Supplementary table 1. Sensitivity analysis results comparing the impact of different GIA models on cosmogenic nuclide exposure age calculation. All ages were calculated used the ExPage script and integrated GIA correction within Octave.

*\*Standard refers to ages calculated using the default exposure age calculation method of the ExPage calculator. This calculation includes no corrections.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample number | Standard\* | Peltier et al (2015) | Lambeck et al (2017) | Gowan (2021) | Peltier difference | Lambeck difference | Gowan difference |
| NW-18-07 | 13760 | 14423 | 13860 | 13237 | -663 | -100 | 523 |
| NW-18-09 | 13889 | 14609 | 14003 | 13359 | -720 | -114 | 530 |
| NW-18-19 | 13307 | 13822 | 13371 | 12781 | -515 | -64 | 526 |
| NW-18-20 | 15139 | 16440 | 15450 | 14538 | -1301 | -311 | 601 |
| NW-18-21 | 19840 | 23223 | 20812 | 19120 | -3383 | -972 | 720 |
| NW-18-22 | 13243 | 13737 | 13302 | 12720 | -494 | -59 | 523 |
| NW-18-10 | 17448 | 19233 | 17776 | 16834 | -1785 | -328 | 614 |
| NW-18-11 | 16693 | 18096 | 16944 | 16099 | -1403 | -251 | 594 |
| NW-18-12 | 16791 | 18248 | 17054 | 16195 | -1457 | -263 | 596 |
| NW-18-15 | 32868 | 36264 | 34041 | 31555 | -3396 | -1173 | 1313 |
| NW-18-16 | 102815 | 105800 | 103500 | 97682 | -2985 | -685 | 5133 |
| NW-18-17 | 25187 | 28623 | 26417 | 24580 | -3436 | -1230 | 607 |
| NW-18-18 | 268292 | 270230 | 267760 | 261429 | -1938 | -532 | 6863 |
| NWT-MM\_15-01 | 19454 | 24047 | 21064 | 19794 | -4593 | -1610 | -340 |
| NWT-MM-15-02 | 17473 | 20851 | 18710 | 17721 | -3378 | -1237 | -248 |
| NWT-MM-15-03 | 15475 | 17683 | 16278 | 15558 | -2208 | -803 | -83 |
| NWT-MM-15-04 | 14700 | 16449 | 15318 | 14711 | -1749 | -618 | -11 |
| NWT-MM-15-05 | 14070 | 15447 | 14537 | 14028 | -1377 | -467 | 42 |
| NWT-MM-15-06 | 15064 | 17052 | 15776 | 15112 | -1988 | -712 | -48 |
| NWT-MM-15-07 | 14553 | 16250 | 15147 | 14555 | -1697 | -594 | -2 |
| NWT-MM-15-08 | 18063 | 21929 | 19455 | 18366 | -3866 | -1392 | -303 |
| NWT-MM-15-09 | 14959 | 17108 | 15717 | 15013 | -2149 | -758 | -54 |
| NWT-MM-15-10 | 15961 | 18773 | 16982 | 16117 | -2812 | -1021 | -156 |
| NWT-MM-15-11 | 15299 | 17596 | 16109 | 15433 | -2297 | -810 | -134 |
| NWT-MM-15-12 | 13460 | 14567 | 13822 | 13413 | -1107 | -362 | 47 |
| NWT-MM-15-13 | 14338 | 16105 | 14926 | 14418 | -1767 | -588 | -80 |
| NWT-MM-15-14 | 13870 | 15315 | 14334 | 13900 | -1445 | -464 | -30 |

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