| **Component** | **Term** | **Estimate** | **Std Error** | **t-value** | **p-value** |  |
| --- | --- | --- | --- | --- | --- | --- |
| A. parametric coefficients | (Intercept) | 0.608 | 0.076 | 7.966 | 0.0000 | \*\*\* |
| **Component** | **Term** | **edf** | **Ref. df** | **F-value** | **p-value** |  |
| B. smooth terms | s(lat) | 1.001 | 1.001 | 9.055 | 0.0026 | \*\* |
| s(age) | 3.385 | 4.078 | 3.706 | 0.0049 | \*\* |
| s(age):dataset\_id40997 | 4.317 | 8.000 | 155.025 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Dalianhai\_Lake | 6.616 | 8.000 | 39.963 | 0.0623 | . |
| s(age):dataset\_idPVT\_Qidong | 0.000 | 8.000 | 0.000 | 0.8026 |  |
| s(age):dataset\_idPVT\_Ulan\_Ul\_Lake | 0.000 | 8.000 | 0.000 | 0.7097 |  |
| s(age):dataset\_idPANGAEA.834960 | 3.065 | 8.000 | 93.627 | 0.0003 | \*\*\* |
| s(age):dataset\_idPVT\_Barkol\_Lake | 7.274 | 8.000 | 434.092 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Dali\_Nur\_Liuzhouwan\_Lake | 0.001 | 8.000 | 0.000 | 0.4206 |  |
| s(age):dataset\_idPVT\_Ganhai\_Lake | 5.678 | 8.000 | 70.815 | 0.0093 | \*\* |
| s(age):dataset\_idPVT\_Hulun\_Lake\_HL06 | 4.191 | 8.000 | 9.941 | 0.0047 | \*\* |
| s(age):dataset\_idPVT\_Kuhai\_Lake | 0.000 | 8.000 | 0.000 | 0.8266 |  |
| s(age):dataset\_idPVT\_Naleng\_Co | 1.592 | 8.000 | 1.586 | 0.1128 |  |
| s(age):dataset\_idPVT\_Sanjiaocheng\_Section | 7.715 | 8.000 | 56.926 | 0.0005 | \*\*\* |
| s(age):dataset\_idPVT\_Tiancai\_Lake | 5.069 | 8.000 | 2.544 | 0.0153 | \* |
| s(age):dataset\_idPVT\_Yamant\_Nur\_Lake | 2.413 | 8.000 | 0.585 | 0.5535 |  |
| s(age):dataset\_idcao\_8 | 2.989 | 8.000 | 76.649 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_57 | 2.576 | 8.000 | 2.648 | 0.0959 | . |
| s(age):dataset\_idcao\_86 | 5.033 | 8.000 | 41.641 | 0.0000 | \*\*\* |
| s(age):dataset\_id47817 | 0.001 | 8.000 | 0.000 | 0.4920 |  |
| s(age):dataset\_id2649 | 0.000 | 8.000 | 0.000 | 0.7448 |  |
| s(age):dataset\_id4102 | 1.709 | 8.000 | 6.515 | 0.0515 | . |
| s(age):dataset\_id1845 | 5.904 | 8.000 | 265.943 | 0.0000 | \*\*\* |
| s(age):dataset\_id30184 | 0.000 | 8.000 | 0.000 | 0.8951 |  |
| s(age):dataset\_id4020 | 0.692 | 8.000 | 0.786 | 0.0978 | . |
| s(age):dataset\_idPVT\_Dongi\_Cona | 0.000 | 8.000 | 0.000 | 0.9998 |  |
| s(age):dataset\_idPVT\_Qinghai\_Lake\_QH2000 | 1.147 | 8.000 | 3.373 | 0.0570 | . |
| s(age):dataset\_idPVT\_Ximen\_Co | 0.000 | 8.000 | 0.000 | 0.6098 |  |
| s(age):dataset\_idPVT\_Aibi\_Lake | 1.489 | 8.000 | 49.408 | 0.0339 | \* |
| s(age):dataset\_idPVT\_Chaiwopu\_Lake | 3.107 | 8.000 | 6.885 | 0.0331 | \* |
| s(age):dataset\_idPVT\_Daluoba\_basin | 2.132 | 8.000 | 1.104 | 0.0089 | \*\* |
| s(age):dataset\_idPVT\_Gantang | 3.785 | 8.000 | 10.396 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Juyan\_Lake | 0.001 | 8.000 | 0.000 | 0.4247 |  |
| s(age):dataset\_idPVT\_Longquan\_Lake\_LC2 | 2.093 | 8.000 | 0.732 | 0.1260 |  |
| s(age):dataset\_idPVT\_Nantun | 6.832 | 8.000 | 23.628 | 0.0041 | \*\* |
| s(age):dataset\_idPVT\_Sayram\_Lake | 4.892 | 8.000 | 131.420 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Uzunkol\_Lake | 2.424 | 8.000 | 1.021 | 0.0823 | . |
| s(age):dataset\_idPVT\_Yidun\_Lake | 0.001 | 8.000 | 0.000 | 0.5290 |  |
| s(age):dataset\_idcao\_39 | 3.201 | 8.000 | 58.621 | 0.0004 | \*\*\* |
| s(age):dataset\_idcao\_79 | 0.002 | 8.000 | 0.000 | 0.1364 |  |
| s(age):dataset\_idcao\_100 | 4.010 | 8.000 | 22.087 | 0.0107 | \* |
| s(age):dataset\_idPANGAEA.884462 | 3.513 | 8.000 | 4.986 | 0.5879 |  |
| s(age):dataset\_id4010 | 0.418 | 8.000 | 0.077 | 0.2564 |  |
| s(age):dataset\_id4081 | 0.000 | 8.000 | 0.000 | 0.4571 |  |
| s(age):dataset\_id41247 | 0.000 | 8.000 | 0.000 | 0.6947 |  |
| s(age):dataset\_id14612 | 3.449 | 8.000 | 14.951 | 0.3109 |  |
| s(age):dataset\_idPVT\_Gonghai\_Lake | 7.560 | 8.000 | 558.986 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Selin\_Co\_CK8803 | 5.182 | 8.000 | 5.680 | 0.0006 | \*\*\* |
| s(age):dataset\_idPVT\_Akkol\_Lake | 0.000 | 8.000 | 0.000 | 0.6363 |  |
| s(age):dataset\_idPVT\_Dahaizi\_Lake | 0.000 | 8.000 | 0.000 | 0.9433 |  |
| s(age):dataset\_idPVT\_Dongganchi | 0.001 | 8.000 | 0.000 | 0.4349 |  |
| s(age):dataset\_idPVT\_Grusha\_Lake | 0.000 | 8.000 | 0.000 | 0.8268 |  |
| s(age):dataset\_idPVT\_Kendegelukol\_Lake | 0.000 | 8.000 | 0.000 | 0.4758 |  |
| s(age):dataset\_idPVT\_Lop\_Nur\_Luo4 | 0.000 | 8.000 | 0.000 | 0.9898 |  |
| s(age):dataset\_idPVT\_Qigai\_Nuur | 6.995 | 8.000 | 45.981 | 0.0386 | \* |
| s(age):dataset\_idPVT\_Shaamar | 2.322 | 8.000 | 13.809 | 0.0360 | \* |
| s(age):dataset\_idPVT\_Wangjiadian\_profile | 4.530 | 8.000 | 32.837 | 0.0329 | \* |
| s(age):dataset\_idPVT\_Zigetang\_Co | 0.000 | 8.000 | 0.000 | 0.9978 |  |
| s(age):dataset\_idcao\_26 | 2.889 | 8.000 | 3.135 | 0.0119 | \* |
| s(age):dataset\_idcao\_40 | 0.000 | 8.000 | 0.000 | 0.9924 |  |
| s(age):dataset\_idcao\_80 | 4.839 | 8.000 | 140.136 | 0.0151 | \* |
| s(age):dataset\_idcao\_134 | 4.539 | 8.000 | 7.502 | 0.0329 | \* |
| s(age):dataset\_idPANGAEA.896256 | 3.234 | 8.000 | 11.867 | 0.0257 | \* |
| s(age):dataset\_id876 | 2.928 | 8.000 | 2.507 | 0.0147 | \* |
| s(age):dataset\_id4097 | 0.432 | 8.000 | 0.117 | 0.2549 |  |
| s(age):dataset\_idPVT\_Hoton\_Nur\_2 | 5.894 | 8.000 | 237.376 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Yanghu\_Lake | 0.000 | 8.000 | 0.000 | 0.9783 |  |
| s(age):dataset\_idPVT\_Ayongwama\_Co | 0.001 | 8.000 | 0.000 | 0.3846 |  |
| s(age):dataset\_idPVT\_Dajiuhu\_2013 | 4.160 | 8.000 | 68.574 | 0.0001 | \*\*\* |
| s(age):dataset\_idPVT\_Erhai\_Lake | 3.112 | 8.000 | 2.753 | 0.2081 |  |
| s(age):dataset\_idPVT\_Guangfulin | 1.522 | 8.000 | 8.583 | 0.0147 | \* |
| s(age):dataset\_idPVT\_Kotokel | 1.457 | 8.000 | 9.253 | 0.0555 | . |
| s(age):dataset\_idPVT\_Luanhaizi\_LH2 | 0.000 | 8.000 | 0.000 | 1.0000 |  |
| s(age):dataset\_idPVT\_Qongjiamong\_Co | 0.000 | 8.000 | 0.000 | 0.5191 |  |
| s(age):dataset\_idPVT\_Shayema\_Lake | 7.153 | 8.000 | 13.583 | 0.0007 | \*\*\* |
| s(age):dataset\_idPVT\_Wulungu\_Lake | 5.417 | 8.000 | 4,135.150 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_54 | 4.461 | 8.000 | 222.920 | 0.0700 | . |
| s(age):dataset\_idPANGAEA.717128 | 3.974 | 8.000 | 4.185 | 0.6135 |  |
| s(age):dataset\_id1444 | 2.880 | 8.000 | 108.914 | 0.0000 | \*\*\* |
| s(age):dataset\_id40990 | 0.000 | 8.000 | 0.000 | 0.9901 |  |
| s(age):dataset\_id14619 | 0.001 | 8.000 | 0.000 | 0.4404 |  |
| s(age):dataset\_id3861 | 0.008 | 8.000 | 0.001 | 0.3636 |  |
| s(age):dataset\_id41245 | 5.034 | 8.000 | 6.682 | 0.1596 |  |
| s(age):dataset\_idPVT\_Daihai\_Lake\_2004 | 4.725 | 8.000 | 6.413 | 0.1222 |  |
| s(age):dataset\_idPVT\_Manas\_Lake\_LM1 | 0.000 | 8.000 | 0.000 | 0.8496 |  |
| s(age):dataset\_idPVT\_Sumxi\_Lake | 2.513 | 8.000 | 3.832 | 0.2614 |  |
| s(age):dataset\_idPVT\_Baikal\_lake | 1.335 | 8.000 | 1.514 | 0.4433 |  |
| s(age):dataset\_idPVT\_Dali\_Nur\_Jiangjunpaozi\_Lake | 0.000 | 8.000 | 0.000 | 0.5376 |  |
| s(age):dataset\_idPVT\_Koucha\_Lake | 0.000 | 8.000 | 0.000 | 0.9960 |  |
| s(age):dataset\_idPVT\_Mengcun | 0.291 | 8.000 | 0.058 | 0.2221 |  |
| s(age):dataset\_idPVT\_Ren\_Co\_R1 | 0.490 | 8.000 | 0.089 | 0.2219 |  |
| s(age):dataset\_idPVT\_Sujiawan | 5.736 | 8.000 | 11.809 | 0.3352 |  |
| s(age):dataset\_idPVT\_Xiehu\_Lake\_SO4 | 4.542 | 8.000 | 113.363 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_22 | 0.001 | 8.000 | 0.000 | 0.4833 |  |
| s(age):dataset\_idcao\_56 | 4.290 | 8.000 | 36.349 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_124 | 3.614 | 8.000 | 32.612 | 0.0012 | \*\* |
| s(age):dataset\_idcao\_85 | 5.211 | 8.000 | 50.727 | 0.0000 | \*\*\* |
| s(age):dataset\_idPANGAEA.808952 | 3.132 | 8.000 | 85.772 | 0.0000 | \*\*\* |
| s(age):dataset\_idLake\_Moon | 6.103 | 8.000 | 9.425 | 0.0462 | \* |
| s(age):dataset\_id1860 | 0.000 | 8.000 | 0.000 | 0.8593 |  |
| s(age):dataset\_id14648 | 4.420 | 8.000 | 120.886 | 0.0593 | . |
| s(dataset\_id) | 94.701 | 97.000 | 203.914 | 0.0000 | \*\*\* |
| ti(lat,age) | 2.916 | 3.331 | 3.114 | 0.0261 | \* |
| Signif. codes: 0 <= '\*\*\*' < 0.001 < '\*\*' < 0.01 < '\*' < 0.05 | | | | | | |
|  | | | | | | |
| Adjusted R-squared: 0.823, Deviance explained 0.834 | | | | | | |
| -REML : 4398.934, Scale est: 0.297, N: 6557 | | | | | | |