Table S1. Reconstructed proxy values viz. sample identifier, depth, age, TOC, Stable carbon isotopic values (‰; VBDB), reconstructed rainfall (mm), along with the LOI parameters

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Identifier | Depth (cm) | Age (BP) | TOC | 13C | Moisture (%) | Org. C % | Inorg. C % |
| PNZ 1 | 2 |  | 4.1 | -25.5 | 1.697 | 7.427 | 2.892 |
| PNZ 2 | 4 |  | 2.9 | -25.6 | 1.706 | 6.695 | 3.253 |
| PLZ 3 | 6 |  | 3.9 | -25.5 | 1.448 | 5.013 | 2.907 |
| PNZ 4 | 8 |  | 1.5 | -24.5 | 1.190 | 3.332 | 2.560 |
| PNZ 5 | 10 |  | 1.2 | -24.1 | 1.337 | 3.393 | 3.296 |
| PNZ 6 | 12 |  | 0.9 | -23.6 | 1.254 | 2.366 | 1.000 |
| PNZ 7 | 14 |  | 1.0 | -23.6 | 1.464 | 2.638 | 3.713 |
| PNZ 8 | 16 |  | 1.2 | -23.1 | 1.266 | 4.315 | 3.238 |
| PNZ 9 | 18 |  | 1.8 | -23.9 | 1.186 | 5.310 | 3.370 |
| PNZ 11 | 20 |  | 1.3 | -23.7 | 1.635 | 3.420 | 3.556 |
| PNZ 12 | 22 |  | 2.9 | -25.1 | 1.952 | 5.726 | 3.784 |
| PNZ 13 | 24 |  | 1.5 | -23.9 | 1.743 | 4.581 | 3.288 |
| PNZ 14 | 26 |  | 1.6 | -24.5 | 1.534 | 3.437 | 2.793 |
| PNZ 15 | 28 |  | 1.3 | -24.2 | 1.903 | 4.599 | 3.438 |
| PNZ 16 | 30 |  | 1.1 | -23.3 | 1.526 | 2.764 | 3.196 |
| PNZ 17 | 32 |  | 0.8 | -22.3 | 1.051 | 3.163 | 2.528 |
| PNZ 18 | 34 |  | 1.6 | -23.9 | 5.015 | 0.333 | 3.249 |
| PNZ 19 | 36 |  | 1.5 | -23.8 | 1.538 | 4.257 | 3.265 |
| PNZ 20 | 38 |  | 1.5 | -23.2 | 1.844 | 3.718 | 3.694 |
| PNZ 21 | 40 |  | 1.2 | -23.1 | 1.426 | 3.096 | 2.926 |
| PNZ 22 | 42 |  | 1.4 | -23.5 | 1.547 | 3.570 | 2.961 |
| PNZ 23 | 44 |  | 2.1 | -24.1 | 0.966 | 4.274 | 2.398 |
| PNZ 24 | 46 |  | 1.4 | -23.4 | 1.356 | 2.928 | 2.622 |
| PNZ 25 | 48 |  | 1.3 | -23.0 | 0.745 | 2.975 | 2.180 |
| PNZ 26 | 50 |  | 0.7 | -22.0 | 1.086 | 1.780 | 2.478 |
| PNZ 27 | 52 |  | 0.9 | -22.4 | 1.066 | 2.094 | 2.484 |
| PNZ 28 | 54 |  | 0.9 | -21.6 | 1.052 | 2.181 | 3.370 |
| PNZ 29 | 56 |  | 1.7 | -23.8 | 1.309 | 3.563 | 3.546 |
| PNZ 30 | 58 |  | 1.7 | -23.4 | 1.004 | 3.356 | 2.910 |
| PNZ 31 | 60 |  | 1.3 | -22.6 | 0.806 | 3.206 | 2.566 |
| PNZ 32 | 62 |  | 0.9 | -21.8 | 1.011 | 3.060 | 2.431 |
| PNZ 33 | 64 |  | 1.1 | -22.8 | 1.064 | 2.769 | 2.936 |
| PNZ 34 | 66 |  | 1.0 | -22.2 | 0.713 | 2.954 | 2.388 |
| PNZ 35 | 68 |  | 0.6 | -20.3 | 0.945 | 1.334 | 3.286 |
| PNZ 36 | 70 |  | 0.9 | -21.7 | 1.109 | 2.078 | 3.084 |
| PNZ 37 | 72 |  | 1.2 | -22.6 | 0.683 | 2.956 | 2.171 |
| PNZ 38 | 74 |  | 0.9 | -22.0 | 1.460 | 2.085 | 3.190 |
| PNZ 39 | 76 |  | 1.1 | -22.5 | 0.906 | 3.470 | 2.331 |
| PNZ 40 | 78 |  | 0.9 | -22.5 | 1.031 | 3.251 | 3.125 |
| PNZ 41 | 80 |  | 1.3 | -23.1 | 1.179 | 2.528 | 3.635 |
| PNZ 42 | 82 |  | 1.3 | -23.0 | 1.042 | 2.886 | 3.345 |
| PNZ 45 | 84 |  | 1.1 | -23.0 | 1.026 | 2.626 | 3.103 |
| PNZ 46 | 86 |  | 0.8 | -21.7 | 0.829 | 2.665 | 2.795 |
| PNZ 47 | 88 |  | 0.5 | -20.6 | 0.529 | 1.231 | 2.040 |
| PNZ 48 | 90 |  | 0.6 | -20.1 | 0.652 | 2.098 | 2.131 |
| PNZ 49 | 92 |  | 0.7 | -20.6 | 1.278 | 1.667 | 3.132 |
| PNZ 50 | 94 |  | 0.6 | -20.3 | 0.702 | 1.980 | 2.310 |
| PNZ 51 | 96 |  | 0.7 | -21.0 | 0.840 | 1.900 | 3.277 |
| PNZ 52 | 98 |  | 0.6 | -20.5 | 0.669 | 2.217 | 2.334 |
| PNZ 53 | 100 |  | 0.6 | -20.3 | 0.769 | 1.375 | 2.634 |
| PNZ 54 | 102 |  | 0.6 | -20.5 | 2.314 | 2.088 | 1.000 |
| PNZ 55 | 104 |  | 0.5 | -20.3 | 0.676 | 1.895 | 2.202 |
| PNZ 56 | 106 |  | 0.5 | -20.1 | 0.823 | 1.389 | 2.661 |
| PNZ 58 | 108 |  | 0.5 | -19.9 | 1.135 | 1.278 | 2.929 |
| PNZ 59 | 110 |  | 0.5 | -20.3 | 0.801 | 2.071 | 1.000 |
| PNZ 60 | 112 |  | 0.6 | -20.6 | 0.632 | 2.065 | 5.076 |
| PNZ 61 | 114 |  | 0.7 | -20.3 | 0.463 | 2.060 | 9.152 |
| PNZ 62 | 116 |  | 0.6 | -20.7 | 0.685 | 1.715 | 2.397 |
| PNZ 63 | 118 |  | 0.6 | -21.1 | 0.723 | 1.625 | 2.431 |
| PNZ 64 | 120 |  | 0.5 | -20.5 | 0.622 | 1.357 | 2.471 |