



Radiocarbon in rain, snow, and rivers in South Korea

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Radiocarbon (^{14}C) is one of the natural cosmogenic nuclides and has been used as a powerful tracer of carbon in various reservoirs such as plants, soils, and oceans in the global carbon cycle. We have measured $\Delta^{14}\text{C}$ of dissolved organic carbon (DOC) and particulate organic carbon (POC) in rain, snow, and rivers in South Korea. The $\Delta^{14}\text{C}$ -DOC and $\Delta^{14}\text{C}$ -POC in rain, snow, and rivers varied significantly depending on seasons, demonstrating dynamically changing sources. The results suggest that there could be an unknown source of high ^{14}C in the atmosphere, that riverine carbon could be strongly influenced by the Asian summer monsoon, and that even older organic carbon than previously thought might have been released from the terrestrial ecosystem.