| **Component** | **Term** | **Estimate** | **Std Error** | **t-value** | **p-value** |  |
| --- | --- | --- | --- | --- | --- | --- |
| A. parametric coefficients | (Intercept) | 0.350 | 0.068 | 5.116 | 0.0000 | \*\*\* |
| **Component** | **Term** | **edf** | **Ref. df** | **F-value** | **p-value** |  |
| B. smooth terms | s(lat) | 4.812 | 4.836 | 7.501 | 0.0002 | \*\*\* |
| s(age) | 2.984 | 3.570 | 2.881 | 0.0282 | \* |
| s(age):dataset\_id40997 | 3.637 | 8.000 | 69.514 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Dalianhai\_Lake | 3.742 | 8.000 | 5.862 | 0.0300 | \* |
| s(age):dataset\_idPVT\_Qidong | 0.551 | 8.000 | 0.132 | 0.2846 |  |
| s(age):dataset\_idPVT\_Ulan\_Ul\_Lake | 6.687 | 8.000 | 11.728 | 0.0011 | \*\* |
| s(age):dataset\_idPANGAEA.834960 | 2.726 | 8.000 | 50.533 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Barkol\_Lake | 3.740 | 8.000 | 3.320 | 0.1246 |  |
| s(age):dataset\_idPVT\_Dali\_Nur\_Liuzhouwan\_Lake | 0.000 | 8.000 | 0.000 | 0.6017 |  |
| s(age):dataset\_idPVT\_Ganhai\_Lake | 5.537 | 8.000 | 72.124 | 0.0002 | \*\*\* |
| s(age):dataset\_idPVT\_Hulun\_Lake\_HL06 | 3.019 | 8.000 | 4.085 | 0.0041 | \*\* |
| s(age):dataset\_idPVT\_Kuhai\_Lake | 1.076 | 8.000 | 0.326 | 0.1924 |  |
| s(age):dataset\_idPVT\_Naleng\_Co | 6.031 | 8.000 | 15.094 | 0.0251 | \* |
| s(age):dataset\_idPVT\_Sanjiaocheng\_Section | 7.143 | 8.000 | 27.466 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Tiancai\_Lake | 3.634 | 8.000 | 1.796 | 0.0065 | \*\* |
| s(age):dataset\_idPVT\_Yamant\_Nur\_Lake | 1.466 | 8.000 | 0.768 | 0.0841 | . |
| s(age):dataset\_idcao\_8 | 1.324 | 8.000 | 5.542 | 0.0198 | \* |
| s(age):dataset\_idcao\_57 | 2.586 | 8.000 | 4.575 | 0.0064 | \*\* |
| s(age):dataset\_idcao\_86 | 4.223 | 8.000 | 27.140 | 0.0000 | \*\*\* |
| s(age):dataset\_id47817 | 4.789 | 8.000 | 3.921 | 0.2548 |  |
| s(age):dataset\_id2649 | 0.850 | 8.000 | 0.435 | 0.1180 |  |
| s(age):dataset\_id4102 | 0.121 | 8.000 | 0.024 | 0.2913 |  |
| s(age):dataset\_id1845 | 5.080 | 8.000 | 93.369 | 0.0001 | \*\*\* |
| s(age):dataset\_id30184 | 3.790 | 8.000 | 7.250 | 0.1094 |  |
| s(age):dataset\_id4020 | 1.240 | 8.000 | 2.664 | 0.0197 | \* |
| s(age):dataset\_idPVT\_Dongi\_Cona | 0.000 | 8.000 | 0.000 | 0.8563 |  |
| s(age):dataset\_idPVT\_Qinghai\_Lake\_QH2000 | 2.347 | 8.000 | 11.415 | 0.0005 | \*\*\* |
| s(age):dataset\_idPVT\_Ximen\_Co | 3.622 | 8.000 | 5.678 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Aibi\_Lake | 0.874 | 8.000 | 3.470 | 0.0996 | . |
| s(age):dataset\_idPVT\_Chaiwopu\_Lake | 1.210 | 8.000 | 0.346 | 0.3635 |  |
| s(age):dataset\_idPVT\_Daluoba\_basin | 3.854 | 8.000 | 1.898 | 0.0094 | \*\* |
| s(age):dataset\_idPVT\_Gantang | 4.769 | 8.000 | 11.564 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Juyan\_Lake | 0.000 | 8.000 | 0.000 | 0.7282 |  |
| s(age):dataset\_idPVT\_Longquan\_Lake\_LC2 | 2.971 | 8.000 | 1.225 | 0.0476 | \* |
| s(age):dataset\_idPVT\_Nantun | 7.098 | 8.000 | 82.521 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Sayram\_Lake | 2.825 | 8.000 | 3.192 | 0.0322 | \* |
| s(age):dataset\_idPVT\_Uzunkol\_Lake | 0.000 | 8.000 | 0.000 | 0.5754 |  |
| s(age):dataset\_idPVT\_Yidun\_Lake | 0.000 | 8.000 | 0.000 | 0.5274 |  |
| s(age):dataset\_idcao\_39 | 0.000 | 8.000 | 0.000 | 0.5923 |  |
| s(age):dataset\_idcao\_79 | 0.000 | 8.000 | 0.000 | 0.9563 |  |
| s(age):dataset\_idcao\_100 | 3.061 | 8.000 | 2.580 | 0.2829 |  |
| s(age):dataset\_idPANGAEA.884462 | 5.056 | 8.000 | 122.022 | 0.0049 | \*\* |
| s(age):dataset\_id4010 | 0.000 | 8.000 | 0.000 | 0.7452 |  |
| s(age):dataset\_id4081 | 0.000 | 8.000 | 0.000 | 0.8467 |  |
| s(age):dataset\_id41247 | 0.000 | 8.000 | 0.000 | 0.9103 |  |
| s(age):dataset\_id14612 | 2.947 | 8.000 | 6.210 | 0.2217 |  |
| s(age):dataset\_idPVT\_Gonghai\_Lake | 7.700 | 8.000 | 386.877 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Selin\_Co\_CK8803 | 3.525 | 8.000 | 3.518 | 0.0004 | \*\*\* |
| s(age):dataset\_idPVT\_Akkol\_Lake | 3.690 | 8.000 | 9.284 | 0.0641 | . |
| s(age):dataset\_idPVT\_Dahaizi\_Lake | 0.000 | 8.000 | 0.000 | 0.8323 |  |
| s(age):dataset\_idPVT\_Dongganchi | 0.000 | 8.000 | 0.000 | 0.7388 |  |
| s(age):dataset\_idPVT\_Grusha\_Lake | 0.000 | 8.000 | 0.000 | 0.9924 |  |
| s(age):dataset\_idPVT\_Kendegelukol\_Lake | 1.672 | 8.000 | 0.915 | 0.1325 |  |
| s(age):dataset\_idPVT\_Lop\_Nur\_Luo4 | 0.001 | 8.000 | 0.000 | 0.4187 |  |
| s(age):dataset\_idPVT\_Qigai\_Nuur | 6.761 | 8.000 | 28.274 | 0.0013 | \*\* |
| s(age):dataset\_idPVT\_Shaamar | 1.760 | 8.000 | 5.530 | 0.0531 | . |
| s(age):dataset\_idPVT\_Wangjiadian\_profile | 4.115 | 8.000 | 34.137 | 0.0023 | \*\* |
| s(age):dataset\_idPVT\_Zigetang\_Co | 3.902 | 8.000 | 25.230 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_26 | 1.046 | 8.000 | 0.312 | 0.1092 |  |
| s(age):dataset\_idcao\_40 | 0.000 | 8.000 | 0.000 | 1.0000 |  |
| s(age):dataset\_idcao\_80 | 0.000 | 8.000 | 0.000 | 0.6359 |  |
| s(age):dataset\_idcao\_134 | 2.988 | 8.000 | 1.794 | 0.1386 |  |
| s(age):dataset\_idPANGAEA.896256 | 0.001 | 8.000 | 0.000 | 0.4026 |  |
| s(age):dataset\_id876 | 0.246 | 8.000 | 0.038 | 0.2709 |  |
| s(age):dataset\_id4097 | 0.000 | 8.000 | 0.000 | 0.7932 |  |
| s(age):dataset\_idPVT\_Hoton\_Nur\_2 | 4.258 | 8.000 | 2.820 | 0.3547 |  |
| s(age):dataset\_idPVT\_Yanghu\_Lake | 0.000 | 8.000 | 0.000 | 0.7740 |  |
| s(age):dataset\_idPVT\_Ayongwama\_Co | 0.000 | 8.000 | 0.000 | 0.5771 |  |
| s(age):dataset\_idPVT\_Dajiuhu\_2013 | 4.008 | 8.000 | 42.472 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Erhai\_Lake | 3.234 | 8.000 | 3.560 | 0.1263 |  |
| s(age):dataset\_idPVT\_Guangfulin | 0.986 | 8.000 | 1.921 | 0.0569 | . |
| s(age):dataset\_idPVT\_Kotokel | 0.000 | 8.000 | 0.000 | 0.8124 |  |
| s(age):dataset\_idPVT\_Luanhaizi\_LH2 | 0.000 | 8.000 | 0.000 | 0.8057 |  |
| s(age):dataset\_idPVT\_Qongjiamong\_Co | 3.861 | 8.000 | 3.749 | 0.0065 | \*\* |
| s(age):dataset\_idPVT\_Shayema\_Lake | 4.319 | 8.000 | 2.844 | 0.0003 | \*\*\* |
| s(age):dataset\_idPVT\_Wulungu\_Lake | 4.893 | 8.000 | 467.750 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_54 | 4.255 | 8.000 | 119.431 | 0.1171 |  |
| s(age):dataset\_idPANGAEA.717128 | 3.895 | 8.000 | 9.809 | 0.3146 |  |
| s(age):dataset\_id1444 | 2.812 | 8.000 | 54.105 | 0.0001 | \*\*\* |
| s(age):dataset\_id40990 | 0.000 | 8.000 | 0.000 | 0.8411 |  |
| s(age):dataset\_id14619 | 0.000 | 8.000 | 0.000 | 0.9304 |  |
| s(age):dataset\_id3861 | 0.003 | 8.000 | 0.000 | 0.3594 |  |
| s(age):dataset\_id41245 | 5.293 | 8.000 | 14.060 | 0.0057 | \*\* |
| s(age):dataset\_idPVT\_Daihai\_Lake\_2004 | 3.034 | 8.000 | 2.452 | 0.0191 | \* |
| s(age):dataset\_idPVT\_Manas\_Lake\_LM1 | 0.000 | 8.000 | 0.000 | 0.6026 |  |
| s(age):dataset\_idPVT\_Sumxi\_Lake | 0.000 | 8.000 | 0.000 | 0.5688 |  |
| s(age):dataset\_idPVT\_Baikal\_lake | 2.529 | 8.000 | 15.814 | 0.0465 | \* |
| s(age):dataset\_idPVT\_Dali\_Nur\_Jiangjunpaozi\_Lake | 0.000 | 8.000 | 0.000 | 0.7468 |  |
| s(age):dataset\_idPVT\_Koucha\_Lake | 3.021 | 8.000 | 3.589 | 0.0452 | \* |
| s(age):dataset\_idPVT\_Mengcun | 0.000 | 8.000 | 0.000 | 0.4274 |  |
| s(age):dataset\_idPVT\_Ren\_Co\_R1 | 0.000 | 8.000 | 0.000 | 0.9993 |  |
| s(age):dataset\_idPVT\_Sujiawan | 3.790 | 8.000 | 1.221 | 0.6556 |  |
| s(age):dataset\_idPVT\_Xiehu\_Lake\_SO4 | 5.017 | 8.000 | 101.559 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_22 | 0.000 | 8.000 | 0.000 | 0.5158 |  |
| s(age):dataset\_idcao\_56 | 0.000 | 8.000 | 0.000 | 0.4531 |  |
| s(age):dataset\_idcao\_124 | 1.665 | 8.000 | 9.642 | 0.0155 | \* |
| s(age):dataset\_idcao\_85 | 5.801 | 8.000 | 80.567 | 0.0000 | \*\*\* |
| s(age):dataset\_idPANGAEA.808952 | 3.460 | 8.000 | 71.519 | 0.0000 | \*\*\* |
| s(age):dataset\_idLake\_Moon | 5.701 | 8.000 | 10.823 | 0.0000 | \*\*\* |
| s(age):dataset\_id1860 | 0.000 | 8.000 | 0.000 | 0.8656 |  |
| s(age):dataset\_id14648 | 4.803 | 8.000 | 112.291 | 0.0995 | . |
| s(dataset\_id) | 90.031 | 97.000 | 81.435 | 0.0000 | \*\*\* |
| ti(lat,age) | 1.000 | 1.000 | 4.712 | 0.0300 | \* |
| Signif. codes: 0 <= '\*\*\*' < 0.001 < '\*\*' < 0.01 < '\*' < 0.05 | | | | | | |
|  | | | | | | |
| Adjusted R-squared: 0.811, Deviance explained 0.822 | | | | | | |
| -REML : 4860.420, Scale est: 0.348, N: 6557 | | | | | | |