Supplementary information for

A 338-year tree-ring oxygen isotope record from Thai teak captures the variations of the Asian summer monsoon system

Nathsuda Pumijumnong¹, Achim Bräuning², Masaki Sano³, Takeshi Nakatsuka⁴, Chotika Muangsong⁵*, Supaporn Buajan⁶

¹Faculty of Environment and Resource Studies, Mahidol University, Thailand, 2) Institute of Geography, Friedrich-Alexander University Erlangen-Nürnberg, Germany, 3) Faculty of Human Sciences, Waseda University, Tokorozawa, Japan, 4) Nagoya University, Japan, 5) Innovation for Social and Environmental Management, Mahidol University, Amnat Charoen Campus, Amnat Charoen, Thailand

*Corresponding author: Chotika Muangsong, chokyaom@hotmail.com, chotika.mua@mahidol.ac.th, Innovation for Social and Environmental Management, Mahidol University, Amnatcharoen Campus, Amnatcharoen 37000, Thailand

Figure S1 Spectral analysis of the δ¹⁸O_r series using the REDFIT. Grey shaded areas indicate the power spectrum of the δ¹⁸O_r series. The solid and dashed lines represent the 99% and 95% confidence limits, respectively, relative to the red-noise spectrum. The confidence limits were estimated using a Monte Carlo simulation. Significant peaks are shown for each period.
Figure S2 The correlation between average Teak Oxygen Isotope Values (May-December) and HadSST (Niño3.4) in different time period (A) 1870-2015, (B) 1870-1942, (C) 1943-2015, the blue frames are West SSTA and East SSTA and the black frames are Niño4, Niño3.4, and Niño3.

Figure S3 The 72-h back trajectories starting at 500, 1,000, and 1,500 m above ground level for May and September at the study location.
Figure S4 Composite averages of the 850-hPa wind vectors between AD 1981-2010 for May to July of (A), August to September (B), and November to December (C). The NCEP/NCAR wind reanalysis data were obtained from NOAA/ESRL Physical Sciences Division (PSD), Boulder, Colorado (http://www.esrl.noaa.gov/psd/).
Figure S5 Comparisons of the oxygen isotope record of teak δ\(^{18}\)O\(_r\) in this study (A) the oxygen isotope record of teak δ\(^{18}\)O\(_r\) from Phrae province \(^2\) (B), the oxygen isotope record of teak δ\(^{18}\)O\(_r\) from Myanmar \(^3\) (C), the oxygen isotope record of Pinus merkusii δ\(^{18}\)O\(_r\) from Mae Hong Son \(^4\) (D), the oxygen isotope record of Pinus merkusii δ\(^{18}\)O\(_r\) from Uppang \(^5\) (E), the oxygen isotope record of Fokienia hodginsii δ\(^{18}\)O\(_r\) from Vietnam \(^6\) (F), and the oxygen isotope record of Fokienia hodginsii δ\(^{18}\)O\(_r\) from Laos \(^7\) (G)
Figure S6 Comparisons of (A) the oxygen isotope record of stalagmites from Klang Cave in southern Thailand (blue line) and (B) growth rate profile of stalagmite NJ-0901 from Namjang cave in Mae Hong Son province of northwestern Thailand (red line) with the teak δ¹⁸O in this study (black line). All series were smoothed with a 7-point running-average filter.

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