High-resolution marine surface $\Delta^{14}C$ reconstructions using marine organisms produced carbonate attached to tetrapod ashored by high-wave in northern Pacific Coast of Japan.

*Kai Leggett[1], Yusuke Yokoyama[1], Yosuke Miyairi[1], Ota Kosuke[1], Yoshiki Shirahama[2]

1. Atmosphere and Ocean Research Institute, University of Tokyo, 2. Advanced Industrial Science and Technology, Geological Survey of Japan, Research Institute of Earthquake and Volcano Geology, Active Fault Research Group

Radiocarbon is produced in the upper atmosphere and distributed on the surface of the Earth via carbon cycles and has been used for radiometric dating and as a tracer of Earth surface processes including ocean current. Due to global ocean circulation, apparent radiocarbon ages ranging from ca. 400 to 2,000 years (eg., Servettaz et al., 2019), known as marine reservoir ages. Thus, continuous monitoring of radiocarbon concentrations, $\Delta^{14}C$, has been conducted commonly using annual bands of coral skeletons to reconstruct local oceanography (eg., Hirabayashi et al., 2019). Though, it has mainly been restricted in low latitude since warmer water (higher than 18 degrees C) is required to live for corals. One of the few studies that reconstruct the $\Delta^{14}C$ values in higher latitude, such as the Tohoku region, in Japan, Kubota et al. (2018) reported the $\Delta^{14}C$ values in the inner bay of the Otsuchi area using *M.stimposoni* shells. Yet the records could not cover recent $\Delta^{14}C$ variations. Additionally, the *M.stimposoni* samples used in this study are mostly collected from 20 m deep from the sea surface, only one sample collected from shallow water at around 5 m water depth thus more information at shallow water is needed. Ota et al. (2019) also reported high-resolution $\Delta^{14}C$ records using abalone shells. However, habitat differences for individual tests could not provide the reference of local marine water $\Delta^{14}C$. In this study, we reconstruct the $\Delta^{14}C$ of the sea surface by analyzing the calcium carbonate calcareous tubes of *Hydroides elegans*, which lives at ambient sea level. The samples were obtained from Iwate Prefecture and the carbonate tubes are found on tetrapods at an elevation of 7~8 m and were 30 m away from the nearest group of wave-dissipating blocks. According to the aerial photographs, we identified the exact timing when the tetrapods were dislodged. Eighteen samples of carbonate tubes of *Hydroides elegans* have filled the gap of the dataset previously published by Kubota et al. (2018). The oceanographic condition also seems to be overprinted to the signal and we will discuss it during the presentation.

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