Supplementary Information for

Upward expansion and acceleration of forest clearance in the mountains of Southeast Asia

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Figure S1. Forest carbon stocks (including aboveground and belowground) across Southeast Asia circa 2000. a, Mean forest carbon stocks at different elevations (black line) and slopes (red line). Inset bars show regional mean carbon stocks in lowlands and mountains. Error bars represent the standard deviation of mean carbon stocks. **b,** Map of mean carbon stocks in 0.25° cells. Black dots indicate mountain regions.

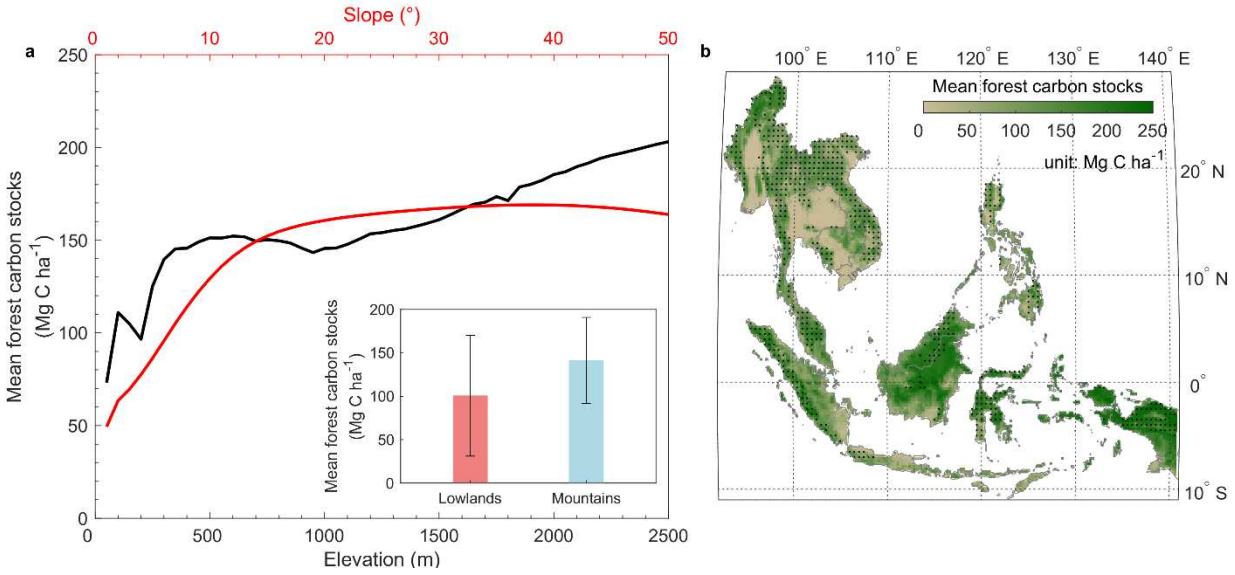

Figure S2. Topographic information and tree cover changes in Southeast Asia. a, Elevation and mountain regions (red boundaries). **b**, Annual tree cover gain during 2001–2012. Tree cover gain data are available during 2001–2012 only. **c**, Annual tree cover loss during 2001–2019. **d**, Trend in annual tree cover loss during 2001–2019. In the plots **b**–**d**, black dots indicate mountain regions.

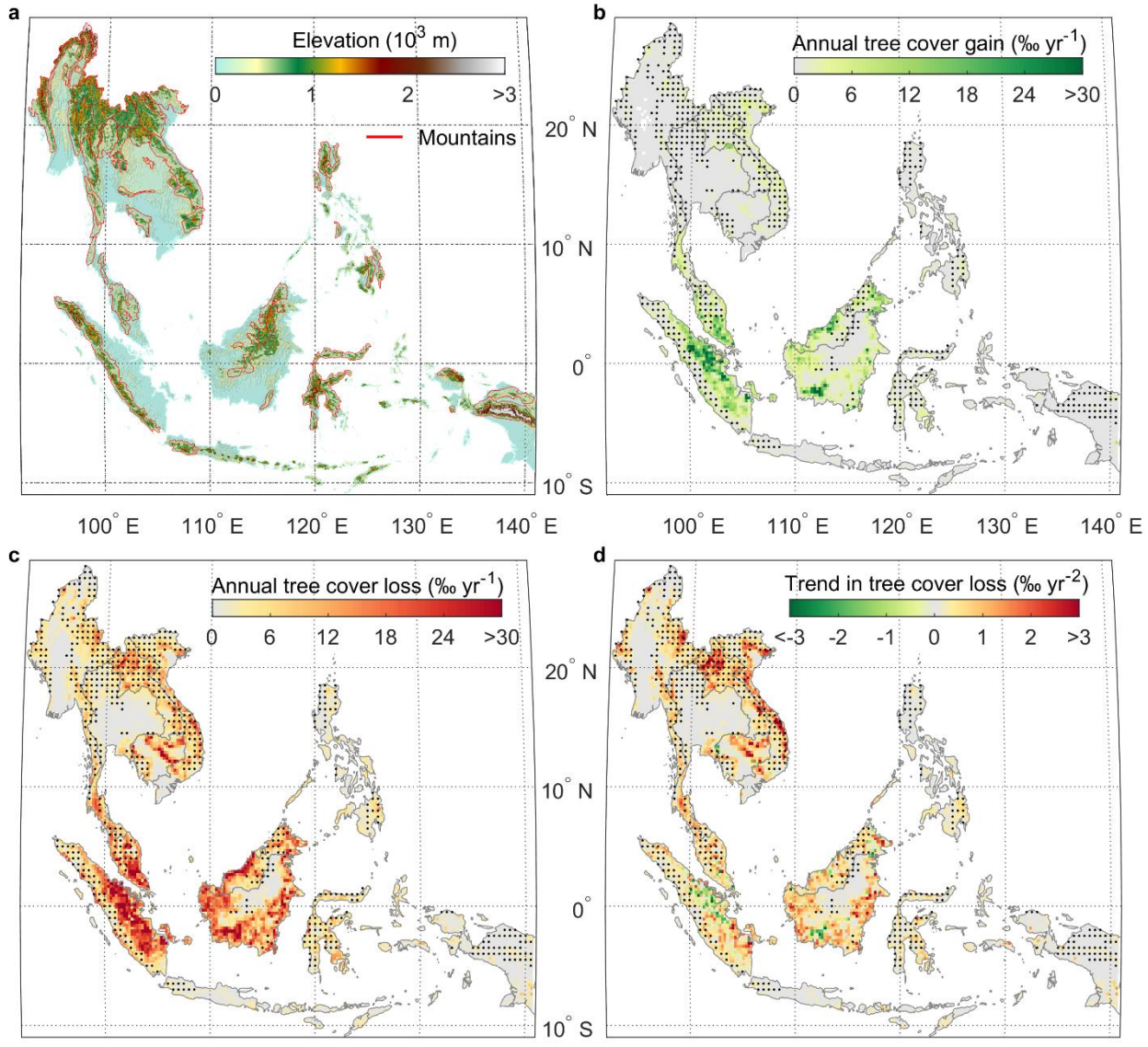

Figure S3. Timeseries of primary and secondary forest loss area in lowlands and mountains of Southeast Asia during the period 2001–2019.

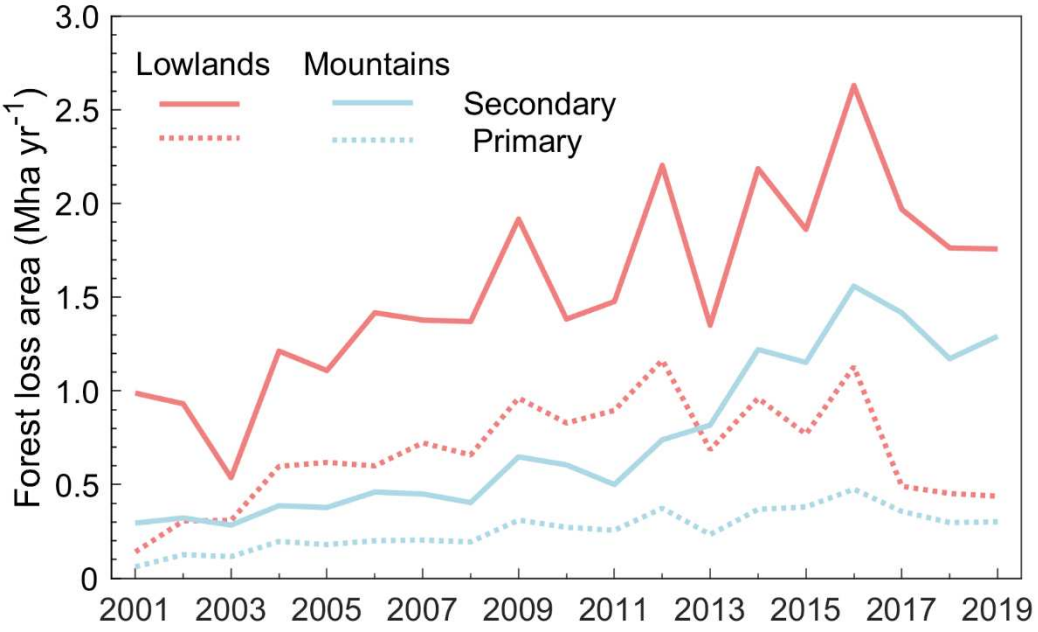

Figure S4. Comparison of annual forest loss area in eight countries of Southeast Asia. There are eleven countries in Southeast Asia, and forest loss in the following eight countries contributes to 99.8% of Southeast Asia's forest loss. Dashed lines are linear regression lines. Inset numbers show the trends in annual forest loss. Asterisks (*) indicates statistically significant trends at levels of $p < 0.05$.

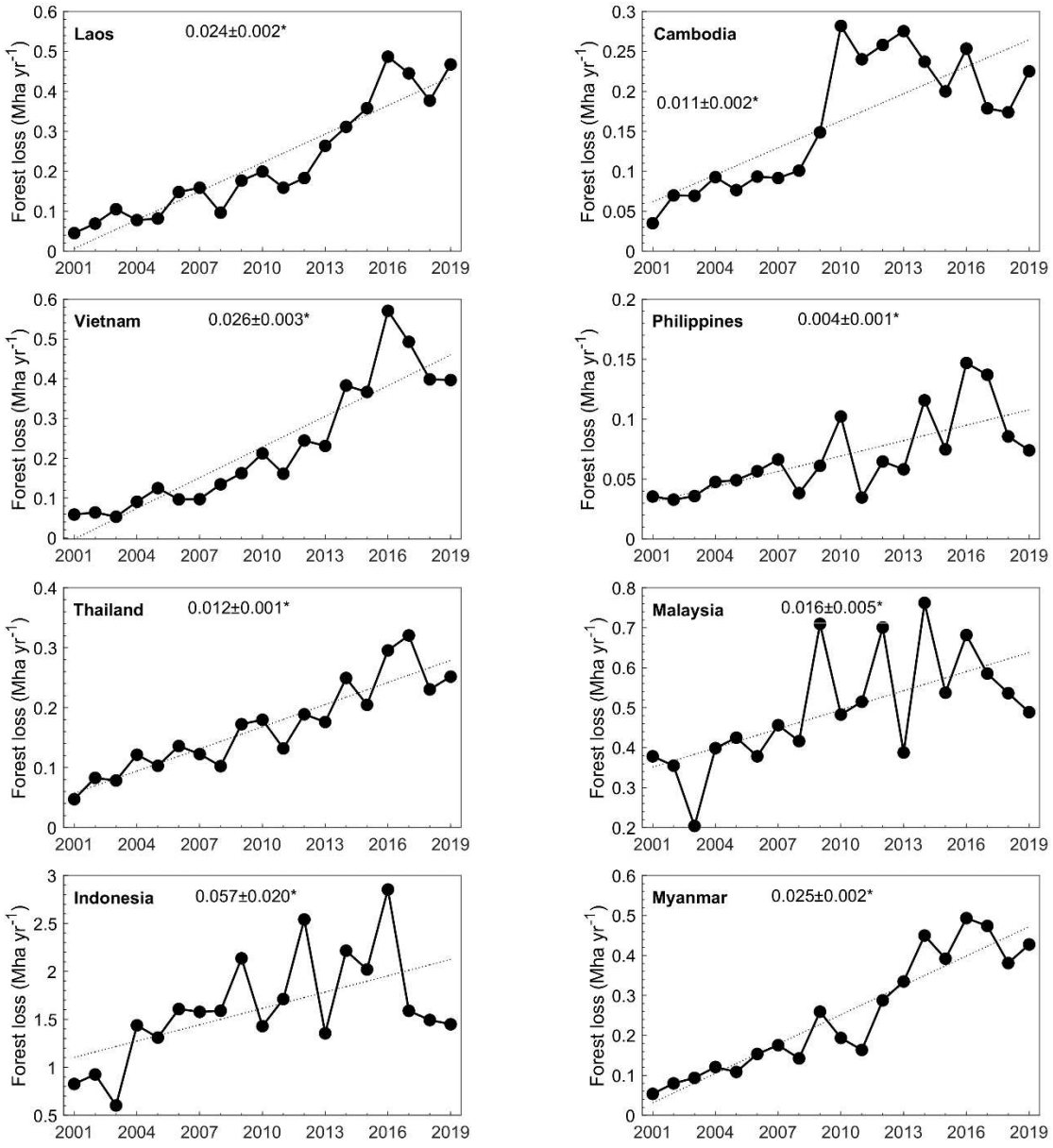

Figure S5. Timeseries of mean elevation (black lines) and slope (red lines) of lands incurring forest loss during the period 2001–2019 in eight countries of Southeast Asia. Three countries in Southeast Asia are not presented (Brunei, Singapore, Timor Leste), as forest loss in the following eight countries contributes to 99.8% of Southeast Asia's forest loss. Dashed lines are linear regression lines. Inset numbers show the trends in mean elevation (black numbers) and slope (red numbers). Asterisks (*) indicates statistically significant trends at levels of $p < 0.05$.

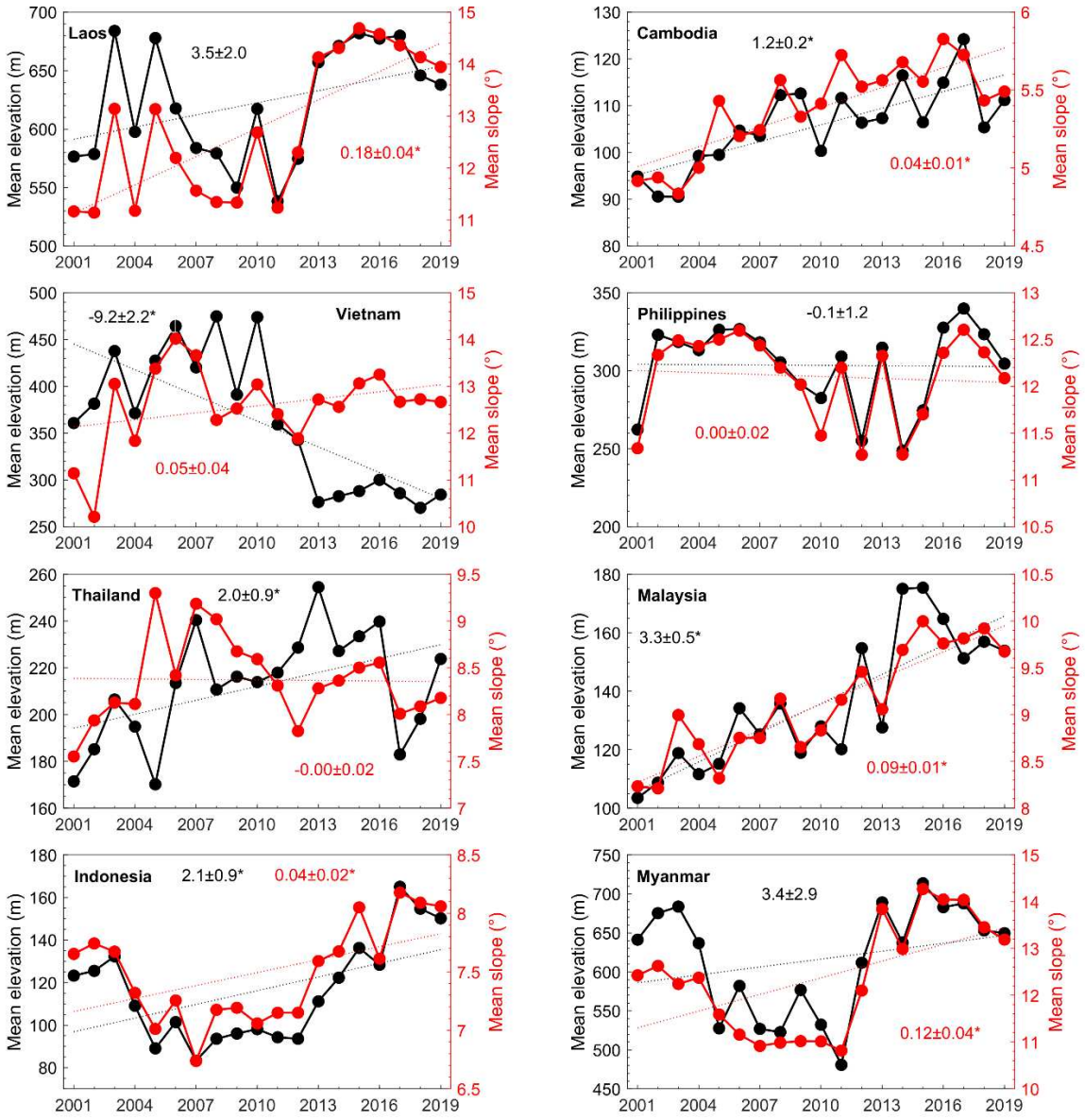

Figure S6. Forest gain and loss across lowlands and mountains of Southeast Asia. As the net loss data (gross loss minus gain) are available during 2001–2012 only, we calculated the ratio of net-to-gross loss during 2001–2012, and further assume that the net-to-gross loss ratios during 2001–2012 (56% for lowlands and 66% for mountains) are the same as those during 2013–2019. Thus, net forest loss during 2001-2019 was calculated according to mean annual gross loss during 2001–2019 and the net loss ratios.