Supporting Information

Cannon et al. 10.1073/pnas.0809865106

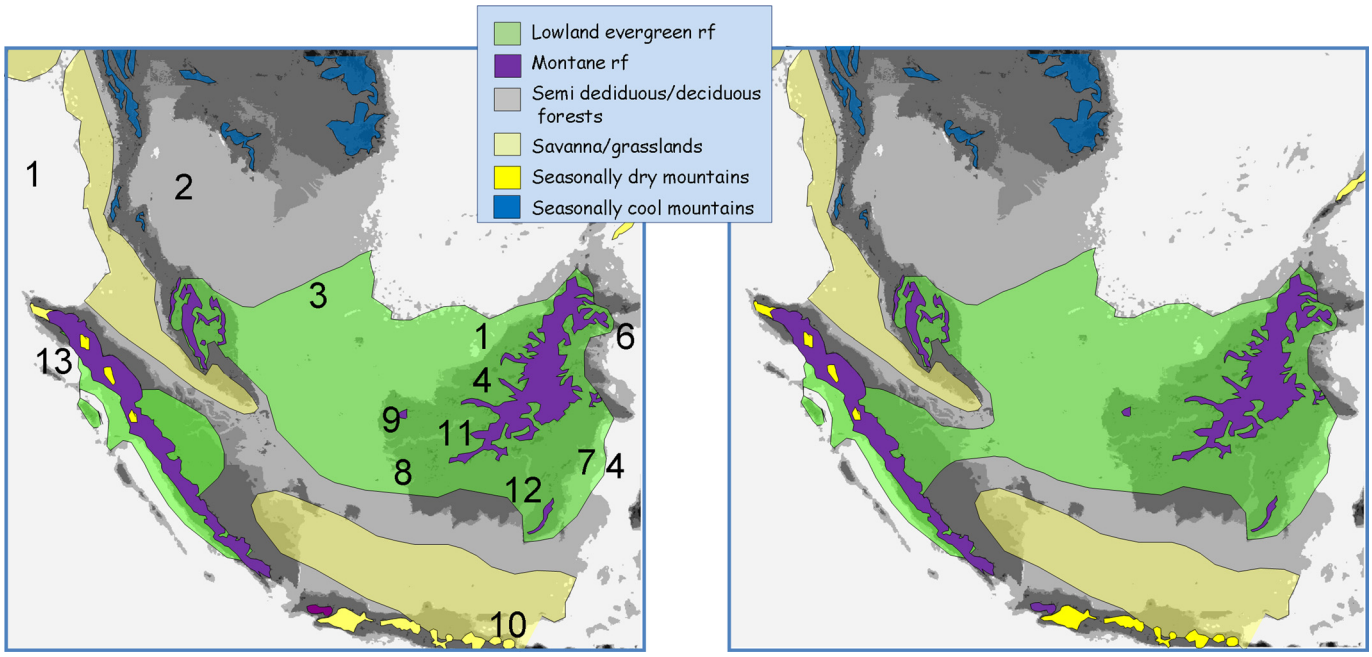


Fig. S1. Vegetation map for LGM based on historial data coupled with aspects of modeled maps for open (*Left*) and closed (*Right*) corridor scenarios. These maps utilize the database of Bird et al. (1) with the following additions and exceptions: (i) Early Pleistocene sediments from exploration wells offshore Myanmar contain adundant Poaceae pollen, suggesting open grasslands on adjacent land areas (see ref. 2, figure 9.22); (*ii*); unpublished shallow seismic data from Gulf of Thailand Late Quaternary shows extensive meandering channels suggesting forested (but not necessarily rainforested) setting trees restraining river banks; (*iii*) northern limit of rain forests on Sunda shelf based on climate modeling from this paper; (*iv*) Papaland-10 pollen record by Morley et al. (3) shows continously wet LGM for Mahakam catchment; (*v*) Sangkarang-16 pollen record by Morley et al. (3) shows strongly seasonal LGM elimate with extensive burning of grassland for S Sulawesi and Jave Sea; (*vi*) extensive unpublished petroleum industry data from Early Quaternary sediments offshore Tarakan Basin contain regular Poaceae pollen suggesting significantly drier climate for similar age material from Kutei Basin where Poaceae pollen is rare; extensive palynological studies in Mahakam Delta area have been unable to duplicate Late Quaternary assemblages with common Poaceae as described by Caratini and Tissot (4) from Misedor core and previously widely used to suggest grasslands in Mahakam catchment; it is suggested that the Misador assemblages reflect grass-dominated floating mats as occur today in Mahakam lakes; (*viii*, *ix*); geomorphological arguments for seasonal climate landforms in W Kalimantan by Thomas (5) do not apply to LGM as assumed by Bird et al. (1); (*x*) palynological studies of Modjokerto *Homo erectur* site by Morley show stronly seasonal savannah-dominated vegetation with few trees during the earliest Queternary (6); (*xi*) the absence of peat accumulation during the LGM at Santarum Lakes, as shown by Ashari et al. (7), does not provide evidence for non-rain forest climates, as considered a possibility by Bird et al. (1); (*xii*) forest refugia in Meratus mountains described by Slik et al. (8) suggest continuity of wet climates through LGM; (*xiii*) the occurrence today of relict *Pinus merkusii* populations in Sumatra are thought to reflect locations of more seasonal climate pockets which were probably more extensive during LGM. The map has been modeled with the understanding that, whereas lowland climates were more restricted latitudinally than body, montane areas retained UERF into areas characterized by seasonal lowland climates, as seen across Jave today.

1. Bird MI, Taylor D, Hunt C (2005) Environments of insular Southeast Asia during the Last Glacial Period: A savanna corridor in Sundaland? *Quat Sci Rev* 24:2228–2242.
2. Morley RJ (2000) in *Origiin and evolution of tropical rain forests* (John Wiley & Sons, Ltd., New York).
3. Morley RJ, Morley HP, Wonders AA, Sukarno HW, van der Kaars S (2004) Biostratigraphy of modern(Holocene and late Pleistocene) sediment cores from Makassar Straits *Proceedings of the Deepwater and Frontier Exploration in Asia and Australisia Meeting.*
4. Caratini C, Tissot C (1987) Le Sondage Misedor. Etude palynologique. *Etudes de Geopraphie Tropicale* (Centre National de la Recherche Scientifique) 3, 49 pp.
5. Thomas MF (2000) Late Quaternary environmental changes and the allvial record in humid tropical environments. *Quaternary International* 72:23–36.
6. Hoffman FH, Zaim Y (2003) Mojokerto Delta, East Java: Palaeoenvironment for *Homo modjokertensis – First results. Journal of Mineral Technology* (10 Bandung, Indonesia), pp 1–32.
7. Anshari G, Kershaw AP, van der Kaars WA (2001) A late Pleistocene and Holocene pollen and charcoal record from peat swamp forest, Lake Sentarum Wildlife Reserve, West Kalimantan, Indonesia. *Palaeogeography, Palaeoclimaology, Palaeoecology* 171:213–228.
8. Slik JWF, et al. (2003) A floristic analysis of the lowland dipterocarp forests of Borneo, *Journal of Biogeography* 30:1517–1531.

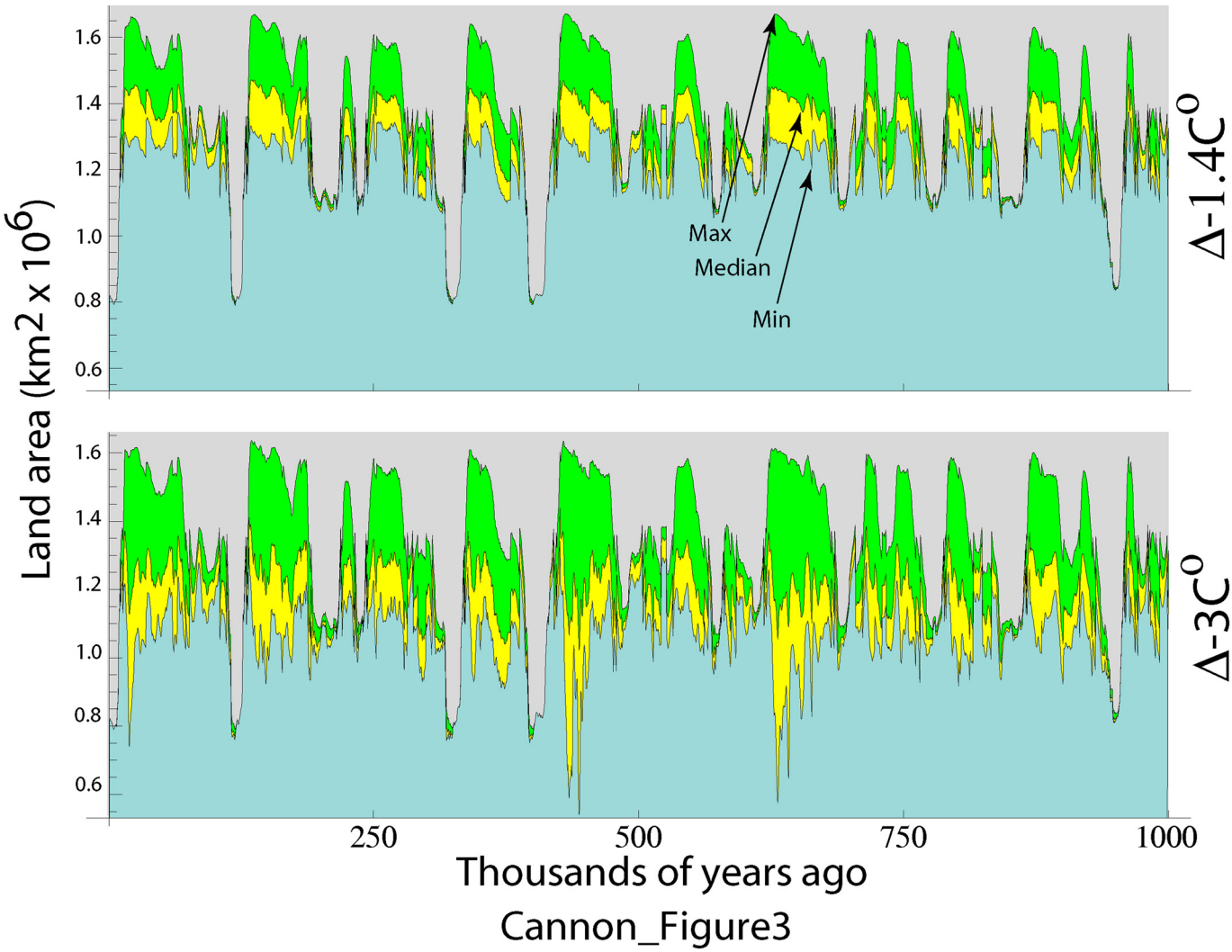
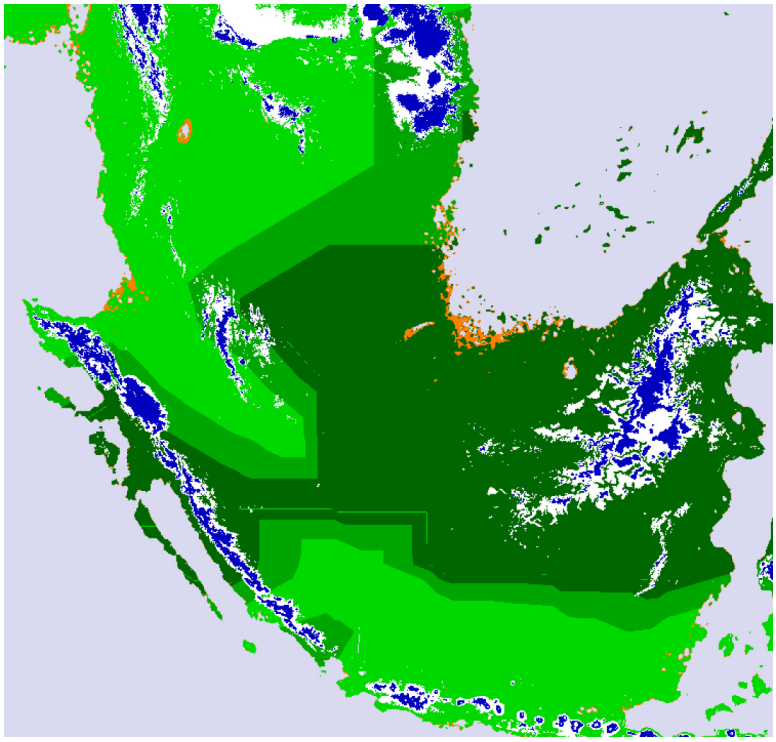
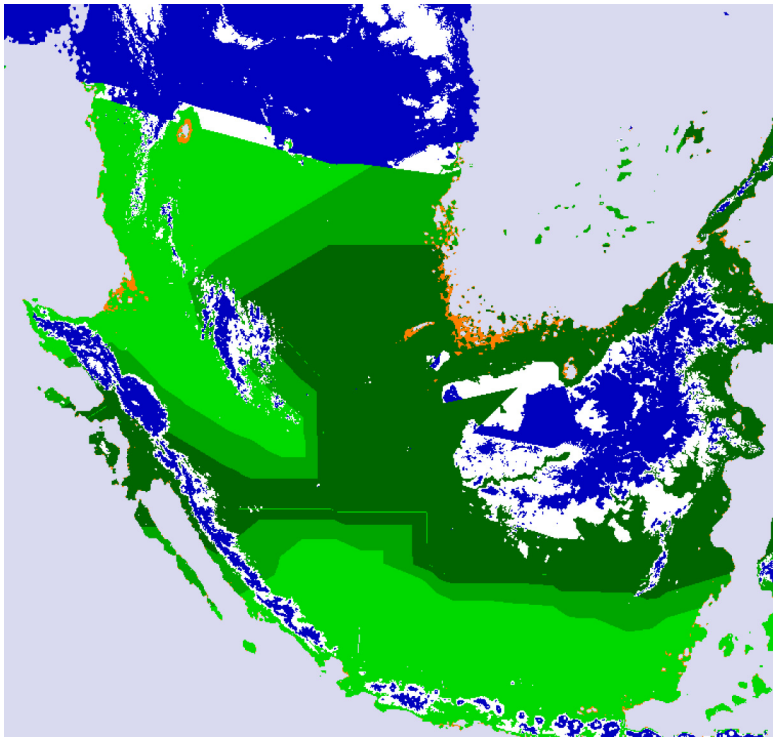


Fig. S2. Land area of tropical lowland evergreen forest over the last million years in Sundaland given 2 models of temperature change at the equator. The 3 lines represent the maximal, median, and minimal LERF model scenarios.



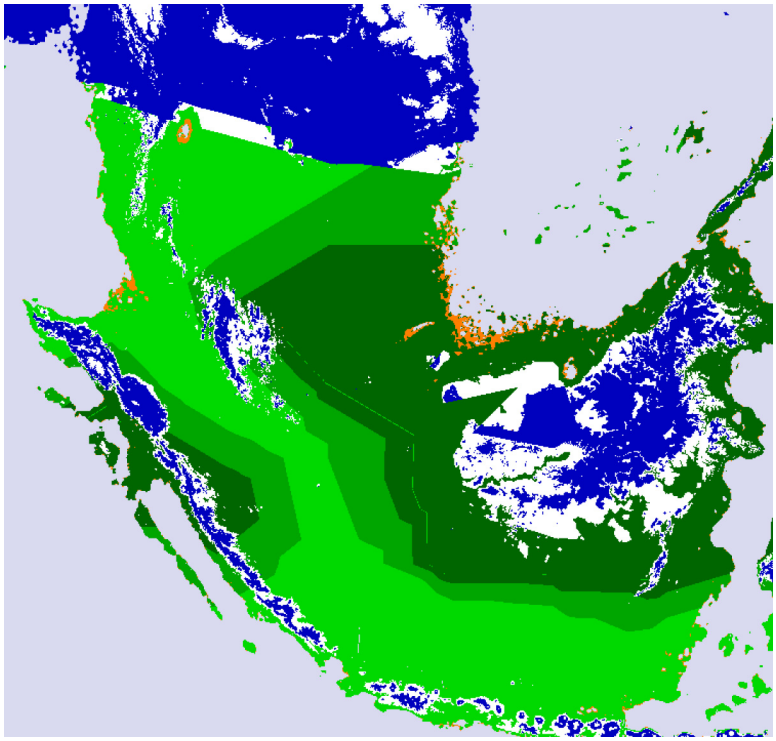
Movie S1. Animation of the maximal lowland evergreen rainforest model for Sundaland through the last glacial cycle (120,000). Each frame illustrates the 3 vegetation zones modeled in this analysis and the total and core area present in each below the maps.

Movie S1 (MPG)



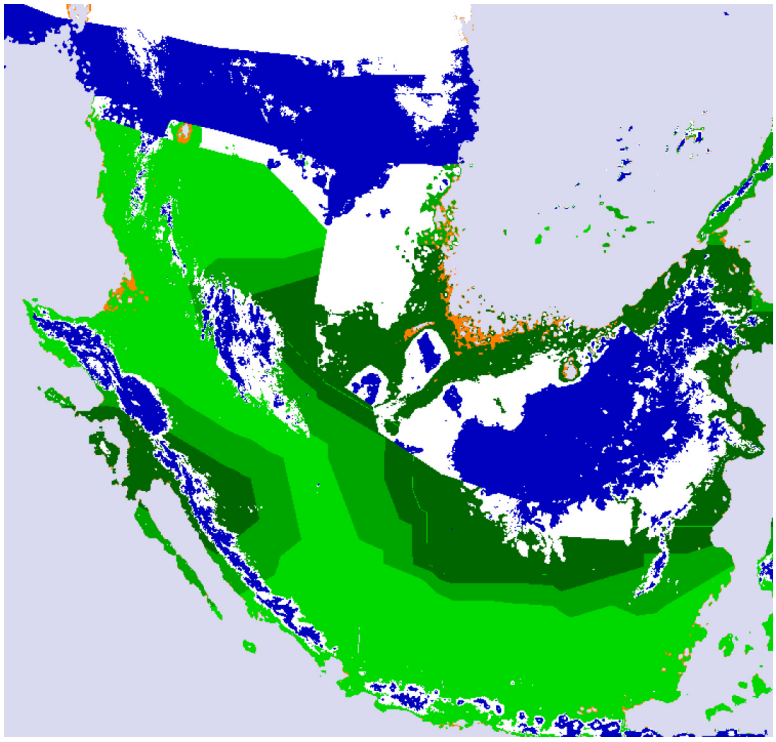
Movie S2. Animation of the median lowland evergreen rainforest model with a closed corridor at the equator for Sundaland through the last glacial cycle (120,000). Each frame illustrates the 3 vegetation zones modeled in this analysis and the total and core area present in each below the maps.

Movie S2 (MPG)



Movie S3. Animation of the median lowland evergreen rainforest model with an open corridor at the equator for Sundaland through the last glacial cycle (120,000). Each frame illustrates the 3 vegetation zones modeled in this analysis and the total and core area present in each below the maps.

Movie S3 (MPG)



Movie S4. Animation of the minimal lowland evergreen rainforest model for Sundaland through the last glacial cycle (120,000). Each frame illustrates the 3 vegetation zones modeled in this analysis and the total and core area present in each below the maps.

Movie S4 (MPG)