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***Interactive comment on “Twentieth century
delta;¹³C variability in surface water
dissolved inorganic carbon recorded by coralline
algae in the northern North Pacific Ocean and the
Bering Sea” by B. Williams et al.***

Anonymous Referee #2

Received and published: 18 October 2010

Review of Williams et al

While I think this paper has some valuable data to contribute to the history of the C-13 Suess effect, the paper has a few problems which if the authors attend to, could make the paper significantly better. See comments marked on the paper.

These are: 1) The paper is written in a variety of tenses which ranges between past and present and active and passive. The authors should carefully consider in which tense they want to write the paper and stick to it. 2) Sentences are not normally supposed to

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start with abbreviations. 3) The authors use the term 'calcified tissues' for the coralline skeleton. I am not sure this is correct. 4) The authors cite some references out of context. 5) No ages are presented. The coralline algae has annual bands, but it is not clear no their annual nature has been established. Age data are obtained from a previously published paper, yet they are critical and therefore should be included so readers can assess the error of the age. I think some discussion of this is needed. 6) General the sentence structure is very poor. There are several native English speakers in the author list and I suggest that the senior authors use them to help improve the paper! 7) There is some significant repetition such as the portion making the case for the fact that coralline algae may be better archives than mammal based archives. 8) The coralline algae is composed of HMC yet the authors talk about calcite rather than HMC. In Figure 3 they once again plot calcite equilibrium rather than HMC equilibrium. I am not sure what they have plotted.

Basically the science is sound and I would recommend publication with some changes as indicated above and in the text.

Interactive comment on Biogeosciences Discuss., 7, 5801, 2010.

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1 **Twentieth century $\delta^{13}\text{C}$ variability in surface water dissolved inorganic carbon recorded by**
2 **coralline algae in the northern North Pacific Ocean and the Bering Sea**
3
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Fig. 1.

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