

Product Catalog

Open Data

Introductory Remarks

The Federal Agency for Cartography and Geodesy (BKG) and the Surveying Authorities of the Laender (federal states) are providing plenty of geospatial data and services as well as applications. Harmonized products and their versatile properties support a wide range of purposes.

This Open Data Product Catalog is intended to give users and interested parties an overview of our range of products and services and support you in selecting matching products for your individual utilization scenarios. Moreover, we will inform you about data sources, topicality, accuracy and possible uses of individual geospatial data.

Many of the digital data form part of the Authoritative Topographic-Cartographic Information System (ATKIS®), which describes the topography of the Federal Republic of Germany in a geotopographic database and in the form of use-oriented digital models of the Earth's surface. ATKIS® is jointly maintained by the federal states and the BKG.

Based on the Geodata Access Act, the BKG offers the small-scale digital products depicted on the following pages as Open Data for free download.

The Service Center will be glad to advise and support you in all questions about right of use, content and technology. In this respect, you are welcome to submit your demand for geospatial data and your requirements at any time, so that we are able to adapt our range of services continuously.

We would be very happy to receive your comments, ideas or criticism regarding this product catalog. The editorial team's email address is: dlz@bkg.bund.de.

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Digital Landscape Model 1:250 000

(DLM250)

Update: annually

 Available: digital download,

digital download service: WFS

• Geographic extent: Germany

 Data originator: BKG



Visualization example DLM250

Product Description

The digital landscape model 1:250 000 (DLM250) describes topographic landscape features and the relief of the Earth's surface in vector format. The features are assigned to a certain feature type and defined by their spatial position, their geometrical type, describing attributes and relations to other features.

The data stock comprises feature types and their most important attributes, e.g.:

- Roads, paths, railways, water bodies, settlements, vegetation, administrative boundaries (down to municipality level)
- The relief in the form of contours and further landforms

The ATKIS® feature type catalog (ATKIS®-OK250) defines which feature types are contained in the DLM250 in detail and how the features have to be formed.

Your Benefit – Your Added Values

Federal authorities, Land authorities and municipalities

Basis for spatial planning and cartographic basis for performing their own tasks

Energy supplier, telecommunications

Deriving own high-quality and tailored cartographic representations, convenient plant design and documentation

Police, fire brigade, rescue services and disaster control

Model analysis and cartographic basis for operational planning and subsequent documentation

Other ranges of application

Environmental protection and nature conservation, traffic control systems, forestry and agriculture, road management, geology, leisure, marketing analysis

Generally

Scaled mapping

Digital Landscape Model 1:1000000

(DLM1000)

Update: annually

Available: digital download,

digital download service: WFS, digital map service: WMS

Geographic extent: Germany and adjoining foreign countries

Data originator: BKG



Visualization example DLM1000

Product Description

The digital landscape model 1:1000000 (DLM1000) describes topographic landscape features and the relief of the Earth's surface in vector format. The features are assigned to a certain feature type and defined by their spatial position, their geometrical type, describing attributes and relations to other features.

The data stock comprises feature types and their most important attributes, e.g.:

- Roads, railways, water bodies, settlements, vegetation, administrative boundaries (down to district level)
- The relief in the form of contours and further landforms

The ATKIS® feature type catalog (ATKIS®-OK1000) defines which feature types are contained in the DLM1000 in detail and how the features have to be formed.

Your Benefit – Your Added Values

Federal authorities, Land authorities and municipalities

Basis for spatial planning and cartographic basis for performing their own tasks

Energy supplier, telecommunications

Deriving own high-quality and tailored cartographic representations, convenient plant design and documentation

Police, fire brigade, rescue services and disaster control

Model analysis and cartographic basis for operational planning and subsequent documentation

Other ranges of application

Environmental protection and nature conservation, traffic control systems, forestry and agriculture, road management, geology, leisure, marketing analysis

Generally

Scaled mapping

CORINE Land Cover 5 ha

(CLC5)

Update: updating cycle of 3 years

Available: digital download,

digital download service: WFS, digital map service: WMS

Geographic extent: Germany

Data originator: BKG



Example CLC5

Product Description

The dataset CORINE Land Cover 5ha (CLC5) represents a description of the landscape in vector format under the nomenclature of the CLC classes, which on the one hand reflect land cover and on the other hand also include aspects of land use.

The basis for CLC5 is the Land Cover Model Germany (LBM-DE) with its detailed division into land cover (LB) and land use (LN) as well as information on the proportion of sealing (SIE) and vegetation (VEG) for a minimum object size of 1 ha. Clear CLC classes are derived from the combinations of LB and LN under consideration of SIE and VEG. These data are then generalized for CLC5 to a size of 5ha.

Your Benefit – Your Added Values

Area statistics

Surface sealing

Rural development

Research on nature and environment

CORINE Land Cover 10 ha

(CLC10)

Update: updating cycle of 3 years

Available: digital download,

digital download service: WFS, digital map service: WMS

Geographic extent: Germany

Data originator: BKG



Example CLC10

Product Description

The CORINE Land Cover 10 ha (CLC10) data set offers a description of the landscape in vector format under the nomenclature of the CLC classes, which reflect land cover, on the one hand, but also involve aspects of land use, on the other.

CLC10 is based on the land cover model Germany 2012 (LBM-DE2012) with its detailed segmentation into land cover (LB) and land use (LN) at the minimum value of 1 ha. Unique CLC classes are derived from the combinations of LB and LN ("CLC2012"). These data will subsequently be generalized for CLC10 to a value of 10 ha.

Your Benefit – Your Added Values

Area statistics

Surface sealing

Rural development

Research on nature and environment

Digital Terrain Models

Digital Terrain Models

(DGM200, DGM1000)

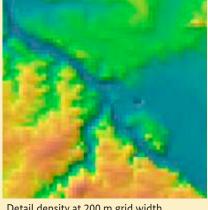
Update: updated approximately each year

 Available: digital download,

digital map service: WMS

• Geographic extent: Germany

 Data originator: BKG



Detail density at 200 m grid width

Product Description

Digital Terrain Models (DGMe) in diverse quality levels are being established as part of the ATKIS® project carried out by the German Land survey institutions to uniformly describe the relief of the territory of the Federal Republic of Germany.

The quality levels are as follows:

- Digital Terrain Model with 200 m grid width (DGM200)
- Digital Terrain Model with 1000 m grid width (DGM1000)

These models describe the terrain forms of the Earth's surface by means of a point quantity arranged in a regular grid and georeferenced to planimetry and altimetry.

Your Benefit – Your Added Values

Environmental protection

Preparation of noise impact maps, flood simulations

Traffic

Route planning, profile representations and volume determination

Energy supply

Planning of wind power plants

Calculation of contours and shadings

Visualizations

Telecommunications and mobile radio

Geology

Digital Topographical Maps

Digital Topographic Map 1:250 000

(DTK250)

Update: continuously (constant data update)

Available: digital download,

digital map service: WMS

Geographic extent: Germany and adjoining foreign countries

Data originator: BKG



Map example DTK250

Product Description

The Digital Topographic Map 1:250 000 includes the representation of terrain (contour lines, shading, spot elevations), water bodies, settlements, transport network, soil cover (forests, meadows, etc.) as well as of selected buildings and administrative boundaries. Many topographic features, such as municipalities, water bodies, mountains and landscapes, are provided with their geographical names.

DTK250 is derived from ATKIS®-DLM250 and GN250.

Your Benefit – Your Added Values

Regional planning

Basis for regional and supraregional planning proposals and projects, a high degree of accuracy and depth of content, abundance of topographic information, ideal presentation graphics

Leisure activities and tourism

Cartographic basis of analogous and digital leisure products (e.g. in mobile GPS receivers and navigation systems), combination with Digital Terrain Models to generate 3D animations of real landscapes

Police, fire brigade and rescue services

Large-scale operational planning, derivation of special maps (e.g. maps for forest fire fighting briefings or hydrographic maps)

Other ranges of application

Logistics, navigation, mining, agriculture and forestry, administration, telecommunications/mobile radio

Geomarketing

Base map for site analyses or defining sales regions, basis for producing thematic maps (e.g. sales figures per sales region, particular branch structure, distribution of suppliers and competitors)

Digital Topographical Maps

Digital Topographic Map 1:500 000

(DTK500)

Update: according to demand

 Available: digital download,

digital map service: WMS

· Geographic extent: Germany and adjoining foreign countries

 Data originator: BKG



Map example DTK500

Product Description

The Digital Topographic Map 1:500 000 (DTK500) contains the dataset of the map "Germany 1:500 000" (D500) and is available in raster data format.

The raster data are divided into layers (raster data layers) according to cartographic content elements. For DTK500 there are 1 sum layer, 8 single layers and 1 additional layer.

The sum layer (layer 0) is formed by combining the single layers (layers 1 to 7 and 9) and contains the colored, complete map image of the D500.

The additional layer (layer 8) contains the hill shading.

The structure and color designation of the single and additional layers of the DTK500 essentially correspond to the colors of the D500.

The data set is available in several resolutions as single sheets and in the form of seamless tiles in various geodetic reference systems and map projections covering the whole of the Federal Republic of Germany.

Your Benefit – Your Added Values

Raster data of the topographic maps are particularly suited as a spatial reference basis and background information for imposing specific data as well as for the computerassisted processing of thematic maps (e.g. geology, hydrology, land use, environmental protection, etc.)

Furthermore, they can be used:

for developing technical information systems (environment, traffic, disaster control, among others);

in combination with digital terrain models and/or remote sensing data;

for planning and generation of 3D representations as well as

for linking data with statistical data of various user areas in the administrative and economic sector.

Digital Topographical Maps

Digital Topographic Map 1:1000000

(DTK1000)

Update: annually

Available: digital download,

digital map service: WMS

Geographic extent: Germany and adjoining foreign countries

Data originator: BKG



Map example DTK1000

Product Description

DTK1000 includes the georeferenced raster data of the vectorized "Topographische Übersichtskarte 1:1 000 000" (DTK 1000).

The raster data are subdivided into several single layers. A sum layer is formed by combining these layers and then depicts the colored, complete map image of the DTK1000.

Furthermore, five additional layers are available containing information, such as vegetation, shading, contour levels, geographical network and UTM grids.

The data set is kept available area-wide in various resolutions in the form of individual sheets and seamless tiles in different geodetic reference systems and map projections for the Federal Republic of Germany.

Your Benefit – Your Added Values

Raster data of the topographic maps are particularly suited as a spatial reference basis and background information for imposing specific data as well as for the computerassisted processing of thematic maps (e.g. geology, hydrology, land use, environmental protection, etc.)

Furthermore, they can be used:

for developing technical information systems (environment, traffic, disaster control, among others);

in combination with digital terrain models and/or remote sensing data;

for planning and generation of 3D representations as well as

for linking data with statistical data of various user areas in the administrative and economic sector.

Web presentation and Presentation graphics

(TopPlusOpen)

Update: annually

Available: digital map service: WMS, WMTS

Geographic extent: Web presentation: World

Presentation graphics: Germany and adja-

cent areas of neighboring states

Data originator: BKG, Geoportal Berlin, Geobasis BB,

Geobasis HH, Geobasis MV, Geobasis NRW, LVermGeoRP, GDI-Th, Auswärtiges Amt, EuroGeographics, U.S. Geological Survey, Deutsche Bahn AG, OpenStreetMap, Natural

Earth Data and others



Visualization TopPlusOpen

Product Description

With the product TopPlusOpen, the BKG breaks new grounds and creates for the first time a consistent web map, completely based on free and official data sources. For this purpose, the BKG merged, processed and combined many different data sources in order to achieve the best possible map presentation. Among others, official spatial data of the federal states Berlin, Hamburg, North Rhine-Westphalia, Rhineland-Palatinate and Thuringia are presented in this product.

The *web map* TopPlusOpen has 18 predefined levels of detail, from the worldwide overview map to the detailed city map in Germany. As standard, the product is available in the widespread Web Mercator Projection. Via the WMS interface, the web map may also be called in further common projections. The web map is divided into three different display areas:

- World (small scale)
- Europe (medium scale)
- Germany and neighboring countries (large scale)

Additionally, the TopPlusOpen contains high-resolution *Presentation graphics*. Thus for the first time free and graphically uniform map data are available with full coverage for the territory of the Federal Republic of Germany and the adjacent areas of neighboring countries in the scales 1:25000, 1:50000, 1:100000 and 1:250000 that are optimally suited for printing.

Your Benefit – Your Added Values

Web map for simple integration into your web presence

Presentation graphics for printing

Free commercial and non-commercial use for everybody

Clear and simple licensing terms

Comprehensive cross-border presentation in uniform map graphics worldwide

High level of data topicality

Use of official and free data bases (e.g. OpenStreetMap)

Topographic base map for spatial orientation in geographic information systems

Use in situation or control centers of authorities and organizations with security tasks (BOS)

Presentation of thematic data and planning projects

Base map for location analyses, land use, urban and regional planning

Administrative Areas 1:250 000

(VG250 and VG250-EW)

Update: annual cyclic revision as of 31 December and

1 January of each year, VG250-EW only as of

31 December

Available: digital download,

> digital download service: WFS, digital map service: WMS

• Geographic extent: Germany

BKG Data originator:



Visualization example VG250

Product Description

The data stock comprises all administrative units of the hierarchical administrative levels from the state to the municipalities with their boundaries, statistical key numbers and the name of the administrative unit as well as the specific denomination of the administrative level of the respective federal state.

The product VG250-EW additionally includes population figures.

The geometry of the boundaries is aligned to ATKIS®-DLM250 in terms of accuracy and resolution.

The data set is available in two specifications:

Compact:

The geometry of the administrative units is redundancy-free in one plaine and is essentially classified by way of a separate attribute table.

Levels:

The data are organized level by level (state, federal states, administrative regions, districts, association of administrations and municipalities) with the areas included directly carrying the attributive information.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations

Administrative Areas 1:1000000

(VG1000 and VG1000-EW)

Update: annual cyclic revision as of 31 December and

1 January of each year, VG1000-EW only as

of 31 December

Available: digital download,

digital download service: WFS, digital map service: WMS

Geographic extent: Germany

Data originator: BKG



Visualization example VG1000

Product Description

The data stock comprises all administrative units of the hierarchical administrative levels from the state to the districts/counties with their boundaries, statistical key numbers and the name of the administrative unit as well as the specific denomination of the administrative level of the respective federal state.

The product VG1000-EW additionally includes population figures.

The geometry of the boundaries is aligned to ATKIS®-DLM1000 in terms of accuracy and resolution.

The data set is available in two specifications:

Compact:

The geometry of the administrative units is redundancy-free in one plaine and is essentially classified by way of a separate attribute table.

Levels:

The data are organized level by level (state, federal states, administrative regions and districts) with the areas included directly carrying the attributive information.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations

Administrative Areas 1:2500000

(VG2500)

Update: annual revision and additionally intermediate

status reports, where appropriate,

e.g. regional reorganization (without claiming to be exhaustive and without official

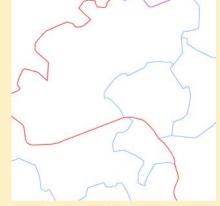
geometries and attributes)

Available: digital download,

digital download service: WFS, digital map service: WMS

• Geographic extent: Germany

Data originator: BKG



Visualization example VG2500

Product Description

The data stock comprises the administrative units of the hierarchical administrative levels from the state to the districts/counties with their boundaries, statistical key numbers and the name of the administrative unit.

The data are organized level by level (state, federal states, administrative regions and districts/counties) with the areas included directly carrying the attributive information.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations

Administrative Map of Germany 1:2500000

(VK2500)

Update: annually

Available: digital download

Geographic extent: Germany

Data originator: BKG



Visualization VK2500

Product Description

The administrative maps represent the administrative units of the hierarchical administrative levels from the state to the Kreise (districts) with their boundaries and the name of the administrative unit. They are offered in different content related compilations as well as in graphics-oriented formats. These are Adobe Illustrator (AI), Encapsulated PostScript (EPS) and Scalable Vector Graphics (SVG), and as Portable Document Format (PDF).

The maps can be used as document and for direct printing as well as for further processing in graphics programs. A special software for the processing of spatial data (geographic information system) is neither required nor suited for evaluating these data.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations as vectors

Further processing in graphics programs

Geographical Grids (GeoGitter) - Update: continuously, 5-year update cycle - Available: digital download - Geographic extent: Germany - Data originator: BKG

Product Description

The use of regular grid cells as carrier of semantic information is an established method for presenting and analyzing statistic issues. Due to the equal distribution and uniform size of the grid cells, statistical issues can be evaluated time-stably and comparably. The product GeoGitter fulfills the requirements of INSPIRE Grids as well as those of national grid systems.

Beyond the geometry of the grids, the grid cells carry the following basic information:

- proportion of the area Germany / abroad
- proportion of the area land / water
- Official Municipality Key of the municipality predominating in terms of the area for the grids 100 m and 250 m

CSV (Excel) and also Shape are available as data formats.

Your Benefit – Your Added Values

Visualization example GeoGitter

100kmN58E5

100kmN58E4

Geographical grids of various tile sizes for presenting and analyzing statistical issues

Nomenclature des unités territoriales statistiques

(NUTS250, NUTS1000, NUTS2500)

Update: 1-year revision cycle with the statuses

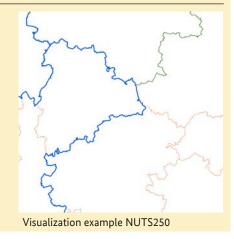
31.12. and 01.01. of each year

Available: digitally as download,

digitally as map service: WMS

Geographic extent: Germany

Data originator: BKG



Product Description

For the territory of the Federal Republic of Germany, the data set comprises the regions of the systematics of the territorial units NUTS1 for the purpose of European statistics.

The NUTS regions have a hierarchical structure and three levels and - with only a few exceptions - mirror the administrative units for Germany.

- Level NUTS 1 in Germany: Laender
- Level NUTS 2 in Germany: largely Regierungsbezirke
- Level NUTS 3 in Germany: "kreisfreie" towns and districts

Besides the current Regierungsbezirke, also the former Regierungsbezirke of the Laender Lower Saxony, Rhineland-Palatinate and Saxony are given on the NUTS-2 level for Germany. In national language, this NUTS-2 classification is also called "Statistical Regions".

The geometry is derived from the respective dataset of the corresponding Administrative Areas (VG). So, what concerns accuracy and resolution, the geometry is oriented towards the corresponding Digital Landscape Model (DLM) analogous to the VG.

The data are structured according to levels (NUTS1, NUTS2 and NUTS3), whereby the areas contained are directly carrying the attributive information.

Your Benefit - Your Added Values

Cartographic representation of statistical evaluations

Administrative assignment 1:250 000

Update: 1-year revision cycle with the statuses

31.12. and 01.01. of each year

Available: digitally as download,

> digitally as download service: WFS, digitally as map service: WMS

• Geographic extent: Germany

 Data originator: **BKG**



Product Description

For the territory of the Federal Republic of Germany the dataset comprises the assignment of the municipalities to the respective superior

administrative units with

- Territorial Key (RS/TK)
- names and
- designations

and the respective regions of the systematics of the territorial units NUTS for the purpose of European statistics of the Statistical Office of the European Union (EUROSTAT)

- NUTS codes and
- names of the NUTS regions.

The geometry is derived from the respective dataset of the Administrative areas 1:250 000 (VG250). So, what concerns accuracy and resolution, the geometry is oriented towards the DLM250.

The areas are of the type "MultiPolygone" (also "Multipart"). Each area can comprise several single areas, such as regular area with exclaves or inset areas, each of these MultiPolygones corresponding to a dataset in the attribute table.

Your Benefit - Your Added Values

Cartographic representation of statistical evaluations

Territorial Units 1:250 000

(GE250)

Update: annually

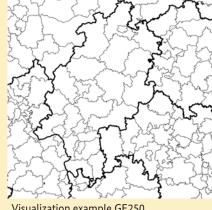
 Available: digital download,

digital map service: WMS

 Geographic extent: Germany

 Data originator: BKG, BBSR

Federal Statistical Office,



Visualization example GE250

Product Description

The database comprises various non-administrative territorial units for the territory of the Federal Republic of Germany:

- Raumordnungsregionen (Spatial Planning Regions, ROR250)
- Reisegebiete (Travel Areas, RG250)
- Siedlungsstrukturelle Kreistypen 4 levels (Settlement-Structural District Types, KTYP4_250)
- Siedlungsstrukturelle Regionstypen 3 levels (Settlement-Structural Region Types, RTYP3_250)
- Städtischer und Ländlicher Raum (Urban and Rural Areas, SLRAUM 250)
- Arbeitsagenturbezirke (Employment Agency Districts AAG250)
- Arbeitsmarktregionen (Labour Market Regions, AMR250)

The geometry is derived from the respective data stock Administrative Areas 1:250 000 (VG250). Thus the geometry is aligned with the DLM250 in terms of accuracy and resolution analogous to the VG250.

The areas are of the type "MultiPolygon" (also "Multipart").

Each area can comprise several single areas, such as regular area with exclaves or inset areas, each of these MultiPolygones corresponding to a dataset in the attribute table. The data directly carry the attributive information.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations

Territorial Units 1:1000000

(GE1000)

Update: annually

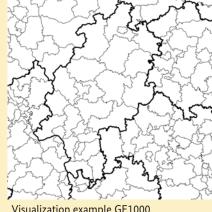
 Available: digital download,

digital map service: WMS

• Geographic extent: Germany

 Data originator: BKG, BBSR

Federal Statistical Office,



Visualization example GE1000

Product Description

The database comprises various non-administrative territorial units for the territory of the Federal Republic of Germany:

- Raumordnungsregionen (Spatial Planning Regions, ROR1000)
- Reisegebiete (Travel Areas, RG1000)
- Siedlungsstrukturelle Kreistypen 4 levels (Settlement-Structural District Types, KTYP4_1000)
- Siedlungsstrukturelle Regionstypen 3 levels (Settlement-Structural Region Types, RTYP3_1000)
- Städtischer und Ländlicher Raum (Urban and Rural Areas, **SLRAUM 1000)**
- Arbeitsagenturbezirke (Employment Agency Districts AAG1000)
- Arbeitsmarktregionen (Labour Market Regions, AMR1000)

The geometry is derived from the respective data stock Administrative Areas 1:1000000 (VG1000). Thus the geometry is aligned with the DLM1000 in terms of accuracy and resolution analogous to the VG1000.

The areas are of the type "MultiPolygon" (also "Multipart").

Each area can comprise several single areas, such as regular area with exclaves or inset areas, each of these MultiPolygones corresponding to a dataset in the attribute table. The data directly carry the attributive information.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations

Territorial Units 1:2500000

(GE2500)

Update: annually

Available: digital download,

digital map service: WMS

Geographic extent: Germany

Data originator: BKG, BBSR

Federal Statistical Office,



Visualization example GE2500

Product Description

The database comprises various non-administrative territorial units for the territory of the Federal Republic of Germany:

Raumordnungsregionen (Spatial Planning Regions, ROR2500)

The geometry is derived from the respective data stock Administrative Areas 1:2500000 (VG2500). Thus the geometry is aligned with the VG2500 in terms of accuracy and resolution.

The areas are of the type "MultiPolygon" (also "Multipart").

Each area can comprise several single areas, such as regular area with exclaves or inset areas, each of these MultiPolygones corresponding to a dataset in the attribute table. The data directly carry the attributive information.

Your Benefit – Your Added Values

Cartographic representation of statistical evaluations

Geographical Names 1:250 000

(GN250)

Update: annually

 Available: digital download,

> digital download service: WFS, digital map service: WMS

• Geographic extent: Germany

 Data originator: BKG



Visualization example GN250

Product Description

The Geographical Names contain names of the object ranges:

- settlement
- traffic
- vegetation
- water bodies
- relief
- areas

with attributes of:

- administrative division (statistical key number)
- river system (waterbody number in accordance with the LAWA, the German Working Group on water issues)
- population
- size area, length)
- position (geometrical data from the Digital Landscape Model on a scale of 1:250 000 as well as additionally attributive geographical coordinates -GGMMSS-)
- status of the geographical name
- language of the geographical name
- height (height in meters above sea level)

The data set GN250 is based on the scale of 1:250 000 and has approximately 120 000 entries. The position of the features is each described as point geometry via a single coordinate and minimum bounding boxes.

Your Benefit – Your Added Values

Location search

Name variants of recognized minority languages

Localization of geographical features with the geographical names of the Digital Landscape Models

License Plate Numbers 1:250 000

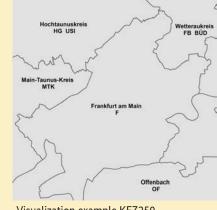
(KFZ250)

Update: annually

 Available: digital download

• Geographic extent: Germany

 Data originator: Federal Motor Transport Authority,



Visualization example KFZ250

Product Description

The overview of the license plate numbers contains the feature type AX_KreisRegion and AX_Gemeinde with attributes about:

- Name
- Regional key of the administrative areas
- License plate number
- Position (geometry data from the administrative areas in the scale 1:250 000 and additionally attributive geographical coordinates - GGMMSS -)

The dataset is oriented to the scale 1:250 000 and contains about 410 entries. The position of the features is described as surface geometry and as point geometry (using attributes).

There are some license plate numbers that are managed only by municipalities. Only the relevant municipalities are represented.

Your Benefit – Your Added Values

Spatial analyses

Cartographical representations

Location of features from the Digital Landscape Models on the basis of geographical names

Statistical evaluations

Landscapes of Germany

(Landscapes)

Update: annually

Available: digital map service: WMS

• Geographic extent: Germany

Data originator: BKG; StAGN; Landscape descriptions:

Herbert Liedtke, Namen und Abgrenzungen von Landschaften in der Bundesrepublik Deutschland, Third edition 2002, Volume 239 in the series "Forschungen zur deutschen Landeskunde", Deutsche Akademie für

Landeskunde, self-publishing



Visualization example Landscapes

Product Description

Landscape names are vernacularly used names, the origin of which may be of natural, historical, economical or other kind. Landscapes are considered here being a defined or definable larger or smaller part of the earth's surface with a name of its own. In contrast to political entities (e.g. municipality, district) the boundaries of which are clearly and legally defined by official surveying, for landscapes there are usually no determined, but only imprecise limits that are not legally determined.

Based on the landscapes processed by the Permanent Committee on Geographic Names (StAGN), the Service Center of the Federal Government for Geoinformation and Geodesy developed a view service for landscape names.

In most cases, the delimitations can only be seen as "border seams" in the range of which the affiliation of single areas to a particular landscape cannot be derived bindingly.

Your Benefit – Your Added Values

Comprehensive compilation of the most important landscape names of Germany

Based on the StAGN

Mosaic of Germany from Sentinel-2-Data

(Sentinel2-DE)

Update: annual enlargement

Available: digital map service: WMS

Geographic extent: Germany

Data originator: European Space Agency: Copernicus Earth

Observation Program



Visualization example Sentinel2-DE

Product Description

The Federal Agency for Cartography and Geodesy (BKG) has developed a procedure for the demand-related provision of remote sensing data. Optical satellite image data are currently preferred by the Federal Administration for remote sensing production. The so-called mosaic method is an important method for this. The method was established with the EU funded Sentinel-2 data of the European Earth Observation Initiative Copernicus and can be applied to any optical data set (including aerial photographs). With this method, we provide a service that allows optical remote sensing data to be processed professionally and demand-oriented for any area on earth.

This service enables users to integrate pre-processed and prepared remote sensing information from the Earth Observation Programme Copernicus (Sentinel-2, L2A-L2C) for the Federal Republic of Germany into their own existing specialist procedures. The mosaic was assembled from data from 2018 and has a ground resolution of 10m. The mosaic consists of 5 bands and the possibility of choosing composites is given (Sentinel-2 bands: 2, 3, 4, 5 and 8; (R, G, B, NIR, Red Edge); analogous to the RapidEye satellite images). Using a resampling method, the original resolution of the channel 5 (20m) is calculated to 10m. The cloud cover for the mosaic is less than 3% over the entire area.

The service supports a time parameter that can be used to query the different annual statuses.

Your Benefit – Your Added Values

Background maps for own services

Satellite image maps in combination with own information

Mapping and update support for land covers

Presentation opportunity

3D flight simulations in connection with height information (DGM, DOM)

Basis for index calculations (e.g. NDVI)

 $Integration\ into\ classification\ procedures$

Europe Mosaic from Sentinel-2 Data

(Sen2Europe)

Update: annual enlargement

Available: digital map service: WMS

Geographic extent: Europe

Data originator: European Space Agency: Copernicus Earth

Observation Program



Visualization example Sentinel2-DE

Product Description

The Federal Agency for Cartography and Geodesy (BKG) has developed a procedure for the demand-oriented provision of remote sensing data. For remote sensing production, optical satellite image data is currently the preferred method in the federal administration. For this purpose, the so-called mosaic procedure is an important method. The method was built using the EU-funded Sentinel-2 data from the European Earth observation initiative Copernicus and can be applied to any optical data set (including aerial imagery).

With the Europe Mosaic from Sentinel-2 data, we provide the mosaic procedure as an exemplary service through which optical remote sensing data for any area of the earth can be processed for federal authorities in a professional and demand-oriented manner.

The Web Map Service (WMS) Sen2Europe: This service enables users to integrate pre-processed and processed remote sensing information from the Copernicus Earth observation program (Sentinel-2, L1C-L2A) for Europe into their own existing specialized procedures. The 2018 imagery data were assembled into a mosaic, which has a ground resolution of 10 m. A composite of three bands (Sentinel-2 bands: 2, 3, 4(R, G, B)) and input image data information are provided. The image data were subjected to a radiometric color balancing procedure to obtain a uniform appearance. For each mosaic, cloud cover over the entire area is less than 3%.

Your Benefit – Your Added Values

Background maps for own services

Satellite image maps in combination with own information

Mapping and update support for land covers

Presentation opportunity

3D flight simulations in connection with height information (DGM, DOM)

Interactive Map Applications

BKG WebMap

Update:

none

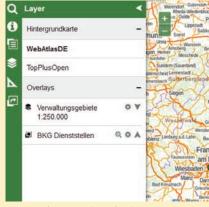
Available:

digitally as JavaScript library

Geographic extent:

Data Originator:

BKG



BKG WebMap with WebAtlasDE

Product Description

Using the BKG WebMap, you can individually create interactive map applications without much effort and incorporate them into your website. In particular, the use of the map services of BKG and WebAtlasDE is easily supported.

The BKG WebMap is a JavaScript library which encapsulates the functions for creating interactive maps. It is based on OpenLayers, adding some useful functions to this library. This enables the generation of simple site plans as well as of more complex WebGIS solutions. Thanks to the configurative interface the interactive maps can be produced even without much previous knowledge of JavaScript.

The Open Data Services of the BKG as well as further protected services can be integrated into the map application. In addition, further formats like CSV files, Excel files or GPS Tracks are supported.

Your Benefit – Your Added Values

Presentation of specific issues in combination with topographic base maps in an interactive map on your own website

TopPlusOpen Download

Update: none

Available: interactive web application

Geographic extent: Germany and adjacent areas of neighboring

states in the large scales

Originator: BKG



Application example

Product Description

The application TopPlusOpen Download allows all users to download and store sections or tiles of the web map TopPlusOpen via an interactive selection in the map.

The colored web map of Germany and the adjoining countries (large scale) as well as the presentation graphics in the scales 1:5000, 1:10000, 1:17500, 1:25000 and 1:50000 are offered for download.

Each tile is stored as image file, together with a so-called World-File. The World File can be interpreted by different geographic information systems.

The map section is stored in tiles that cover it. The tile size is an integer multiple of a kilometer. The edges of the tiles are also located on integer multiples of a kilometer. For this, tiles as large as possible with the maximum size of 5,000 pixels x 5,000 pixels are generated.

Your Benefit – Your Added Values

Generation of individual maps

Comprehensive border-crossing representation with uniform map graphics

Presentation graphics in print quality

Commercial and non-commercial use for everybody free of charge

Clear and simple license terms

High degree of topicality of the data

Use of official and free data bases (e.g. OpenStreetMap)

Update: none Available: digitally as web service: GDZ Geographic extent: territories formerly belonging to Germany BKG BKG **Geographic extent: BKG **June 1 | Suche Ort: | Suche

Product Description

The service is based on the series of historical gazetteers for territories formerly belonging to Germany, that were published by the BKG for processing citizenship issues. Today, the digital stock of place names exceeds the one of the analogue gazetteers. In terms of time, the data stock contains place names in their chronology from 1900 to 1993.

In addition to the service, there is also an interactive search mask (web application), that can be used on the web page of the Service Center free of charge.

Your Benefit – Your Added Values

Digital search for historical place names

Coordinate Transformation

Update:

none

Available:

interactive web application, HTTP interface

Geographic extent:

Germany

Originator:

BKG



Application example

Product Description

The Service Center for Geoinformation and Geodesy of the German federal government operates the freely available service "Coordinate Transformation Service (CTS)".

The service supports the transformation of coordinates between the common coordinate reference systems in Germany. It can be integrated into your own applications via a very simple HTTP GET and POST interface.

A web application that can be employed for transforming individual coordinate values or coordinate lists into files is available for immediate interactive use.

The conversion accuracy meets cartographic requirements on the scale of 1:25 000 to 1:1000 000.

Your Benefit – Your Added Values

Transformation of coordinates from one coordinate system to another

Map Scale Calculator

Update: none

Available: interactive web application, HTTP interface

Geographic extent: Germany

Originator: BKG



Application example

Product Description

The map scale calculator allows the conversion of lengths from maps and in reality as well as the scale calculation.

In addition to length specifications, pixel sizes can also be defined and converted based on the same scale. An inverse input of resolutions (e.g. in DPI) is also possible.

Finally, the number of pixels is calculated based on length specification and pixel size. Often, this specification is useful for calculating tile sizes in picture archives.

Your Benefit – Your Added Values

Simple and quick calculation of lengths from maps as well as scale calculation

Quasigeoid Height Calculation Update: none Available: interactive web application, HTTP interface ETRS89 ellipsoidische Koordinater • Geographic extent: Germany Breite [Grad] Länge [Grad] Originator: **BKG** ellipsoidische Höhe [m] physikalische Höhe / Gebrauchshöhe [m] Quasigeoidhöhe [m] Application example

Product Description

The quasigeoid heights, and thus the normal heights in the German first order levelling net (DHHN2016), can be calculated online from ellipsoidal heights for single points. The current quasigeoid model of the Surveying Authorities of the Laender (AdV) – GCG2016 – is used for calculations.

The physical normal height – official height – is calculated from the location coordinates in ETRS89 and the ellipsoidal (GNSS) height in DHHN2016 using the quasigeoid height at this point.

Your Benefit – Your Added Values

Calculation of physical (leveling) heights from ellipsoidal (GNSS) heights for single points

Gravity Value Calculation Update: none ETRS89 ellipsoidische Koordinaten Available: interactive surface (Java Applet), HTTP interface Breite [Grad] 99-999999 Länge [Grad] 99-999999 • Geographic extent: Germany Höhe im DHHN92 Originator: BKG physikalische Höhe [m] hhhh.hhh Schwerewert Schwerewert [mGal] Application example

Product Description

Within Germany, the gravity value g can be calculated for a point on the Earth's surface in DHSN96 from the location coordinates in ETRS89 and the physical height in DHHN92 based on a model.

As a rule, the accuracy to be expected is better than 2 mgal, in case of highly varied topography conditions (e.g. high mountains, narrow and steep valleys) better than 7 mgal.

Your Benefit – Your Added Values

Calculation of gravity values from location coordinates and physical height for single points

Online Services

Our Online Services at a Glance

Abbreviations and Explanations of the Services

- WMS: Standardized Web Map Service based on specifications of the Open Geospatial Consortium (OGC) for requesting and providing maps as raster data. A WMS server can generate maps from raster data and vector data. Attributes may also be retrieved when the WMS is being generated from vector data..
- WMTS: Standardized Web MapTile Service based on specifications of the Open Geospatial Consortium (OGC) for requesting and providing maps as tile-based raster data. The map is pregenerated by the server for previously chosen zoom levels and fragmented into small tiles. Thus, the application may access the image tiles in a performant manner.
- WFS: Standardized Web Feature Service based on specifications of the Open Geospatial Consortium (OGC) for requesting and providing geospatial as object-structured vector data (features). The results are returned as XML-based Geography Markup Language (GML) data.
- OLS: Standardized Open Location Service based on specifications of the Open Geospatial Consortium (OGC) for requesting and providing geospatial as object-structured vector data (features). The results are returned as XML-based Geography Markup Language (GML) data.
- CSW: Standardized Web Catalog Service based on specifications of the Open Geospatial Consortium (OGC) and the International Organization for Standardization (ISO) for requesting and providing information (meta data) about geospatial data and geospatial data services.
- GDZ: Services providing other interfaces. For example, the geocoding/place search provides, an interface that is conform with the specification OpenSearch Geo and Time Extensions (OSGTS) of the Open Geospatial Consortium (OGC). This interface is optimized for the integration into web applications.

Online Services

List of Available Services

Contents	Name
WMS Digital Terrain Model 1:200 000 in 2 visualizations (relief, shading)	wms_dgm200
WMS Digital Terrain Model 1:1000000 in 2 visualizations (relief, shading)	wms_dgm1000
WMS Digital Landscape Model 1:250 000 INSPIRE	wms_dlm250_inspire
WMS Digital Landscape Model 1:1000000	wms_dlm1000
WMS Digital Topographic Maps 1:250 000 to 1:1000 000 in coordinated scale series	wms_dtk_bkg
WMS topicality information about products from BKG and ZSGT	wms_info
WMS Digital Topographic Map 1:250 000 to 1:1000 000	wms_dtk_klein
WMS Digital Topographic Map 1:250 000	wms_dtk250
WMS Digital Topographic Map 1:500 000 in color and grey values	wms_dtk500
WMS Digital Topographic Map 1:1000000	wms_dtk1000
WMS Digital General Map 1:2500000	wms_d2500
WMS Geographical Names 1:250 000 as point features	wms_gn250
WMS INSPIRE Visualization Service for Geographical Names	wms_geonames
WMS Landscapes Germany	wms landschaften
WMS Mosaic of Germany from Sentinel-2-Data	wms_sentinel2_de
WMS Mosaic of Europe from Sentinel-2-Data	wms sen2europe
WMS Web presentation and Presentationgraphics TopPlusOpen	wms_topplus_web_open
WMS Administrative Areas 1:250 000 – as of 1 January	wms_vg250
WMS Administrative Areas 1:250 000 with population figures – as of 31 December	wms vg250-ew
WMS Administrative Areas 1:1000000 – as of 1 January	wms_vg1000
WMS Administrative Areas 1:1000000 with population figures – as of 31 December	wms_vg1000-ew
WMS Administrative Areas 1:2500 000	wms_vg2500
WMS Nomenclature des unités territoriales statistiques 1:250 000 INSPIRE - as of 31 December	wms_nuts250_1231_inspire
WMS Nomenclature des unités territoriales statistiques 1:250 000 INSPIRE - as of 1 January	wms_nuts250_0101_inspire
WMS Nomenclature des unités territoriales statistiques 1:1000000 INSPIRE - as of 31 December	wms_nuts1000_1231_inspire
WMS Nomenclature des unités territoriales statistiques 1:1000000 INSPIRE - as of 1 January	wms_nuts1000_0101_inspire
WMS Nomenclature des unités territoriales statistiques 1:2500000 INSPIRE - as of 1 January	wms_nuts2500_0101_inspire
WMS Administrative assignment 1:250 000 - as of 31 December	wms_vz250_1231
WMS Administrative assignment 1:250 000 - as of 1 January	wms_vz250_0101
WMS CORINE Land Cover 5 ha – as of 2018	wms_clc5_2018 (2015, 2012)
WMS CORINE Land Cover 10 ha – as of 2018	wms_clc10_2018 (2015, 2012)
WMS CORINE Land Cover 10 ha INSPIRE	wms_clc10_inspire
WMTS Web presentation and Presentationgraphics TopPlusOpen	wmts_topplus_web_open
WFS Digital Landscape Model 1:250 000	wfs dlm250
WFS Digital Landscape Model 1:250 000 INSPIRE	wfs_dlm250_inspire
WFS Digital Landscape Model 1:1000 000	wfs dlm1000
WFS Geographical Names 1:250 000	wfs_gnde wfs_gn250 inspire
WFS INSPIRE Feature Download Service for Geographical Names	
WFS topicality information about products from BKG and ZSGT	wfs_info
WFS Administrative Areas 1:250 000 – as of 1 January	wfs_vg250
WFS Administrative Areas 1:1000000 are of 1 language	wfs_vg250-ew
WFS Administrative Areas 1:1000 000 – as of 1 January	wfs_vg1000
WFS Administrative Areas 1:1000 000 with population figures – as of 31 December	wfs_vg1000-ew
WFS Administrative Areas 1:2500 000	wfs_vg2500
WFS Administrative assignment 1:250 000 - as of 31 December	wfs_vz250_1231
WFS Administrative assignment 1:250 000 - as of 1 January	wfs_vz250_0101
WFS CORINE Land Cover 5 ha - as of 2018	wfs_clc5_2018 (2015, 2012)
WFS CORINE Land Cover 10 ha - as of 2018	wfs_clc10_2018 (2015, 2012)
WFS CORINE Land Cover 10 ha INSPIRE	wfs_clc10_inspire
GDZ List of Historical Place Names	gdz_histonamen

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