

# Elevation data with relief effect

Elevation data and the associated relief effects are advantageous for many applications in the areas of cartography, city planning and tourism. DDS derives elevation contour lines and hypsometric layers from the remote sensing data of the Shuttle Radar Topography Mission (SRTM) and presents the relief of the terrain surface with the aid of shadow effects.

## Elevation data with relief effect

The remote sensing data from the Shuttle Radar Topography Mission (SRTM) is present in the original as binary data in the big endian format. It contains the elevations above sea level in a 90 meter grid and covers most of the earth. The raw data is indeed freely available on the Internet – however the stored data consists exclusively of elevation data without coordinates. DDS combines the coordinates with the corresponding elevation values through calculation. DDS can generate hypsometric layers, elevation contour lines and elevation models from this elevation and coordinate data. Consequently it is also possible to produce sectional

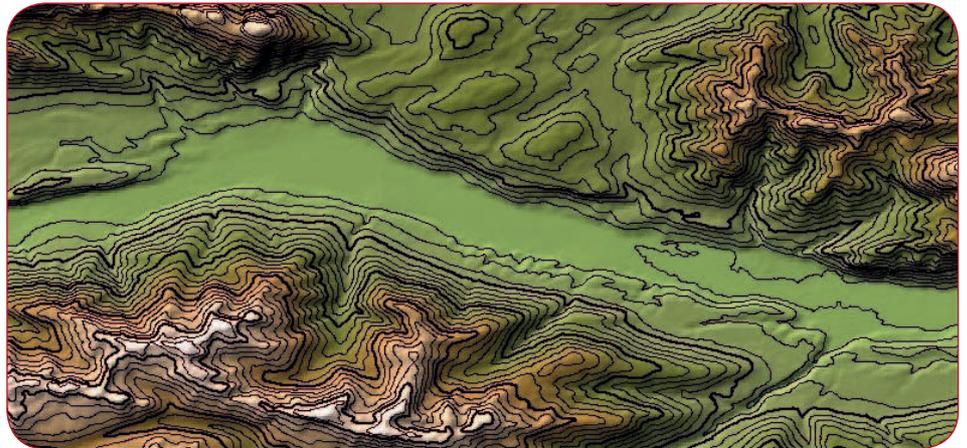


Fig. 1: Elevation data with relief effect using the example of the Austrian Alps/Inntal

terrain models. Without this processing, the use of the elevation data would only be possible after an extensive adjustment period.

## New: The relief effect

DDS has developed a tool with which the relief of the terrain surface is also clearly recognizable. Even inclines can be displayed with this newly provided possibility. The relief effect is produced via so-called geographic shading. In this process specific image areas are brightened or darkened to produce the characteristic and authentic shading.

## Application areas

Extremely effect-rich maps can be generated from the elevation data, thus they can be used to better illustrate and present spatial relationships. For example, the visual appeal of maps is enhanced thanks to the relief-like emphasis of hills and valleys. In addition, elevation models with this type of accuracy can

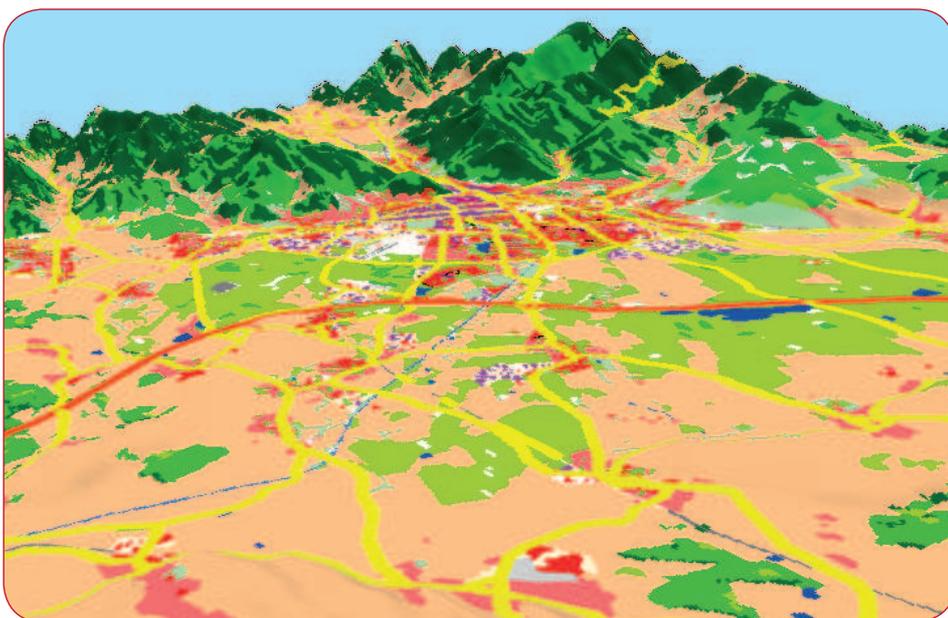


Fig. 2: 3D-view of Freiburg combined with the DDS land use data

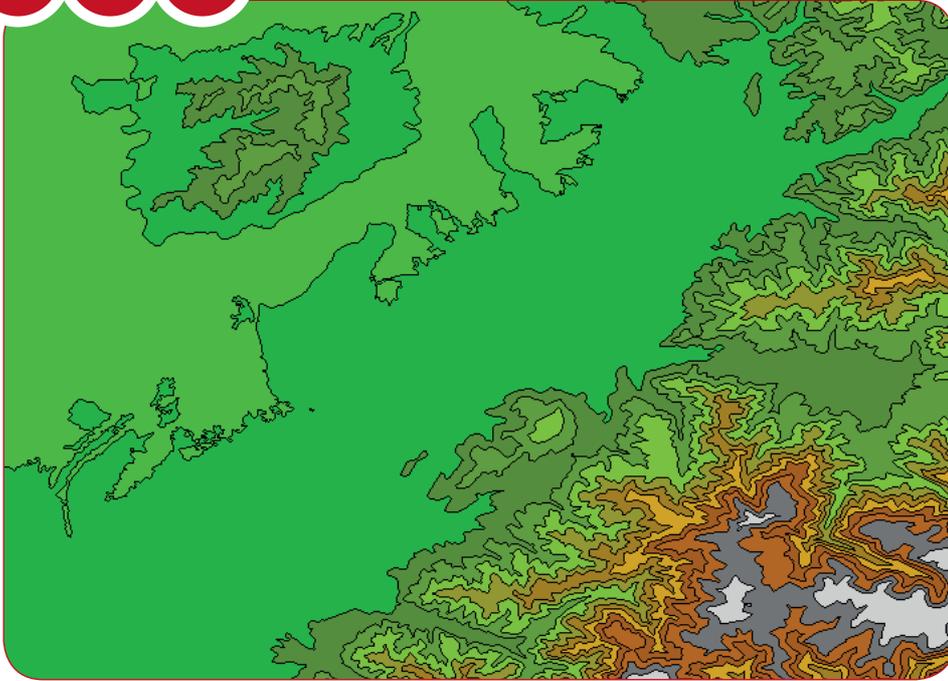


Fig. 3: Hyposymetric layers from the Freiburg area with Kaiserstuhl

also be used for planning purposes in agricultural, city planning, environmental protection and tourism applications.

#### Data processing details

Full-coverage SRTM raw data is not available in some cases, consequently the missing data must be supplemented by DDS. Depending on the respective customer requirement the elevation data is subsequently smoothed and hyposymetric layers can also be derived. These then become differently colored and thus easily recognizable for the viewer. The ele-

vation data can be custom-adapted to the user and his purpose, with or without relief. The geographic shading itself can also be supplied separately without additional information (for example in a gray-scale image).

#### Available formats

ASCII, MapInfo TAB, ArcView-Shape, various image formats (bmp, png, tiff, jpg).

#### Prices

Prices and additional information available on request.