

## ***Interactive comment on* “Effects of storms on primary productivity and air-sea CO<sub>2</sub> exchange in the subarctic western North Pacific: a modeling study” by M. Fujii and Y. Yamanaka**

### **Anonymous Referee #1**

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1) Physical model must be a vertical one dimensional one. But there is no description on that. Especially the model of vertical mixing plays important role in the exchange of CO<sub>2</sub> and primary production. 2) Ecological model is so called "NEMURO" (Ecological Modelling, Vol. 202-1). Some papers in this volume should be referred. 3) The authors define 'storm' as wind speed is more than 2 sigma. However, the period of continuation is not defined. 4) Bates et al.(1998) observed after the passage of hurricane, but in the northern pacific, the storm is caused by low pressure. Hurricane/Typhoon causes upwelling by Ekman pumping (Hong and Yoon, 2003), but a low pressure does not bring about the upwelling so much. The difference between Hurricane and low pressure should be discussed. 5) In Figure 2-f, the difference between two experiments in Au-

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gust and in July has an opposite sign. The authors discussed on this matter based on the difference of primary production, however, I do not think there is so big difference in the physical environment between August and July. In fact, in Fig. 2-C, the primary production in July and in August, solid line shows larger values than dashed line. I wonder why the difference between Fig.2-C and 2-f occurred.

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