A benchmark for comparisons

The depiction of terrain on maps is undergoing a renaissance due to new digital techniques. As demonstrated by the images above, one can represent the same terrain in many different ways. To give mapmakers and researchers "common ground" for comparative experimentation, we offer sample Digital Elevation Models (DEMs) available in two categories: multi-resolution and archetypal landforms.
Imhof – Walensee
Imhof – p. 189, relief generalization
Multi-resolution DEMs

3) Churfirsten, Switzerland

Resolutions: 30, 60, 120, 250, 500, 1,000, and 2,000 meters, 2,500 x 1,500 height samples each

More information about the Churfirsten data

Esri ASCII Grid, 45.7 MB
GeoTIFF, 45.3 MB
Multi-resolution DEMs

3) Churfürsten, Switzerland

Resolutions: 30, 60, 120, 250, 500, 1,000, and 2,000 meters, 2,500 x 1,500 height samples each

**Center point**
47.1436111N, 9.3486111E

**Projection**
Bonne / WGS84
Latitude of origin: 47.25N
Central meridian: 9.4E

**Data Sources**
All digital elevation models (DEM) derive from ViewFinderPanoramas data. The 30, 60, 120, and 250 meter DEMs derive from 1-arc second data. The 500, 1000, and 2,000 meter DEMs derive from 3-arc second data.

**Data processing**
The processing of DEMs occurred in Natural Scene Designer Pro, QGIS, and Geographic Imager software and involved converting between NSD, IMG, ASCII Grid, and TIF formats. Slight elevation variations exist, ranging up to a few decimeters, between DEMs in each of the multi-resolution series. We used bicubic interpolation for downsampling and did not apply additional filtering or generalization to the DEMs.

**Data issues**
Numerous horizontal artifacts are present in the 30m DEM and are most noticeable in flat areas. We made no attempt to correct these imperfections.
Gore Range, Colorado

• Grid cell sizes
  – 1 m
  – 5 m
  – 15 m
  – 30 m
  – 90 m
  – 250 m
  – 500 m
  – 1,000 m
Valdez, Alaska

- Grid cell sizes
  - 3.3 m
  - 7.5 m
  - 15 m
  - 30 m
  - 90 m
  - 250 m
  - 500 m
  - 1,000 m
  - 2,000 m
NED LiDAR at 3.33-meter resolution
NED LiDAR at 3.33-meter resolution
15 meter

NED LiDAR at 3.33-meter resolution
NED IFSAR at 5-meter resolution
NED IFSAR at 5-meter resolution
2 arc second
USGS NED and Canadian DEMs
Archetypal landform DEMs

1) Crater Lake, Oregon, USA
Landform features: caldera, cinder cone, lava flow
Resolution: 3.33 meter, 5,200 x 5,200 height samples

More information about the Crater Lake data

Esri ASCII Grid, 71.8 MB
GeoTIFF, 71.4 MB
Thank You

shadedrelief.com/SampleTerrainModels

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