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PHYSIOGRAPHIC DIVERSITY IN THE HOMELAND OF *HOMO ERECTUS*, JAVA

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Clues to the ecology of early humans can be found in the paleogeography and paleogeology of the lands that they occupied. The early hominids of Java lived in a physiographically diverse and tectonically active archipelago for as much as 1.8 My. Large volcanoes, fluvial inter-volcanic plains, an extensive mid-island lagoon/lake, several carbonate uplands, a delta in a marine embayment, and open-ocean coast are all evident in the Late Pliocene/Early Pleistocene. These physiographic elements existed at or near the hominid sites in an area that is under 200 km across. The early hominids of Java seem to have had a diversity of habitats available to them.

The hominid fossil of greatest age (latest Pliocene) was found in deltaic beds near Mojokerto. The delta formed in an embayment of the Madura Strait and was built of volcanoclastic detritus transported by the ancestral Brantas River from highlands on the south. A large sample of early Pleistocene hominid fossils have been found at Sangiran Dome, 180 km west of Mojokerto, in both lacustrine mud and younger sand and gravel. Nearby volcanoes and non-volcanic uplands (e.g., Kendeng Hills) provided the coarse sediment. Hominid fossils from Trinil (type *Homo erectus*), Kedungbrubus, and Sambungmacan (sites located between Sangiran and Mojokerto) are situated paleogeographically along rivers that flowed between the Kendeng Hills and volcanoes to the south. These waterways were apparently parts of the ancestral Solo River system and may have passed through the Sangiran basin and ended at the Mojokerto delta. Volcanic breccias, usually interpreted as lahar deposits, outcrop in the southern Kendeng Hills from Trinil to Mojokerto (140 km). The nature of the deposits indicates that a large volcanic terrain with peaks similar in height to those found in Java today (3+ km) was present at the end of the Pliocene.

The Late Pliocene/Early Pleistocene homeland of Javan hominids contained coastal to high-mountain habitats within a small area. The physiography was similar to modern Java and to the setting of Late Pleistocene (Ngandong) *H. erectus*. Models of human evolution often emphasize adaptations to continental "open woodlands," but since the latest Pliocene, hominids are likely to have frequented the full range of tropical environments available in the Javan archipelago.

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