

Elevation Models

DEMs are “Digital Elevation Models”, or also DHMs “Digital Elevation Models”. A more or less tight grid on the earth's surface with one elevation value per point. The horizontal resolution determines the distance between the points, the vertical resolution the accuracy of the altitude value at that point.


Currently dems in the Globalmapper gmg format are supported. If you want to create such gmgs yourself, they have to be exported in the projection Lat/Lon-WGS84 in the vertical resolution meter, decimeter or centimeter and as “Square Grid Cells” from Globalmapper. To use them in QVX, they are simply imported as map into any map table. Many topo maps from the QV-Shop already include a dem in medium resolution. Especially high resolution dems can be purchased separately in [QV-Shop](#).

Note: The display of elevation data is very computationally intensive and may take some time the first time. Note the progress bar (“ 40 Tiles …”) The calculated data is cached, so the next time it will be much faster.

Display as shading

In QVX dems can be imported into a map table and then simply loaded into the map window. In Info Style of the dem you can then set how the dem should be rendered in the map window:

Shading	<div><p>A grey value corresponding to the shadow cast by the terrain with a fictitious position of the sun. Gives a very vivid picture of the landscape.</p></div>
Atlas	<div><p>Shading plus according to the height a color is drawn, from blue over green to brown and at the end white, the higher the terrain is.</p></div>

Inclination	<p>Shading plus a color value corresponding to the inclination. The colors are white for no inclination, light green 14°, green 25°, yellow 30°, orange 35°, red 40°, violet 45°, dark violet 50° and more</p> 
Sun angle	<p>The direction of sunlight, determines which side of a mountain slope is light or dark. Here, optical illusions can occur, making a valley suddenly appear as an elevation and a mountain as a hole. It has been found that at 337°, sun in NNW, this optical illusion does not occur for most people.</p>
Contrast	<p>A factor to adjust the contrast. On very flat terrain, the small differences can be emphasised by a high value (4-7). In the mountains the value should be lower (1-4), otherwise the contrast is too strong.</p>

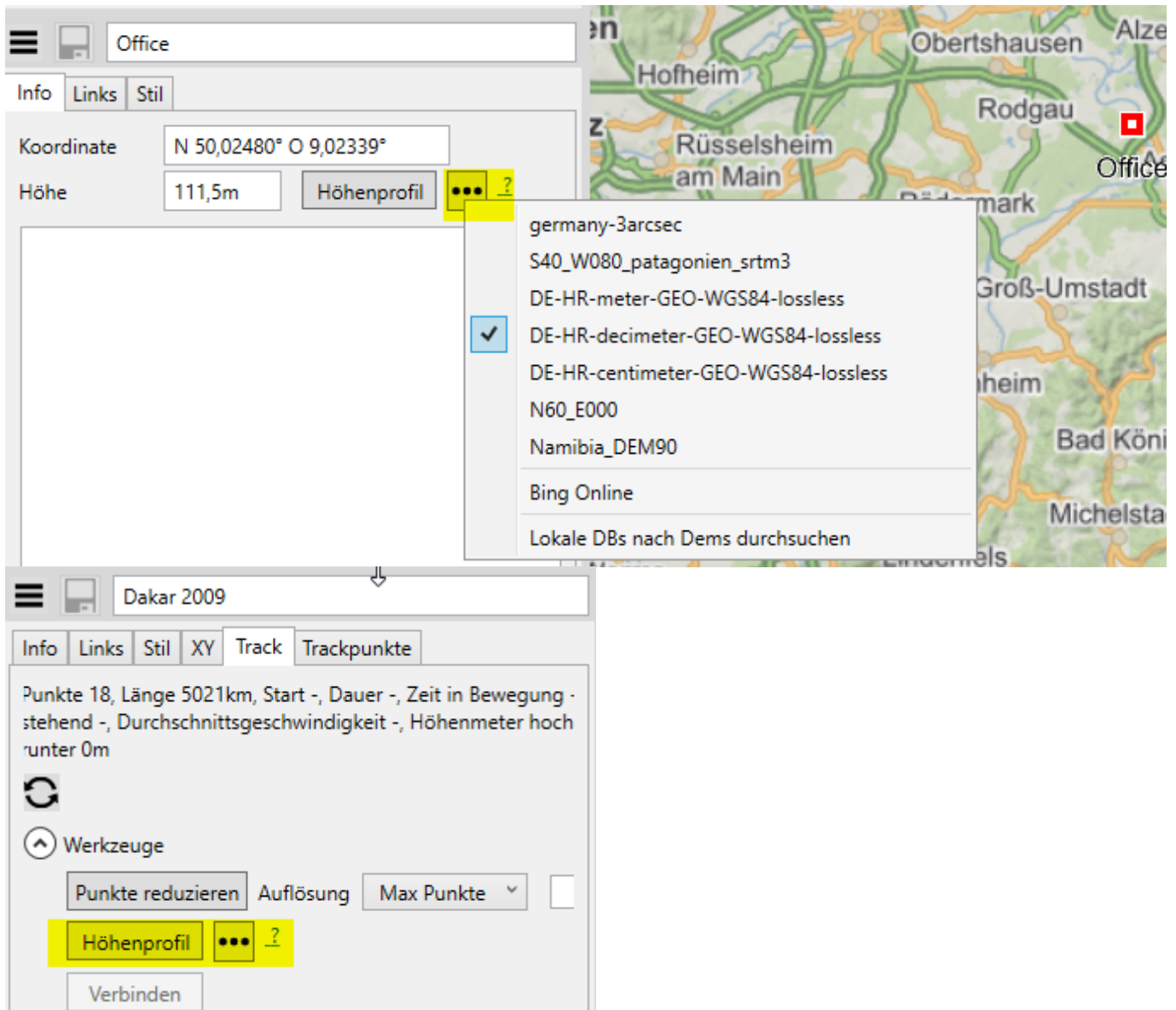
The best effect is achieved with a Dem as main map and vector maps (Mapsforge, Oam, Qmv) as overlay.


If you place a dem over a raster map, or a raster map over a dem, you must set a transparency for the topmost map in info style, otherwise the map below will be completely hidden.

The calculation of a shading is computationally intensive. Therefore it takes a little longer the first time. But the tiles are cached in the QVX_Data\Cache folder, so it will be much faster the next time.

Create height profile

A second use case with Dems is the creation of elevation profiles along routes or for trackpoints and WPs. You can find this function in the properties of the corresponding waypoints, tracks and routes:



Click the options  menu to select the Dem you want to use. With **Browse local DBs** you can update the list with all dems that have been imported as a map somewhere in the system. If you don't have dems, you can always use Bing's online service.

Clicking on **Height profile** then retrieves the height values for all selected elements.

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