

Interactive comment on “Iodine-129 concentration in seawater near Fukushima before and after the accident at the Fukushima Daiichi Nuclear Power Plant” by T. Suzuki et al.

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The Suzuki et al. manuscript is interesting in several regards. First, it highlights the need to determine background levels of I-129 in oceans around the world. Because the authors had fortuitously determined depth profiles of I-129 before the accident, they were able to note the changes after the accident. Second, this paper shows the need to take into account local dietary customs when determining dose rates. In this paper, the authors were able to estimate annual dose of I-129 based on average dietary consumption rates of seafood and macroalgae particular to the Japanese diet and show that, fortunately, the present levels of I-129 do not constitute a health risk.

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I was wondering if on P.1407, more could be said about transport in general. Particularly the atmospheric input found in the north. I would suppose microbial volatilization in the seas might be one form of transport. I believe that the authors refer to atmospheric transport on and immediately following the days of the accident. Do they consider this an ongoing phenomenon, with marine currents moving the iodine southward and possibly prevailing winds carrying iodine from shallow seawater northward?

While transport of Cs-137 is only peripherally discussed, it might be worthwhile to mention any difference between the transport of I-129 and Cs-137 in the environment. Apart from half-life, do the authors consider that one might be more persistent in the marine environment than another. I-129 might be scavenged from the oceans by organic detritus settling to the sea floor. Cs-137, perhaps scavenged through adsorption onto clays along coastlines where there is a high input of terrigenous material. While this is not the focus of the paper, it might be useful for the authors to comment on this, either in this or a future paper

In closing, the authors suggest further investigations are necessary to look at the accident in more detail. Hopefully their measurements will continue, providing a time-series of the dispersal of this isotope in the marine environment.

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