

Figure F1. Location of Expedition 350 Hole U1436C and Ocean Drilling Program (ODP) Leg 126 Sites 792, 786, and 787. Site U1436 lies 60 km east of Aogashima, an arc-front mafic volcano that forms a small and inhabited island. Figure was slightly modified from the [Expedition 350 summary](#) chapter (Tamura et al., 2015b).

Figure F2. Hole U1436C downcore depth plots of oxygen ($\delta^{18}\text{O}$) and carbon ($\delta^{13}\text{C}$) isotope ratios on the planktonic foraminifer *Neogloboquadrina dutertrei* (inset: specimen from Sample 350-U1437B-1H-CC, blue scale bar = 300 μm) (data in Table [T1](#)). Changes in isotopic ratios are in per mil versus Vienna Pee Dee belemnite (VPDB). Red line = conspicuous black glassy mafic ash layer.

Figure F3. A. Oxygen isotope variations vs. age in Hole U1436C rescaled using AnalySeries 2.0.4.2 software and tie points in Table [T2](#). Paleoclimatic stratigraphy with glacials = even MIS numbers, interglacials = odd MIS numbers. Vertical red line = stratigraphic position of major black mafic ash layer. B. Benthic $\delta^{18}\text{O}$ reference curve (LR04 stack; Lisiecki and Raymo, 2005) with numbered interglacial stages. C. Oxygen isotope variations vs. depth from 0 to 70 mbsf, Hole U1436C. Colored vertical lines = average depths of nannofossil and planktonic foraminifer datums. Expected position of Brunhes/Matuyama (B/M) paleomagnetic reversal was deduced from observations in Hole U1436A. All datums are from Expedition 350 (see the [Site U1436](#) chapter [Tamura et al., 2015c]) and are presented in Table [T3](#).

Figure F4. A. Sedimentation rate curve (depth vs. age) between tie points (see Table [T2](#)) used in the correlation between LR04 (Lisiecki and Raymo 2005) reference series and Hole U1436C $\delta^{18}\text{O}$ curve (produced using AnalySeries 2.0.4.2 software). Age model shows two extreme sedimentation rate intervals: X (red) = very low rate (~ 0.4 cm/ky; maximum) at the end of MIS 19 (i.e., quasi-hiatus), Y (blue) = very high rate (~ 400 cm/ky) during MIS 11. Green line = average slope for entire section (~ 7.5 cm/ky), red line = black glass mafic ash layer. B. Sedimentary description (shown wrapped in A). Orange = all ash beds but the 10 thinnest, green = layers with coring disturbances (see the [Expedition 350 summary](#) chapter [Tamura et al., 2015b]).