| **Component** | **Term** | **Estimate** | **Std Error** | **t-value** | **p-value** |  |
| --- | --- | --- | --- | --- | --- | --- |
| A. parametric coefficients | (Intercept) | 0.350 | 0.068 | 5.133 | 0.0000 | \*\*\* |
| **Component** | **Term** | **edf** | **Ref. df** | **F-value** | **p-value** |  |
| B. smooth terms | s(lat) | 4.837 | 4.861 | 7.540 | 0.0001 | \*\*\* |
| s(age) | 2.945 | 3.524 | 2.757 | 0.0346 | \* |
| s(age):dataset\_id40997 | 3.627 | 8.000 | 64.925 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Daihai\_Lake\_2004 | 3.052 | 8.000 | 2.479 | 0.0189 | \* |
| s(age):dataset\_idPVT\_Dalianhai\_Lake | 3.745 | 8.000 | 5.709 | 0.0326 | \* |
| s(age):dataset\_idPVT\_Dongi\_Cona | 0.000 | 8.000 | 0.000 | 0.8327 |  |
| s(age):dataset\_idPVT\_Gonghai\_Lake | 7.701 | 8.000 | 389.510 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Hoton\_Nur\_2 | 4.306 | 8.000 | 2.848 | 0.3562 |  |
| s(age):dataset\_idPVT\_Manas\_Lake\_LM1 | 0.000 | 8.000 | 0.000 | 0.5836 |  |
| s(age):dataset\_idPVT\_Qidong | 0.591 | 8.000 | 0.151 | 0.2708 |  |
| s(age):dataset\_idPVT\_Qinghai\_Lake\_QH2000 | 2.276 | 8.000 | 10.527 | 0.0006 | \*\*\* |
| s(age):dataset\_idPVT\_Selin\_Co\_CK8803 | 3.528 | 8.000 | 3.547 | 0.0003 | \*\*\* |
| s(age):dataset\_idPVT\_Sumxi\_Lake | 0.000 | 8.000 | 0.000 | 0.5744 |  |
| s(age):dataset\_idPVT\_Ulan\_Ul\_Lake | 6.683 | 8.000 | 11.454 | 0.0012 | \*\* |
| s(age):dataset\_idPVT\_Ximen\_Co | 3.723 | 8.000 | 6.241 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Yanghu\_Lake | 0.000 | 8.000 | 0.000 | 0.8240 |  |
| s(age):dataset\_idPANGAEA.834960 | 2.718 | 8.000 | 50.404 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Aibi\_Lake | 0.846 | 8.000 | 3.201 | 0.1043 |  |
| s(age):dataset\_idPVT\_Akkol\_Lake | 3.655 | 8.000 | 8.721 | 0.0726 | . |
| s(age):dataset\_idPVT\_Ayongwama\_Co | 0.000 | 8.000 | 0.000 | 0.6637 |  |
| s(age):dataset\_idPVT\_Baikal\_lake | 2.488 | 8.000 | 15.012 | 0.0494 | \* |
| s(age):dataset\_idPVT\_Barkol\_Lake | 3.753 | 8.000 | 3.317 | 0.1268 |  |
| s(age):dataset\_idPVT\_Chaiwopu\_Lake | 1.304 | 8.000 | 0.377 | 0.3648 |  |
| s(age):dataset\_idPVT\_Dahaizi\_Lake | 0.000 | 8.000 | 0.000 | 0.8812 |  |
| s(age):dataset\_idPVT\_Dajiuhu\_2013 | 4.012 | 8.000 | 43.002 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Dali\_Nur\_Jiangjunpaozi\_Lake | 0.000 | 8.000 | 0.000 | 0.7640 |  |
| s(age):dataset\_idPVT\_Dali\_Nur\_Liuzhouwan\_Lake | 0.000 | 8.000 | 0.000 | 0.6101 |  |
| s(age):dataset\_idPVT\_Daluoba\_basin | 3.890 | 8.000 | 1.969 | 0.0083 | \*\* |
| s(age):dataset\_idPVT\_Dongganchi | 0.000 | 8.000 | 0.000 | 0.7233 |  |
| s(age):dataset\_idPVT\_Erhai\_Lake | 3.221 | 8.000 | 3.513 | 0.1273 |  |
| s(age):dataset\_idPVT\_Ganhai\_Lake | 5.542 | 8.000 | 70.751 | 0.0002 | \*\*\* |
| s(age):dataset\_idPVT\_Gantang | 4.698 | 8.000 | 11.462 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Grusha\_Lake | 0.000 | 8.000 | 0.000 | 0.9815 |  |
| s(age):dataset\_idPVT\_Guangfulin | 0.984 | 8.000 | 1.928 | 0.0566 | . |
| s(age):dataset\_idPVT\_Hulun\_Lake\_HL06 | 3.005 | 8.000 | 3.865 | 0.0052 | \*\* |
| s(age):dataset\_idPVT\_Juyan\_Lake | 0.000 | 8.000 | 0.000 | 0.7590 |  |
| s(age):dataset\_idPVT\_Kendegelukol\_Lake | 1.657 | 8.000 | 0.854 | 0.1458 |  |
| s(age):dataset\_idPVT\_Kotokel | 0.000 | 8.000 | 0.000 | 0.8098 |  |
| s(age):dataset\_idPVT\_Koucha\_Lake | 2.977 | 8.000 | 3.684 | 0.0405 | \* |
| s(age):dataset\_idPVT\_Kuhai\_Lake | 1.031 | 8.000 | 0.308 | 0.1875 |  |
| s(age):dataset\_idPVT\_Longquan\_Lake\_LC2 | 2.958 | 8.000 | 1.217 | 0.0478 | \* |
| s(age):dataset\_idPVT\_Lop\_Nur\_Luo4 | 0.000 | 8.000 | 0.000 | 0.4682 |  |
| s(age):dataset\_idPVT\_Luanhaizi\_LH2 | 0.000 | 8.000 | 0.000 | 0.7793 |  |
| s(age):dataset\_idPVT\_Mengcun | 0.000 | 8.000 | 0.000 | 0.4243 |  |
| s(age):dataset\_idPVT\_Naleng\_Co | 6.085 | 8.000 | 15.519 | 0.0253 | \* |
| s(age):dataset\_idPVT\_Nantun | 7.087 | 8.000 | 79.815 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Qigai\_Nuur | 6.755 | 8.000 | 28.295 | 0.0013 | \*\* |
| s(age):dataset\_idPVT\_Qongjiamong\_Co | 3.884 | 8.000 | 3.904 | 0.0059 | \*\* |
| s(age):dataset\_idPVT\_Ren\_Co\_R1 | 0.000 | 8.000 | 0.000 | 0.9995 |  |
| s(age):dataset\_idPVT\_Sanjiaocheng\_Section | 7.142 | 8.000 | 28.189 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Sayram\_Lake | 2.753 | 8.000 | 2.944 | 0.0359 | \* |
| s(age):dataset\_idPVT\_Shaamar | 1.746 | 8.000 | 5.637 | 0.0492 | \* |
| s(age):dataset\_idPVT\_Shayema\_Lake | 4.225 | 8.000 | 2.751 | 0.0003 | \*\*\* |
| s(age):dataset\_idPVT\_Sujiawan | 3.761 | 8.000 | 1.236 | 0.6505 |  |
| s(age):dataset\_idPVT\_Tiancai\_Lake | 3.651 | 8.000 | 1.781 | 0.0069 | \*\* |
| s(age):dataset\_idPVT\_Uzunkol\_Lake | 0.000 | 8.000 | 0.000 | 0.5820 |  |
| s(age):dataset\_idPVT\_Wangjiadian\_profile | 4.082 | 8.000 | 31.494 | 0.0032 | \*\* |
| s(age):dataset\_idPVT\_Wulungu\_Lake | 4.882 | 8.000 | 455.477 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Xiehu\_Lake\_SO4 | 5.067 | 8.000 | 102.748 | 0.0000 | \*\*\* |
| s(age):dataset\_idPVT\_Yamant\_Nur\_Lake | 1.320 | 8.000 | 0.621 | 0.1028 |  |
| s(age):dataset\_idPVT\_Yidun\_Lake | 0.000 | 8.000 | 0.000 | 0.5185 |  |
| s(age):dataset\_idPVT\_Zigetang\_Co | 3.973 | 8.000 | 25.029 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_8 | 1.421 | 8.000 | 6.394 | 0.0153 | \* |
| s(age):dataset\_idcao\_22 | 0.000 | 8.000 | 0.000 | 0.5385 |  |
| s(age):dataset\_idcao\_26 | 1.075 | 8.000 | 0.328 | 0.1036 |  |
| s(age):dataset\_idcao\_39 | 0.000 | 8.000 | 0.000 | 0.5740 |  |
| s(age):dataset\_idcao\_40 | 0.000 | 8.000 | 0.000 | 0.9999 |  |
| s(age):dataset\_idcao\_54 | 4.271 | 8.000 | 120.909 | 0.1148 |  |
| s(age):dataset\_idcao\_56 | 0.000 | 8.000 | 0.000 | 0.4337 |  |
| s(age):dataset\_idcao\_57 | 2.591 | 8.000 | 4.552 | 0.0064 | \*\* |
| s(age):dataset\_idcao\_79 | 0.000 | 8.000 | 0.000 | 0.9669 |  |
| s(age):dataset\_idcao\_80 | 0.000 | 8.000 | 0.000 | 0.6459 |  |
| s(age):dataset\_idcao\_86 | 4.183 | 8.000 | 27.217 | 0.0000 | \*\*\* |
| s(age):dataset\_idcao\_100 | 3.044 | 8.000 | 2.583 | 0.2791 |  |
| s(age):dataset\_idcao\_124 | 1.666 | 8.000 | 10.042 | 0.0128 | \* |
| s(age):dataset\_idcao\_134 | 2.976 | 8.000 | 1.749 | 0.1346 |  |
| s(age):dataset\_idcao\_85 | 5.774 | 8.000 | 79.667 | 0.0000 | \*\*\* |
| s(age):dataset\_idPANGAEA.884462 | 5.031 | 8.000 | 118.445 | 0.0053 | \*\* |
| s(age):dataset\_idPANGAEA.896256 | 0.000 | 8.000 | 0.000 | 0.4151 |  |
| s(age):dataset\_idPANGAEA.717128 | 3.896 | 8.000 | 10.243 | 0.3035 |  |
| s(age):dataset\_idPANGAEA.808952 | 3.449 | 8.000 | 70.306 | 0.0000 | \*\*\* |
| s(age):dataset\_idLake\_Moon | 5.709 | 8.000 | 10.767 | 0.0000 | \*\*\* |
| s(age):dataset\_id47817 | 4.723 | 8.000 | 3.681 | 0.2695 |  |
| s(age):dataset\_id876 | 0.338 | 8.000 | 0.056 | 0.2476 |  |
| s(age):dataset\_id2649 | 0.833 | 8.000 | 0.401 | 0.1277 |  |
| s(age):dataset\_id1444 | 2.780 | 8.000 | 51.809 | 0.0000 | \*\*\* |
| s(age):dataset\_id40990 | 0.000 | 8.000 | 0.000 | 0.8330 |  |
| s(age):dataset\_id4102 | 0.128 | 8.000 | 0.026 | 0.2889 |  |
| s(age):dataset\_id4010 | 0.000 | 8.000 | 0.000 | 0.7630 |  |
| s(age):dataset\_id14619 | 0.000 | 8.000 | 0.000 | 0.9305 |  |
| s(age):dataset\_id4081 | 0.000 | 8.000 | 0.000 | 0.8574 |  |
| s(age):dataset\_id4097 | 0.000 | 8.000 | 0.000 | 0.7963 |  |
| s(age):dataset\_id3861 | 0.001 | 8.000 | 0.000 | 0.3748 |  |
| s(age):dataset\_id1845 | 5.116 | 8.000 | 94.200 | 0.0001 | \*\*\* |
| s(age):dataset\_id41247 | 0.000 | 8.000 | 0.000 | 0.9100 |  |
| s(age):dataset\_id41245 | 5.283 | 8.000 | 14.285 | 0.0052 | \*\* |
| s(age):dataset\_id1860 | 0.000 | 8.000 | 0.000 | 0.8509 |  |
| s(age):dataset\_id30184 | 3.934 | 8.000 | 7.761 | 0.1072 |  |
| s(age):dataset\_id14612 | 2.950 | 8.000 | 5.595 | 0.2483 |  |
| s(age):dataset\_id4020 | 1.235 | 8.000 | 2.644 | 0.0194 | \* |
| s(age):dataset\_id14648 | 4.809 | 8.000 | 120.135 | 0.0910 | . |
| s(dataset\_id) | 89.987 | 97.000 | 81.148 | 0.0000 | \*\*\* |
| ti(lat,age) | 1.000 | 1.000 | 4.598 | 0.0320 | \* |
| Signif. codes: 0 <= '\*\*\*' < 0.001 < '\*\*' < 0.01 < '\*' < 0.05 | | | | | | |
|  | | | | | | |
| Adjusted R-squared: 0.811, Deviance explained 0.822 | | | | | | |
| -REML : 4862.098, Scale est: 0.349, N: 6557 | | | | | | |