

## ***Interactive comment on “Cesium-134 and 137 activities in the central North Pacific Ocean after the Fukushima Dai-ichi nuclear power plant accident” by J. Kameník et al.***

**Anonymous Referee #3**

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This paper reports horizontal distribution of Fukushima-derived radiocesium in sea surface water between Japan and Hawaii and around Hawaii observed in 2011 and 2012. Their conclusion (the Kuroshio extension becomes a barrier of contaminated water, the Fukushima-derived radiocesium is gradually dispersing eastward,  $^{134}\text{Cs}$  /  $^{137}\text{Cs}$  ratio is one and so on) is reasonable and coincident with previous reports. Observed data are high quality and it is no doubt that these are very useful and helpful in order to better define the source term and validate model prediction of dispersion and deposition patterns. Thus I recommend the acceptance of this paper to Biogeosciences after minor revision and small consideration as follows:

Table 1 and Table 2 Minimum detectable activities (MDA) are different from respective C3126

samples. For example,  $^{134}\text{Cs}$  at M6 is less than  $0.7 \text{ Bq m}^{-3}$  and, however its activity of  $0.3 \text{ Bq m}^{-3}$  is detectable or significant (P5229 L18). How about marking  $^{134}\text{Cs}$  activities (e.g. marking “ \* ”) in Table 1 and Table 2 if its  $^{134}\text{Cs}$  is detectable or significant even if its activities are very small (less than  $1 \text{ Bq m}^{-3}$ )?

P5230 L7 How much activities are estimated-preexisting  $^{137}\text{Cs}$  for Guam and for Hawaii? And discuss, briefly, the cause of the gap (i.e. cause of discrepancy between observed value and estimated value).

P5231 L14 Please refer Honda et al. (2012) too. Fig. 3 in their paper (modeled cumulative  $^{137}\text{Cs}$  eolian input through 1 April) also pointed out that radiologically contaminated eolian dust possibly dispersed south of the Kuroshio extension.

P5232 L4 then -> than (!?)

Acknowledgements Please add two names, Y. Kumamoto and M. Honda of Japan Agency for Marine-Earth Science and Technology (JAMSTEC). They prepared “Cu-bitainer” (water tank) and loaded these on SV Sea Dragon in Yokohama. Without their efforts, 2012 transect sampling between Japan and Hawaii was not possible.

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