

Crustal Structure of the Northern Honshu Arc Inferred from Previous Seismic Reflection/Refraction Expeditions

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We review the crustal structure across the Northern Honshu Arc from previous seismic reflection/refraction expeditions. Seismic experiments in 1997-1998 revealed a new image of the island arc crust. The crustal structure obtained shows remarkable heterogeneity. In particular, the shallow structure west of the backbone ranges indicates the severe crustal deformation associated with the Miocene opening of the Sea of Japan. The lower crust east of the backbone range is reflective. The Moho depth varies from 25-27 km at the western edge of the onshore profile to 32-25 km beneath the backbone range. Seismic reflection surveys provided a new image on the fault geometry and lower crustal reflectors developing beneath the backbone range.