

## The earliest stage of Izu rear-arc volcanism revealed by drilling at Site U1437, IODP Expedition 350

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International Ocean Discovery Program Expedition 350 drilled between two Izu rear-arc seamount chains at Site U1437 and recovered the first complete succession of rear-arc rocks. The drilling reached 1,806.5 m below seafloor. In-situ hyaloclastites, which had erupted before the rear-arc seamounts came into existence at this site, were recovered in the deepest part of the hole (~15-16 Ma). Here we show that the composition of the oldest rocks recovered do not have rear-arc seamount chain geochemical signatures, but instead show affinities with volcanic front or some of the extensional zone basalts between the present volcanic front and the rear-arc seamount chains. We infer that following the opening of the Shikoku back-arc basin, Site U1437 was a volcanic front or a rifting zone just behind the volcanic front, and was followed at ~9 Ma by the start of rear-arc seamount chains volcanism. This geochemical change records variations in the subduction components with time, which might have followed eastward moving of hot fingers in the mantle wedge and deepening of the subducting slab below Site U1437 after the cessation of Shikoku back-arc basin opening.

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