

Interactive comment on “Preservation of terrestrial organic carbon in marine sediments off shore Taiwan: mountain building and atmospheric carbon dioxide sequestration” by S.-J. Kao et al.

Anonymous Referee #1

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I found this paper very timely and well written. The quality of the data seem excellent. The figures seem of good quality and the statistics are also sound. I would like to suggest that reviewers perhaps include some comparisons, just a few sentences, with river delivery of carbon in passive margins. However, there are a few place where such comparison would bring a broader view of carbon delivery by global rivers into perspective, rather than just mountainous rivers. Goni and Bianchi have a number of papers on the Mississippi and the Changjiang that might be particularly useful. For example, when they talk about the saturation of woody material and its settlement before reaching the coast...

For example in Bianchi, T.S., Galler, J.J., and M.A. Allison. 2007. Hydrodynamic sorting
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and transport of terrestrially-derived organic carbon in sediments of the Mississippi and Atchafalaya Rivers. *Estuar. Coastal Shelf Sci.* 73: 211-222, they talk about small lighter density woody material that gets entrained in the bedload of the river and how that can be significant...

In another paper on the Mississippi export across the shelf, by Bianchi, T.S., T. Sampere, M. Allison, E. A. Canuel, B.A. McKee, S. Wakeham, and B. Waterson. 2006. Rapid export of organic matter to the Mississippi Canyon. *EOS* 87 (50): 565, 572-573, they talk about rapid export to the Mississippi Canyon due to the presence of mobile muds, this can provide a nice comparison to the mechanisms in a active margin.

Finally, in terms of lignin terrestrial OM decay, Sampere, Sampere, T.P., T.S. Bianchi, S.G. Wakeham, and M.A. Allison. 2008. Sources of organic matter in surface sediments of the Louisiana Continental Margin: Effects of primary depositional/transport pathways and a hurricane Event. *Cont. Shelf Res.* 28: 2472-2487, shows that is a passive margin you do see active decay of lignin during slower transport compared to the active margin systems discussed here.

Also, when the authors' talk about hyperpycnal flow, how is this comparable to fluid muds, a distinction between the two might nice because we do see these in the more passive margins with similar particle densities...

Finally, I know of paper by West et al published in L&O that showed huge amounts of trees material being exported from Taiwan after a typhoon, the authors' make no mention of this, where do the trees go and have they been detected in their transects.

Interactive comment on Earth Surf. Dynam. Discuss., 1, 177, 2013.