Surf-zone sedimentology: Insights from the 2024 Noto Peninsula Earthquake in central Japan

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The Noto Peninsula Earthquake occurred on January 1st, 2024, in Ishikawa Prefecture, central Japan, causing a coastal uplift of approximately 4 meters. The study site, Kaiso Coast, is a sandy pocket beach composed mainly of medium sand, protected by breakwaters. The 4-meter uplift led to the shoreline advancing by about 150 to 250 meters, exposing the former surf zone above sea level. We conducted a large trench survey at Kaiso Coast, spanning 100 m alongshore, 130 m cross-shore, and 1m in depth, to examine sedimentary structures that record wave and current activity immediately before the uplift. These exceptional sedimentary successions at Kaiso Coast offer new insights into coastal morphological behavior and dynamic depositional processes.

Keywords: surf zone, sedimentary structure, the Noto Peninsula Earthquake , uplift

