Ocean Sci. Discuss., 6, C716–C717, 2009
www.ocean-sci-discuss.net/6/C716/2009/

Ocean Science Discussions

Interactive comment on "First images and orientation of internal waves from a 3-D seismic oceanography data set" *by* T. M. Blacic and W. S. Holbrook

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Received and published: 28 October 2009

Comments on "First images and orientation of internal waves from a 3-D seismic oceanography data set" by: T. M. Blacic and W. S. Holbrook

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Overall, Blacic and Holbrook provide a much needed stepping stone in seismic oceanography, the application of 3-D methods to the dynamic ocean. They properly introduce the subject and present a clear and concise description of their method, its

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limits and their interpretation, as well as its value to the scientific community. I only have a few minor technical and editorial comments listed below.

Specific comments:

1) In the introduction they correctly state the dominance of temperature as what gives rise to reflections. However, salinity does play a small part, and it would be good to recognize that. On page 2343, Line 15: I suggest adding “primarily” after “arise” due to the smaller but not insignificant contribution from salinity.

2)In the Methods section, when addressing vertical resolution, they state on lines 27-29::

"Vertical resolution can be estimated as a quarter of the wavelength of the highest frequency of the data (Widess, 1973)." However, Widess, 1973, in fact, states that the thickness of a bed depends on the “predominant” frequency, not the highest frequency. This should increase the value somewhat that they state for vertical resolution (4m) on line 1 of page 2346.

Editorial comment:

Reference for Biescas et al, 2008 had spelling error.

The correct citation for Biescas et al, 2008 is:

Biescas, B., V. Sallarès, J. L. Pelegrí, F. Machín, R. Carbonell, G. Buffett, J. J. Dañobeitia, and A. Calahorrano (2008), Imaging meddy finestructure using multichannel seismic reflection data, Geophys. Res. Lett., 35, L11609, doi:10.1029/2008GL033971.

Interactive comment on Ocean Sci. Discuss., 6, 2341, 2009.