

Interactive comment on “Extreme winter 2012 in the Adriatic: an example of climatic effect on the BIOS rhythm” by M. Gačić et al.

M. Gačić et al.

mgacic@ogs.trieste.it

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We are grateful to the referee for his/her very useful comments which will certainly improve the quality of the manuscript. In the revised version we will address all queries raised by him/her and here we would just like to discuss the comment concerning the two-layer regime as evidenced from the linear correlation and negative regression between the sea surface height and interfaces. The scatter plots indeed show rather good correlation between the free surface and each of the isopycnals, and the slope did not change with depth. According to the solutions of the equations of motion for the two-layer regime (see e.g. Cushman-Roisin and Beckers: Introduction to Geophysical Fluid Dynamics; Physical and Numerical Aspects) the slope of the regression in the scatter diagram sea level - pycnocline depth does not change passing from one layer

C36

to the other. Therefore, in our paper we did not specify whether the chosen isopycnals are located in the upper or lower layer since this does not have any influence on the slope of the straight line in the sea level – isopycnal dispersion diagram.

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C37