

## Variations of terrigenous organic carbon content in flood and slope failure sediments

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In this study, we analyzed the stable organic carbon isotope of sea floor sediments, which were deposited by the modern large floods with typhoon and the slope failure with earthquakes. Stratigraphic variations of terrigenous organic carbon content in the flood sediments were different from those of slope failure sediments.

Sediment cores KH-11-9-FB12 and FB14 were corrected from the deep-sea floor off the Kumano River mouth, which is located on the Kii Peninsula. The sediment cores contain flood-induced sediments by large typhoon in September, 2011, the largest 20<sup>th</sup> century typhoon, and the large 19<sup>th</sup> century Totsukawa flood (Ikehara et al.,2012). These flood-induced sediments have high terrigenous organic carbon content. The base of turbidite, which include wood fragments, has highest peak of terrigenous organic carbon content. On the other hand, terrigenous organic carbon content of the lower part of turbidite mud are lower than those of the middle and upper parts of turbidite mud. The stratigraphic variations of terrigenous organic carbon content is not recognized in the middle and upper parts of turbidite mud.

Sediment cores 95A and 104A were corrected from the shallow depression on shelf off the Saru River mouth, Hokkaido, in 2007. These cores contain the sediments by the severe flood with typhoon in August, 2003. The shallow depression on shelf, which is thought to be the old river path during lowstand of the last glacial age, was suitable for preservation of the flood-induced sediments (Katayama et al., 2007). The lower part of the turbidite mud has low terrigenous organic carbon content and the middle and upper parts have high terrigenous organic carbon content. The stratigraphic variations of terrigenous organic carbon content is not recognized in the middle and upper parts of turbidite mud. The turbidite mud off the Saru River mouth have same characteristics as those off the Kumano River mouth. These results suggest that the lower part of flood-induced sediments were formed by erosion and deposition of sea-floor sediments during the early stage of flood. The middle and upper parts were considered to be formed by continuous supply and deposition of terrigenous materials from river mouth during the flood.

The sediment core BP09-6 was corrected from the Beppu Bay. The sediment core contains the slope failure sediments by the large earthquake in 1596 (Keicho-Bungo earthquake; Kuwae et al., 2013). The slope failure sediments are characterized by upward decreasing of terrigenous organic carbon. This result suggests that the turbidity currents were caused by collapse of delta slope sediments, which contain both terrigenous and marine organic materials.

Stratigraphic variations of terrigenous organic carbon content might be important information, when we investigate the records of paleo natural disasters with sea-floor sediments.

### References

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