recovers. The Westerlies have always shifted north-south because of the level of atmospheric greenhouse gases over time, even when ozone was not a factor. Other factors may

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also impact the position and velocity of the Westerlies.

Although this manuscript is somewhat speculative, I believe the interpretations drawn from the results are very good. I did have trouble reading this paper. I remember reading once that a paper should be written at a level that a graduate student can understand. This means better writing and with no jargon. For instance this sentence in the conclusion line 22 “Since ozone in the stratosphere is associated to exothermal chemical reactions, its depletion in the Southern Hemisphere high latitudes triggers the decrease of the Antarctic air temperature in the lower stratosphere.” makes no sense. What matters is that O₃ is an IR absorber. I was unsure of the exact years of NCEP analysis that were used.

Figure 1 needs error bars in x and y coordinates

Interactive comment on Biogeosciences Discuss., 12, 13193, 2015.

BGD

12, C7654–C7655, 2015

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