| **Component** | **Term** | **Estimate** | **Std Error** | **t-value** | **p-value** |  |
| --- | --- | --- | --- | --- | --- | --- |
| A. parametric coefficients | (Intercept) | 0.608 | 0.076 | 7.972 | 0.0000 | \*\*\* |
| **Component** | **Term** | **edf** | **Ref. df** | **F-value** | **p-value** |  |
| B. smooth terms | s(lat) | 1.001 | 1.001 | 9.008 | 0.0027 | \*\* |
| s(age) | 3.622 | 4.360 | 5.972 | 0.0001 | \*\*\* |
| s(age):dataset\_id40997 | 4.070 | 8.000 | 209.138 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Daihai\_Lake\_2004 | 4.639 | 8.000 | 5.691 | 0.1529 |  |
| s(age):dataset\_idPVT\_Dalianhai\_Lake | 6.614 | 8.000 | 29.991 | 0.0565 | . |
| s(age):dataset\_idPVT\_Dongi\_Cona | 0.000 | 8.000 | 0.000 | 1.0000 |  |
| s(age):dataset\_idPVT\_Gonghai\_Lake | 7.558 | 8.000 | 878.190 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Hoton\_Nur\_2 | 6.009 | 8.000 | 354.332 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Manas\_Lake\_LM1 | 0.000 | 8.000 | 0.000 | 0.8084 |  |
| s(age):dataset\_idPVT\_Qidong | 0.000 | 8.000 | 0.000 | 0.7049 |  |
| s(age):dataset\_idPVT\_Qinghai\_Lake\_QH2000 | 1.067 | 8.000 | 4.068 | 0.0607 | . |
| s(age):dataset\_idPVT\_Selin\_Co\_CK8803 | 5.188 | 8.000 | 6.027 | 0.0004 | \*\*\* |
| s(age):dataset\_idPVT\_Sumxi\_Lake | 2.593 | 8.000 | 2.609 | 0.3142 |  |
| s(age):dataset\_idPVT\_Ulan\_Ul\_Lake | 0.000 | 8.000 | 0.000 | 0.6987 |  |
| s(age):dataset\_idPVT\_Ximen\_Co | 0.000 | 8.000 | 0.000 | 0.7634 |  |
| s(age):dataset\_idPVT\_Yanghu\_Lake | 0.000 | 8.000 | 0.000 | 0.8912 |  |
| s(age):dataset\_idPANGAEA.834960 | 3.107 | 8.000 | 106.834 | 0.0002 | \*\*\* |
| s(age):dataset\_idPVT\_Aibi\_Lake | 1.559 | 8.000 | 63.680 | 0.0303 | \* |
| s(age):dataset\_idPVT\_Akkol\_Lake | 0.000 | 8.000 | 0.000 | 0.6620 |  |
| s(age):dataset\_idPVT\_Ayongwama\_Co | 0.000 | 8.000 | 0.000 | 0.4016 |  |
| s(age):dataset\_idPVT\_Baikal\_lake | 0.737 | 8.000 | 0.479 | 0.4480 |  |
| s(age):dataset\_idPVT\_Barkol\_Lake | 7.278 | 8.000 | 435.258 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Chaiwopu\_Lake | 3.155 | 8.000 | 7.115 | 0.0311 | \* |
| s(age):dataset\_idPVT\_Dahaizi\_Lake | 0.000 | 8.000 | 0.000 | 0.9986 |  |
| s(age):dataset\_idPVT\_Dajiuhu\_2013 | 4.176 | 8.000 | 69.126 | 0.0001 | \*\*\* |
| s(age):dataset\_idPVT\_Dali\_Nur\_Jiangjunpaozi\_Lake | 0.000 | 8.000 | 0.000 | 0.5811 |  |
| s(age):dataset\_idPVT\_Dali\_Nur\_Liuzhouwan\_Lake | 0.000 | 8.000 | 0.000 | 0.4251 |  |
| s(age):dataset\_idPVT\_Daluoba\_basin | 2.042 | 8.000 | 0.995 | 0.0121 | \* |
| s(age):dataset\_idPVT\_Dongganchi | 0.000 | 8.000 | 0.000 | 0.5248 |  |
| s(age):dataset\_idPVT\_Erhai\_Lake | 3.174 | 8.000 | 2.824 | 0.2516 |  |
| s(age):dataset\_idPVT\_Ganhai\_Lake | 5.689 | 8.000 | 69.944 | 0.0123 | \* |
| s(age):dataset\_idPVT\_Gantang | 3.939 | 8.000 | 16.627 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Grusha\_Lake | 0.000 | 8.000 | 0.000 | 0.8518 |  |
| s(age):dataset\_idPVT\_Guangfulin | 1.572 | 8.000 | 12.652 | 0.0095 | \*\* |
| s(age):dataset\_idPVT\_Hulun\_Lake\_HL06 | 4.374 | 8.000 | 13.350 | 0.0014 | \*\* |
| s(age):dataset\_idPVT\_Juyan\_Lake | 0.001 | 8.000 | 0.000 | 0.3621 |  |
| s(age):dataset\_idPVT\_Kendegelukol\_Lake | 0.000 | 8.000 | 0.000 | 0.4453 |  |
| s(age):dataset\_idPVT\_Kotokel | 1.785 | 8.000 | 16.749 | 0.0293 | \* |
| s(age):dataset\_idPVT\_Koucha\_Lake | 0.000 | 8.000 | 0.000 | 0.9986 |  |
| s(age):dataset\_idPVT\_Kuhai\_Lake | 0.000 | 8.000 | 0.000 | 0.9426 |  |
| s(age):dataset\_idPVT\_Longquan\_Lake\_LC2 | 1.860 | 8.000 | 0.626 | 0.1331 |  |
| s(age):dataset\_idPVT\_Lop\_Nur\_Luo4 | 0.000 | 8.000 | 0.000 | 0.9873 |  |
| s(age):dataset\_idPVT\_Luanhaizi\_LH2 | 0.000 | 8.000 | 0.000 | 1.0000 |  |
| s(age):dataset\_idPVT\_Mengcun | 0.442 | 8.000 | 0.110 | 0.1735 |  |
| s(age):dataset\_idPVT\_Naleng\_Co | 1.753 | 8.000 | 1.714 | 0.1234 |  |
| s(age):dataset\_idPVT\_Nantun | 6.814 | 8.000 | 32.010 | 0.0104 | \* |
| s(age):dataset\_idPVT\_Qigai\_Nuur | 7.002 | 8.000 | 47.517 | 0.0481 | \* |
| s(age):dataset\_idPVT\_Qongjiamong\_Co | 0.000 | 8.000 | 0.000 | 0.4530 |  |
| s(age):dataset\_idPVT\_Ren\_Co\_R1 | 0.530 | 8.000 | 0.099 | 0.2139 |  |
| s(age):dataset\_idPVT\_Sanjiaocheng\_Section | 7.712 | 8.000 | 54.585 | 0.0006 | \*\*\* |
| s(age):dataset\_idPVT\_Sayram\_Lake | 4.764 | 8.000 | 97.972 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Shaamar | 2.216 | 8.000 | 16.795 | 0.0163 | \* |
| s(age):dataset\_idPVT\_Shayema\_Lake | 7.175 | 8.000 | 18.108 | 0.0001 | \*\*\* |
| s(age):dataset\_idPVT\_Sujiawan | 5.709 | 8.000 | 15.197 | 0.2736 |  |
| s(age):dataset\_idPVT\_Tiancai\_Lake | 4.530 | 8.000 | 1.375 | 0.1053 |  |
| s(age):dataset\_idPVT\_Uzunkol\_Lake | 2.033 | 8.000 | 0.786 | 0.0821 | . |
| s(age):dataset\_idPVT\_Wangjiadian\_profile | 4.428 | 8.000 | 37.066 | 0.0195 | \* |
| s(age):dataset\_idPVT\_Wulungu\_Lake | 5.393 | 8.000 | 4,900.411 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Xiehu\_Lake\_SO4 | 4.562 | 8.000 | 109.647 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Yamant\_Nur\_Lake | 0.000 | 8.000 | 0.000 | 0.4215 |  |
| s(age):dataset\_idPVT\_Yidun\_Lake | 0.000 | 8.000 | 0.000 | 0.4278 |  |
| s(age):dataset\_idPVT\_Zigetang\_Co | 0.000 | 8.000 | 0.000 | 0.9960 |  |
| s(age):dataset\_idcao\_8 | 2.668 | 8.000 | 77.370 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_22 | 0.000 | 8.000 | 0.000 | 0.5128 |  |
| s(age):dataset\_idcao\_26 | 2.727 | 8.000 | 2.722 | 0.0114 | \* |
| s(age):dataset\_idcao\_39 | 3.259 | 8.000 | 51.814 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_40 | 0.000 | 8.000 | 0.000 | 0.9722 |  |
| s(age):dataset\_idcao\_54 | 4.484 | 8.000 | 163.878 | 0.1000 |  |
| s(age):dataset\_idcao\_56 | 3.941 | 8.000 | 43.576 | 0.0014 | \*\* |
| s(age):dataset\_idcao\_57 | 2.427 | 8.000 | 1.988 | 0.1183 |  |
| s(age):dataset\_idcao\_79 | 2.238 | 8.000 | 4.137 | 0.0141 | \* |
| s(age):dataset\_idcao\_80 | 4.764 | 8.000 | 87.280 | 0.0112 | \* |
| s(age):dataset\_idcao\_86 | 5.262 | 8.000 | 79.953 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_100 | 4.168 | 8.000 | 39.302 | 0.0026 | \*\* |
| s(age):dataset\_idcao\_124 | 3.962 | 8.000 | 62.649 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_134 | 4.277 | 8.000 | 4.234 | 0.1121 |  |
| s(age):dataset\_idcao\_85 | 5.315 | 8.000 | 136.807 | 0.0000 | \*\*\* |
| s(age):dataset\_idPANGAEA.884462 | 3.515 | 8.000 | 5.091 | 0.5821 |  |
| s(age):dataset\_idPANGAEA.896256 | 3.314 | 8.000 | 10.013 | 0.0313 | \* |
| s(age):dataset\_idPANGAEA.717128 | 4.006 | 8.000 | 4.225 | 0.5864 |  |
| s(age):dataset\_idPANGAEA.808952 | 3.088 | 8.000 | 85.310 | 0.0000 | \*\*\* |
| s(age):dataset\_idLake\_Moon | 6.060 | 8.000 | 9.737 | 0.0353 | \* |
| s(age):dataset\_id47817 | 0.000 | 8.000 | 0.000 | 0.4511 |  |
| s(age):dataset\_id876 | 3.119 | 8.000 | 4.341 | 0.0036 | \*\* |
| s(age):dataset\_id2649 | 0.000 | 8.000 | 0.000 | 0.8982 |  |
| s(age):dataset\_id1444 | 2.716 | 8.000 | 81.297 | 0.0000 | \*\*\* |
| s(age):dataset\_id40990 | 0.000 | 8.000 | 0.000 | 0.9901 |  |
| s(age):dataset\_id4102 | 1.623 | 8.000 | 5.708 | 0.0534 | . |
| s(age):dataset\_id4010 | 0.071 | 8.000 | 0.009 | 0.3249 |  |
| s(age):dataset\_id14619 | 0.003 | 8.000 | 0.000 | 0.3746 |  |
| s(age):dataset\_id4081 | 0.001 | 8.000 | 0.000 | 0.3657 |  |
| s(age):dataset\_id4097 | 0.295 | 8.000 | 0.067 | 0.2717 |  |
| s(age):dataset\_id3861 | 1.207 | 8.000 | 0.248 | 0.5368 |  |
| s(age):dataset\_id1845 | 5.935 | 8.000 | 234.478 | 0.0000 | \*\*\* |
| s(age):dataset\_id41247 | 0.000 | 8.000 | 0.000 | 0.7418 |  |
| s(age):dataset\_id41245 | 4.960 | 8.000 | 7.362 | 0.1566 |  |
| s(age):dataset\_id1860 | 0.000 | 8.000 | 0.000 | 0.9206 |  |
| s(age):dataset\_id30184 | 0.000 | 8.000 | 0.000 | 0.7348 |  |
| s(age):dataset\_id14612 | 3.338 | 8.000 | 11.659 | 0.3014 |  |
| s(age):dataset\_id4020 | 0.537 | 8.000 | 0.400 | 0.1455 |  |
| s(age):dataset\_id14648 | 4.427 | 8.000 | 150.378 | 0.0640 | . |
| s(dataset\_id) | 94.691 | 97.000 | 204.231 | 0.0000 | \*\*\* |
| ti(lat,age) | 2.793 | 3.378 | 2.466 | 0.0475 | \* |
| Signif. codes: 0 <= '\*\*\*' < 0.001 < '\*\*' < 0.01 < '\*' < 0.05 | | | | | | |
|  | | | | | | |
| Adjusted R-squared: 0.823, Deviance explained 0.834 | | | | | | |
| -REML : 4405.226, Scale est: 0.298, N: 6557 | | | | | | |