

Web map shaded relief chart

Web Mercator projection, WGS84
Equatorial circumference = 40,075,017 meters

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Web map reference

DEM adjustments before shaded relief rendering*

Zoom Level	Map pixel width at equator	Map scale at equator	Arc seconds/pixel at equator	Vertical exaggeration	DEM resolution** (meters/pixel)	DEM resampling*** (meters/pixel)	DEM**** Smoothing
19	134,217,728	1,128	0.009	1.0	0.3	—	1
18	67,108,864	2,257	0.019	1.0	0.6	—	1
17	33,554,432	4,514	0.038	1.0	1.2	—	1
16	16,777,216	9,028	0.078	1.0	2.4	—	1
15	8,388,608	18,056	0.155	1.0	4.8	—	1
14	4,194,304	36,112	0.310	1.1	9.6	—	1
13	2,097,152	72,224	0.618	1.2	19.1	90% (21.2)	1
12	1,048,576	144,448	1.235	1.3	38.2	80% (47.8)	1
11	524,288	288,896	2.471	1.4	76.4	80% (95.5)	1
10	262,144	577,792	4.945	1.7	152.9	70% (218.4)	1
9	131,072	1,155,583	9.886	2.1	305.7	70% (436.7)	1
8	65,536	2,311,167	19.776	2.7	611.5	70% (873.6)	1
7	32,768	4,622,334	39.551	3.6	1,223.0	80% (1,529)	1
6	16,384	9,244,667	79.102	5.0	2,446.0	80% (3,058)	1
5	8,192	18,489,334	158.205	6.5	4,892.0	90% (5,435)	1
4	4,096	36,978,669	316.406	9.5	9,783.9	—	1
3	2,048	73,957,338	632.815	14	19,567.9	—	1
2	1,024	147,914,675	1,265.630	20	39,135.8	—	1
1	512	295,829,351	2,531.256	29	78,271.5	—	1
0	256	591,658,702	5,062.512	45	156,543.0	—	1

* In Natural Scene Designer Pro 6, I use the default shaded relief settings (light direction=315, angle=45, ambient light=16) with a 15% gray background. The rendered shaded relief size (in pixels) equals the DEM size (in rows and columns). In NSD Pro 6, go to Terrain Info in the Terrain drop menu to get this information.

** DEM resolution = Equatorial circumference (40,075,017m) of Earth divided by Map pixel width at equator.

*** Optional generalization. The size of reliefs rendered from resampled DEMs equals their original DEM sizes. Note the original sizes (in Terrain Info) before resampling DEMs.

**** Removes noisy details from shaded relief. In NSD Pro 6, go to Terrain/Smooth Terrain/Smooth Entire Terrain. Apply once.