

Description of the geoid file FIN2023N2000.box

The FIN2023N2000 is a quasigeoid model (height conversion surface) of Finland. The model is recommended to be used inside of the Finnish borders as well as in the territorial waters of Finland. The model contains quasigeoid heights that are used to convert EUREF-FIN ellipsoidal heights to normal heights in the national height system of Finland, N2000.

The model is given as a box grid file in ASCII-format (FIN2023N2000.box). The dimensions of the model with grid spacings are given in the first row (header) of the file:

58.80000000 70.19000000 19.00000000 31.98000000 0.01000000 0.02000000

Header:

Minimum latitude: 58.80°

Maximum latitude: 70.19°

Minimum longitude: 19.00°

Maximum longitude: 31.98°

Latitude spacing: 0.01°

Longitude spacing: 0.02°

After the header, the quasigeoid heights for each grid point are given as following:

- The heights are given row-wise from north to south, starting in the northwest and ending in the southeast
- The first row corresponds to latitude 70.19° and the last row corresponds to latitude 58.80°
- The first height in a row has longitude 19.00° and the last height has longitude 31.98°
- Number of rows: $(70.19 - 58.80) / 0.01 + 1 = 1140$
- Number of columns: $(31.98 - 19.00) / 0.02 + 1 = 650$
- Total number of heights: $1140 * 650 = 741\ 000$
- Heights are given in meters with millimeter accuracy.

As an example, the upper left corner:

		19.00°	19.02°	19.04°	...
		↓	↓	↓	
70.19°	→	31.498	31.457	31.418	...
70.18°	→	31.196	31.152	31.109	...
70.17°	→	30.856	30.816	30.777	...
⋮		⋮	⋮	⋮	⋱

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