

## ***Interactive comment on “Continuing <sup>137</sup>Cs release to the sea from the Fukushima Dai-ichi Nuclear Power Plant through 2012” by J. Kanda***

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Received and published: 29 June 2013

1) P4, line 1-28 and Figure 2: I can't recognize accurate positions of each sampling date in Figure 2. I recommend the author to explain the variation pattern of <sup>137</sup>Cs radioactivity quantitatively. Do the grid lines indicate some meanings in Figure 2-4? The author should explain it.

The time-series variation of <sup>137</sup>Cs was explained by specifying several dates in the revised text. I also added explanations about the vertical grid lines in each figure legend (e.g., for Fig. 2b the line interval is one week).

2) The author pointed out periodical elevations of <sup>137</sup>Cs radioactivity at monitoring point 3I. It appears to be fluctuation of the radioactivity at monitoring site 2I, though the

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variation range is lower than that of 3I. Is it true or not?

It is true and in addition to data of 3I, I showed data from 1I, 2I and 4I in the revised Fig. 3 (Fig. 1 attached to this comment). They consistently show fluctuations of radioactivity after the spring of 2012, while the magnitude is varying. I pointed out about this in the revised manuscript.

3) The author discussed the validity of estimation of  $^{137}\text{Cs}$  release from the Fukushima Daiichi NPP. The estimation of  $k$ , rate constant is very important part of this study so that the author should discuss the uncertainty of the curve fitting, that is relative error from the line.

Details of the regression analysis are shown in the revised text. A coefficient of determination ( $R^2$ ) of 0.9841 was obtained, and the 95% confidence interval of the estimated  $k$  is between -0.40 and -0.47.

4) Figure 4: How does the author think about the meanings of the sample collected on April 6, 2011, scattered from the regression lines in Figure 4b. Is this considered to be due to time lag of movement of water mass from the port to the monitoring points T1 and T2?

As pointed out by the reviewer, the lower radioactivity at T1 and T2 on April 6 likely reflected the time lag; the lower radioactivity in the port water before the peak on 6 April affected the radioactivity at T1 and T2 on 6 April. I excluded the data on 6 April, so that I can provide conservative estimates of relative radioactivity in outer seawater against the radioactivity of the port water.

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Interactive comment on Biogeosciences Discuss., 10, 3577, 2013.

**BGD**

10, C3123–C3125, 2013

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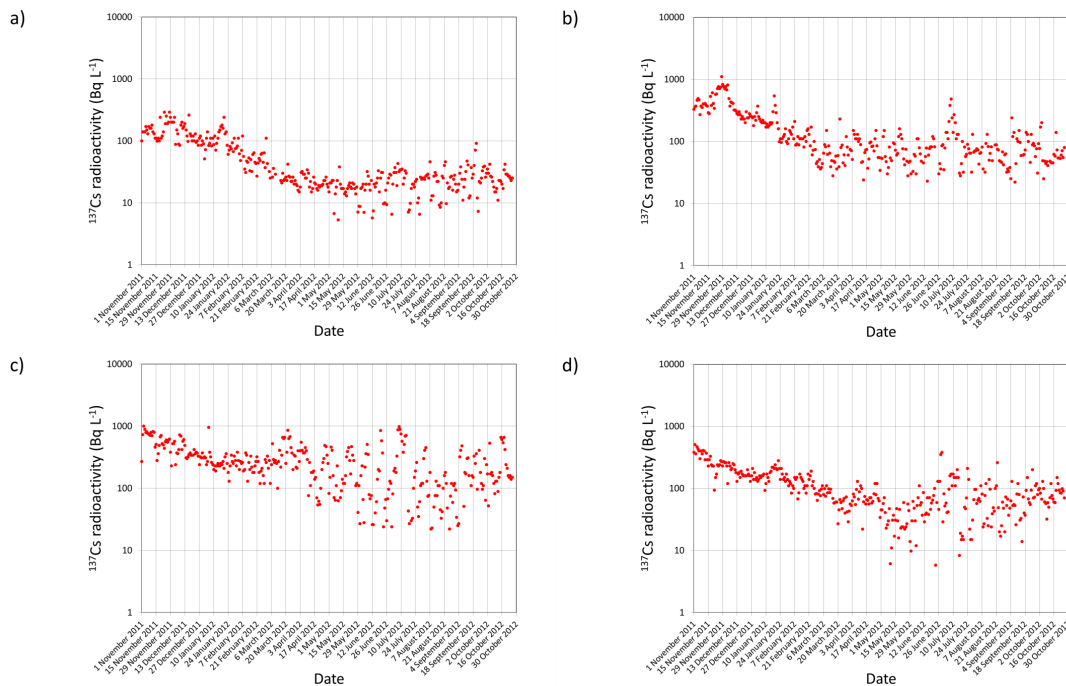
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**Fig. 1.**  $^{137}\text{Cs}$  radioactivity in seawater taken at 1I (a), 2I (b), 3I (c) and 4I (d) for the period from November 2011 through October 2012 (Figure 3 in the revised manuscript).

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