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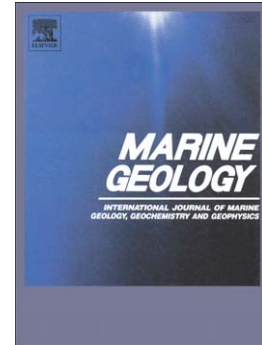
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Dewatering structure and soft-sediment deformation controlled by slope instability: examples from the late Miocene to Pliocene Miura–Boso accretionary prism and trench-slope basin, central Japan

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Abstract

Systematic arrays of dewatering structure and soft-sediment deformation (e.g. convolute laminations and flame structures possibly associated with dewatering) were examined in the late Miocene to Pliocene Miura-Boso accretionary prism and Plio-Pleistocene trench-slope basin, central Japan, with respect to paleoslope inclination. Numerous preferred orientations of these structures strike perpendicular to the slumping direction. The observed features, including the measured orientations and field observations that dewatering-induced foliations terminated by the slip plane of a slope failure deposit, indicate that the structures formed under the influence of slope instability.

The foliations from both the upper part of the accretionary prism and the slope basin correspond to plausible “pseudo-hydraulic fracture” planes, parallel to σ_1 and perpendicular to σ_3 , and are associated with slope instability. Pore fluids or liquidized silt escaped along the foliations until pore fluid pressures along the uppermost and

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