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Biogeosciences Discussions

Interactive comment on "Monthly measured primary and new productivities in the Ulleung Basin as a biological "hot spot" in the East/Japan Sea" *by* J. H. Kwak et al.

Anonymous Referee #3

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This paper reported the results on primary productivity and related parameters by a year-round observation in the Ulleung Basin. A high annual primary productivity was well documented by monthly measurements and the mechanism supporting this productivity also was discussed in the text. Such a frequent monitoring data is valuable especially at off-shore stations.

However, I have some concerns on methodology as follows, 1) It is not clear that authors paid attention to so-called clean-technique for water sampling. It becomes a standard method after Fitzwater et al. (1982). 2) The authors mentioned that 15N tracers were added to attain about 10% of the ambient concentrations. However, it

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seems difficult to know the ambient concentration of substrate at the time of addition except the concentration was measured on board. It may happen to alter the ambient concentration especially when substrate was very low concentration, resulting in over-estimation of uptake rate. The authors mentioned that summertime nitrate was depleted at surface (NO info for NH4). The authors should mention this possibility or the range of actual 15N tracer amendment. 3) I guess that each incubation bottle was spiked either 15NO3 or 15NH4 as well as NaH13CO3. The authors should mention this and how many replicates were conducted for each settling. 4) No data were presented for NH4. This paper deals new and regenerated production. So it is necessary to present the information for NH4.

Interactive comment on Biogeosciences Discuss., 10, 2127, 2013.