

Australasian Tektite Event and its Aftermath

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The Australasian tektite strewnfield, covering at least one-tenth of Earth's surface, is the youngest and the largest among the four known Cenozoic tektite strewnfields. Based on the geographic variation in concentration of Australasian microtektites, the size of the Australasian source crater on the Indochina Peninsula is estimated to be 90-116 km. If a 2 to 5 km diameter stony asteroid did strike the Indochina Peninsula 793 ka, the magnitude of this event might stand for the largest known impact event during the time span of human evolution.

Alongside the bolide impact, super-volcanic activity is another factor that may cause the environmental perturbations of similar severity. The oldest Toba supereruption at 788 ka, expelled at least 800-1000 km³ dense-rock-equivalent of rhyolitic magma, would have initiated a volcanic winter subsequently and amplified the aftermath of environmental perturbations. In sight of strong evidence of Early Pleistocene hominid colonization in East Asia, the environmental pressure throughout the maritime continent might have driven the first sea-crossing dispersal of *Homo erectus* to the Flores Island. A prolonged impact winter might have decimated human population to levels low enough to produce rapid differentiation.