**Supplementary Data**

**of**

The geographical effect on the stable isotopic composition of precipitation across Thailand

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Table S1 General information of the observation sites; including mean value of δ18O and *d-excess* for each meteorological season.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| General Information | DJF (‰) | MAM (‰) | JJA (‰) | SON (‰) |
| Sta. | City | Sta-Code | Lat. | Lon. | Alt. | O-18 | Std. | *d-excess* | Std. | O-18 | Std. | *d-excess* | Std. | O-18 | Std. | *d-excess* | Std. | O-18 | Std. | *d-excess* | Std. |
| PKN | Prachuapkirikun | C1 | 12.41 | 99.92 | 21 | -5.21 | 2.04 | 10.13 | 3.08 | -2.70 | 2.46 | 6.51 | 6.77 | -3.59 | 2.35 | 5.91 | 5.43 | -6.80 | 4.39 | 7.52 | 5.66 |
| SKN | Samutsakorn | C2 | 13.52 | 100.15 | 5 | -3.78 | 0.53 | 7.23 | 1.37 | -2.27 | 1.18 | 10.37 | 1.64 | -4.72 | 4.01 | 7.44 | 6.71 | -5.95 | 2.55 | 8.86 | 3.76 |
| BKK | Bangkok | C3 | 13.72 | 100.45 | 6 | -3.04 | 0.83 | 12.48 | 1.79 | -2.57 | 1.28 | 10.65 | 4.67 | -4.08 | 3.83 | 7.27 | 2.43 | -5.36 | 2.55 | 6.09 | 4.66 |
| LOP | Lopburi | C4 | 14.84 | 100.89 | 71 | -2.54 | 1.11 | 9.81 | 2.78 | -2.70 | 2.68 | 6.70 | 5.32 | -4.76 | 2.79 | 6.11 | 5.27 | -6.21 | 3.12 | 5.91 | 5.07 |
| TAT | Trat | E1 | 12.56 | 102.45 | 5 | -2.44 | 0.82 | 10.47 | 3.98 | -2.82 | 1.21 | 8.20 | 4.13 | -4.65 | 2.73 | 9.98 | 5.08 | -5.57 | 3.00 | 9.54 | 4.24 |
| RYG | Rayong | E2 | 12.78 | 101.29 | 11 |  |  |  |  | -3.17 | 2.38 | 10.47 | 1.73 | -3.75 | 2.35 | 9.21 | 4.17 | -6.59 | 2.15 | 8.35 | 2.21 |
| PLK | Phitsanulok | N1 | 16.65 | 100.00 | 238 | -3.07 | 2.82 | 10.55 | 5.94 | -2.40 | 2.07 | 10.50 | 4.90 | -5.81 | 3.18 | 4.51 | 4.62 | -7.14 | 2.32 | 9.69 | 2.86 |
| PNB | Phetchabum | N2 | 16.79 | 101.28 | 194 | -3.42 | 0.76 | 10.13 | 1.56 | -2.60 | 1.53 | 5.00 | 5.03 | -5.12 | 2.13 | 7.03 | 3.07 | -7.22 | 2.44 | 7.10 | 3.57 |
| STI | Sukhothai | N3 | 17.30 | 99.84 | 78 | -2.34 | 1.17 | 11.27 | 3.68 | -2.34 | 2.26 | 8.56 | 4.37 | -5.35 | 2.89 | 6.22 | 2.91 | -6.86 | 1.97 | 9.43 | 2.03 |
| NAN | Nan | N4 | 18.57 | 100.75 | 626 | -2.93 | 2.68 | 11.56 | 0.68 | -1.99 | 1.29 | 7.49 | 5.14 | -5.26 | 3.04 | 6.65 | 3.73 | -7.79 | 1.80 | 6.88 | 2.34 |
| CNX | Chiangmai | N5 | 18.79 | 98.99 | 316 | -3.00 | 0.40 | 12.58 | 1.41 | -1.46 | 2.57 | 6.72 | 5.48 | -4.83 | 3.43 | 5.18 | 4.88 | -7.09 | 2.73 | 8.76 | 3.94 |
| CRI | Chiangrai | N6 | 19.81 | 99.99 | 411 | -2.90 | 1.00 | 12.59 | 2.56 | -0.64 | 1.73 | 7.31 | 4.41 | -5.92 | 2.88 | 7.15 | 2.67 | -7.10 | 2.18 | 10.25 | 2.75 |
| SRN | Surin | NE1 | 14.87 | 103.51 | 122 |  |  |  |  | -2.55 | 2.35 | 5.89 | 3.98 | -5.69 | 2.66 | 8.42 | 3.82 | -6.17 | 2.13 | 11.06 | 2.90 |
| NMA | Nakonratchasima | NE2 | 14.89 | 101.87 | 65 | -0.54 | 0.63 | 8.56 | 4.62 | -2.06 | 0.76 | 6.71 | 5.44 | -4.99 | 2.48 | 9.08 | 5.20 | -5.71 | 1.75 | 6.79 | 4.20 |
| UBN | Ubonratchathani | NE3 | 15.39 | 104.56 | 170 | -1.02 | 0.77 | 6.56 | 8.09 | -2.50 | 3.44 | 5.50 | 5.43 | -5.42 | 2.78 | 10.21 | 4.28 | -5.47 | 0.91 | 9.03 | 2.09 |
| KKN | Khonkaen | NE4 | 16.45 | 102.80 | 173 | -3.04 | 1.14 | 4.78 | 3.13 | -2.42 | 1.66 | 9.24 | 4.32 | -5.21 | 2.60 | 7.67 | 4.30 | -6.44 | 2.27 | 6.75 | 3.56 |
| NPM | Nakonphanom | NE5 | 17.54 | 104.63 | 318 | -1.92 | 1.03 | 8.80 | 2.95 | -2.58 | 3.45 | 9.62 | 5.81 | -6.37 | 2.65 | 9.79 | 4.17 | -8.69 | 2.94 | 10.53 | 2.88 |
| NKI | Nongkhai | NE6 | 18.06 | 103.09 | 180 | -2.34 | 1.49 | 9.37 | 5.04 | -1.41 | 2.23 | 7.18 | 5.15 | -6.35 | 2.68 | 9.31 | 4.53 | -7.21 | 2.23 | 8.88 | 2.19 |
| PTN | Pattani | S1 | 6.80 | 101.13 | 13 | -3.48 | 1.26 | 11.23 | 3.54 | -3.77 | 1.33 | 6.68 | 3.49 | -4.17 | 3.12 | 7.46 | 5.59 | -6.03 | 2.86 | 10.09 | 4.91 |
| STN | Satun | S2 | 6.88 | 99.78 | 8 | -3.46 | 1.37 | 11.18 | 1.73 | -4.17 | 1.57 | 11.58 | 3.68 | -4.82 | 2.71 | 11.30 | 2.87 | -5.97 | 2.86 | 11.72 | 2.32 |
| PLG | Pattalung | S3 | 7.78 | 100.11 | 62 | -3.00 | 0.78 | 13.65 | 2.40 | -3.71 | 1.19 | 9.51 | 3.17 | -4.61 | 2.31 | 9.64 | 2.54 | -6.21 | 2.62 | 11.36 | 3.17 |
| PKT | Phuket | S4 | 7.80 | 98.41 | 35 | -3.03 | 1.36 | 11.64 | 1.56 | -3.56 | 1.77 | 9.18 | 3.64 | -4.40 | 2.22 | 10.55 | 2.59 | -6.30 | 4.15 | 12.53 | 5.42 |
| SNI | Suratthani | S5 | 9.54 | 99.94 | 0 | -3.63 | 0.73 | 13.22 | 1.84 | -2.67 | 1.20 | 8.73 | 3.62 | -4.51 | 2.51 | 10.01 | 4.02 | -5.49 | 2.29 | 10.08 | 3.55 |
| RNG | Ranong | S6 | 10.33 | 98.78 | 6 | -2.70 | 0.56 | 10.29 | 0.98 | -3.46 | 1.54 | 12.21 | 2.47 | -4.04 | 2.30 | 10.63 | 2.70 | -6.62 | 2.59 | 11.17 | 2.75 |
| KRI | Kanchanaburi | W1 | 15.15 | 98.45 | 211 | -3.12 | 0.65 | 9.03 | 4.79 | -2.63 | 1.85 | 8.79 | 4.87 | -4.13 | 2.35 | 8.76 | 5.16 | -4.86 | 3.38 | 3.89 | 5.32 |
| TAK | Tak | W2 | 16.81 | 98.58 | 419 | -4.00 | 0.63 | 12.96 | 2.14 | -3.06 | 2.73 | 9.65 | 8.36 | -5.17 | 2.68 | 7.45 | 3.39 | -6.45 | 2.45 | 7.27 | 3.48 |

Sta-Code is the station code. Lat is latitude (°N). Lon is longitude (°E). Alt is Altitude (m). Std is the standard deviation.



Figure S1. Distribution of δ18O and *d-excess* includes probability and normal distribution during the study period in the sites. Boxes represent the standard deviation; blue box is the peninsular station and white box is the inland station. The average is represented by the rectangular point through the box. Whiskers represent the maximum and minimum value.



Figure S2. Plot of the rainfall δ18O versus (a) precipitation amount and (b) air temperature for the entire period of 2013-2015.