Identify host sites for nonhost sites based on climate and tree-ring data

Sarah J. Hart, Olivia Santiago, Josh Carrell, and Thomas T. Veblen

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Briefly, here we matched nonhost sites with host sites based the highest Pearson’s correlation, subject to the following constraints:

1. the nonhost chronology overlapped the entire host chronology
2. the nonhost chronology was less than 150 km away from the host site.

Finally, we removed any sites where the host chronology was poorly correlated (r<0.2) with either the SC-PDSI or the available nonhost chronologies. Results of this matching are presented in Table ).

**Table** **:** Summary of nonhost chronologies matched with each host site. For the top three nonhost sites, the Pearson's correlation coefficient (r) and distance (d) between the host and nonhost sits are displayed in parentheses below the name of each series.

| Host site | Nonhost control site 1 | Nonhost control site 2 | Nonhost control site 3 | Correlation with PDSI | Notes |
| --- | --- | --- | --- | --- | --- |
| B18 | CO527 (r=0.55; d=7 km) | CO526 (r=0.47; d=29 km) | CO611 (r=0.46; d=70 km) | 0.38 |  |
| B19 | CO531 (r=0.41; d=143 km) | CO527 (r=0.4; d=8 km) | CO526 (r=0.38; d=28 km) | 0.35 |  |
| EP | CO601 (r=0.09; d=111 km) | CO527 (r=0.04; d=16 km) | CO622 (r=0.04; d=41 km) | 0.13 | Removed due to poor correlation with PDSI |
| FP | CO527 (r=0.38; d=20 km) | CO551 (r=0.2; d=2 km) | CO526 (r=0.18; d=42 km) | 0.17 | Removed due to poor correlation with PDSI |
| JP | CO530 (r=0.54; d=88 km) | CO527 (r=0.47; d=125 km) | DRIcombo (r=0.46; d=143 km) | 0.49 |  |
| LJ | CO527 (r=0.56; d=8 km) | DRIcombo (r=0.5; d=13 km) | CO666 (r=0.47; d=5 km) | 0.53 |  |
| NI | CO544 (r=0.35; d=20 km) | CO528 (r=0.33; d=115 km) | CO591 (r=0.3; d=78 km) | 0.28 |  |
| SH | CO601 (r=0.07; d=113 km) | CO538 (r=0.06; d=46 km) | DRIcombo (r=0.04; d=5 km) | 0.03 | Removed due to poor correlation with PDSI |
| SR | CO531 (r=0.51; d=24 km) | CO528 (r=0.48; d=25 km) | CO601 (r=0.46; d=28 km) | 0.42 |  |
| SS | CO527 (r=0.58; d=21 km) | CO531 (r=0.42; d=126 km) | CO607 (r=0.41; d=11 km) | 0.37 |  |
| SP | CO544 (r=0.43; d=18 km) | CO526 (r=0.42; d=32 km) | CO527 (r=0.38; d=32 km) | 0.56 |  |
| TI | CO591 (r=0.34; d=94 km) | CO527 (r=0.24; d=128 km) | CO551 (r=0.21; d=137 km) | 0.25 |  |
| WR | CO601 (r=0.51; d=38 km) | CO602 (r=0.51; d=24 km) | CO531 (r=0.49; d=43 km) | 0.50 |  |
| WW | CO530 (r=0.5; d=104 km) | CO527 (r=0.39; d=110 km) | CO601 (r=0.39; d=18 km) | 0.28 |  |
| WB | CO527 (r=0.39; d=11 km) | CO526 (r=0.36; d=24 km) | CO591 (r=0.31; d=86 km) | 0.43 |  |