**Table 8** Statistics of the differences between the gravimetric geoid models based on different data combination modes and the GPS leveling measured geoid heights (unit: m)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Terrestrial gravity point spacing and number | Elevation of GPS leveling benchmark (m) | Group B: GOCO06S + Terrestrial | Group A:GOCO06S + Terrestrial + Airborne | Accuracy improvement |
| Mean | SD | Mean | SD |
| OS | 59303 | > 2000 | 0.868 | 0.064 | 0.865 | 0.060 | 6.3% |
| < 2000 | 0.855 | 0.052 | 0.856 | 0.047 | 9.6% |
| 5 km | 13063 | > 2000 | 0.869 | 0.067 | 0.870 | 0.059 | 11.9% |
| < 2000 | 0.861 | 0.053 | 0.857 | 0.047 | 11.3% |
| 10 km | 4600 | > 2000 | 0.860 | 0.067 | 0.862 | 0.061 | 9% |
| < 2000 | 0.857 | 0.054 | 0.854 | 0.047 | 12.3% |
| 15 km | 2212 | > 2000 | 0.864 | 0.078 | 0.863 | 0.072 | 7.7% |
| < 2000 | 0.857 | 0.053 | 0.852 | 0.048 | 9.4% |
| 20 km | 1248 | > 2000 | 0.857 | 0.082 | 0.860 | 0.070 | 14.6% |
| < 2000 | 0.853 | 0.055 | 0.851 | 0.048 | 12.7% |
| 25 km | 824 | > 2000 | 0.872 | 0.082 | 0.864 | 0.071 | 13.4% |
| < 2000 | 0.852 | 0.062 | 0.847 | 0.049 | 21% |
| 30 km | 569 | > 2000 | 0.840 | 0.086 | 0.853 | 0.069 | 19.8% |
| < 2000 | 0.848 | 0.065 | 0.845 | 0.052 | 20% |
| 35 km | 416 | > 2000 | 0.857 | 0.101 | 0.856 | 0.085 | 15.8% |
| < 2000 | 0.843 | 0.062 | 0.844 | 0.050 | 19.4% |
| 40 km | 322 | > 2000 | 0.859 | 0.086 | 0.860 | 0.069 | 19.8% |
| < 2000 | 0.856 | 0.064 | 0.853 | 0.051 | 20.3% |

Note: OS stands for original spacing