

Capturing extreme river runoff events from oceanic sediment distribution

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A significant amount of the freshwater discharges around Japan occurs through extreme weather events. Capturing the event in the ocean, however, has been observationally difficult because of the strong currents and its random occurrence. Moreover, the low salinity signal often disappears after a few days since the majority of the rivers in Japan are directly connected to the open ocean and thus is strongly affected by its circulation. Regional-scale numerical oceanic models are becoming capable of resolving the dynamics of freshwater discharges but we have so far lacked a tool to test them from observations. We will introduce an observational project based on the Ariake Sea that aims to investigate the dynamics of the extreme freshwater discharges from oceanic sediments. The discharge following the Kumamoto Earthquake is likely associated with sediments that entered the rivers through the various landslides and thus contain a detectable record compared to previous years. The Ariake Sea is one of the few estuaries that is large to capture the discharge signal and not directed altered by the open oceanic circulation.

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