



Documentation

Digital Topographic Map 1 : 250 000

DTK250



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1 Overview of the dataset

Product:	Digital Topographic Map 1 : 250 000 (DTK250)
Content:	Georeferenced raster data of the map „Deutschland 1 : 250 000“ (TK250)
Area:	Federal Republic of Germany
Spatial structure*:	about 111 seamless tiles 80 x 80 km
Spatial reference*:	• UTM projection in zone 32 ETRS89, ellipsoid GRS80 (EPSG: 25832)
Currentness:	Complete editing: 31 December 2022 Additions: 01 January 2023
Resolution:	320 pixels/cm bzw. 812,8 dpi
Data formats*:	TIFF-LZW, colour depth 8 Bit, RGB palette
Data supply*:	• Online service via WMS • Download via Open Data Portal by the BKG
Modification against last Dataset:	No, only Updating the Dataset
Historical data:	Downloadable via the Open Data Archive by the BKG
Data volume:	• ~ 600 MB combined layer • ~ 1,6 GB single layers
Data source:	Digital landscape model 1 : 250 000 (DLM250)

* Please note that not all forms of delivery can be provided with each georeferencing and data format.
If you have any questions, feel free contact the Service Centre (DLZ).

2 Description of the dataset and online services

2.1 Content

2.1.1 In General

The Digital Topographic Map 1 : 250 000 (DTK250) is a derived raster product of the Digital landscape model 1 : 250 000 (DLM250) which has been cartographically revised before creation.

The currentness of the map is as of the date “complete editing” mentioned in chapter one. Several additions like changes of city names are more up to date and thus refer to the date “additions”.

The raster data is subdivided into several layers according to their cartographic content. The DTK250 has one combined layer as well as 8 single and 3 additional layers.

The **combined layer** (layer 0) is a combination of the **single layers** 1-7 and 9 and offers the complete coloured map image of the TK250.

Colours and structure of the single layers for the DTK250 are basically corresponding to the colours of the TK250. For practical reasons, some layers received additional thematic attributions of individual map elements. This implies an advantage for the user since each layer covers the whole federal territory. The single layers of all Digital Topographic Maps distributed by the BKG have an identical structure, except for some scale-dependent special characteristics.

More differentiated information is allowed by colour channels which are part of the single and additional layers. Certain cartographic elements are assigned to these channels (see section 2.1.2 and 2.1.3).

Please note that cartographic symbols may contain graphical gaps to avoid certain overlays with symbols of other layers. This is because the single layers were generated for the purpose of map printing.

The **additional layer** 8 contains hill shading.

The **additional layer** 10 contains geographical grid.

The **additional layer** 11 contains UTM grid.

2.1.2 Contents and colour chart of the combined layer (L0)

Channel	Red	Green	Blue	Colour	Principal contents
0					NODATA
1	43	43	43	black	place names, railway, single symbols
2	128	128	128	grey	railway out of operation
3	153	77	77	situation-brown	situation, traffic
4	192	192	192	building-grey	buildings
5	224	167	160	residential area-red	residential area
6	82	112	254	brook-blue	outline of waterbody
7	82	112	254	brook-blue	swamp symbol
8	255	177	100	road-orange	Autobahn, federal main roads
9	255	255	119	road-yellow	state roads
10	255	255	255	white	others and municipal roads, single symbols
11	255	123	123	danger-red	single symbols, lettering, military training ground
12	41	141	49	tree-green	vineyard, hops
13	41	141	49	nature-park-green	nature park border
14	219	208	185	fallow-brown	swamp, moss, peat ditch
15	227	211	228	heath-violet	heath
16	194	226	158	forest-green	forest
17	223	238	213	meadow-green	meadow
18	197	220	243	sea-blue	waterbody
19	230	230	230	tidelands-grey	tidelands
20	216	202	160	relief-brown	contour lines
21	192	192	192	rock-grey	rocks
22	255	255	255	rock-white	background of rocks
23	206	157	255	border-violet dark	borderline symbol
24	230	203	254	border-violet light	borderline state, rasterized
25	141	141	141	grid-grey	geographical grid
26	82	112	254	blue	Autobahn number box
27	255	255	119	yellow	federal main road number box
28	37	126	44	green	European route number box
29	255	255	255	white	road numbers

Channel	Red	Green	Blue	Colour	Principal contents
30	0	0	0	black	federal main road number
31	126	154	133	mixed colour	rock-grey - forest-green
32	70	32	223	mixed colour	border-violet dark - blue
33	207	177	201	mixed colour	border-violet dark - building-grey
34	164	64	143	mixed colour	border-violet dark - danger-red
35	142	113	132	mixed colour	border-violet dark - graticule-grey
36	134	57	72	mixed colour	border-violet dark - situation-brown
37	207	177	201	mixed colour	border-violet dark - rock-grey
38	199	181	251	mixed colour	border-violet dark - sea-blue
39	69	97	3	mixed colour	border-violet dark - nature-park-green
40	196	183	194	mixed colour	border-violet dark - relief-brown
41	251	176	4	mixed colour	border-violet dark - road-yellow
42	184	71	133	mixed colour	border-violet dark - road-orange
43	177	139	170	mixed colour	border-violet dark - forest-green
44	196	180	205	mixed colour	border-violet dark - tidelands-grey
45	201	239	252	mixed colour	border-violet dark - meadow-green
46	254	160	228	mixed colour	border-violet dark - residential area-red
47	40	47	17	mixed colour	border-violet dark - tree-green
48	148	122	107	mixed colour	border-violet dark - fallow-brown
49	0	136	136	mixed colour	-
50	62	80	48	mixed colour	relief-brown - nature-park-green
51	180	169	209	mixed colour	border-violet light - forest-green
52	249	191	128	mixed colour	border-violet light - road-yellow
53	241	139	141	mixed colour	border-violet light - road-orange
54	139	122	184	mixed colour	-
55	149	149	149	mixed colour	relief-brown - rock-grey
56	172	201	105	mixed colour	relief-brown - forest-green
100	255	255	255	white	background

2.1.3 Contents and colour chart of the single and additional layers

The following tables give descriptions of the contents and the colour chart of each layer. The headline indicates the following:

- **number of layer**, e.g. *Layer 1*
- The **essential contents** (in brackets the main **printing colour**) and
- **priority**, e.g. *P6*, indicates the sequence of the single layers when matching for generating the combined layer.

Layer 1

Railway traffic and lettering (black)

P 1

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	0	0	0	black	railway
2	155	155	155	grey	railway out of operation
3	0	0	0	black	place names
4	0	0	0	black	church etc.
5	155	155	155	grey	wind turbine
6	211	211	211	industry-grey	industrial area
7	217	217	217	rock-grey	representation of rocks

Layer 2

Populated places

P 8

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	255	174	174	residential area-red	residential area
2	128	64	0	situation-brown	place symbol
3	255	255	255	white	place symbol mask
4	167	167	167	building-grey	single structures

Layer 3**Water****P 6**

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	0	128	192	brook-blue	shorelines
2	208	219	242	sea-blue	inland waterbodies
3	208	219	242	sea-blue	sea areas
4	167	198	207	tidelands-grey	tidelands
5	0	128	192	brook-blue	swampland, moor
6	0	128	192	brook-blue	waterbody lettering
7	0	128	192	brook-blue	direction of flow indicator

Layer 4**Spot heights and lettering (brown), relief, slopes, embankment****P 2**

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	128	64	0	situation-brown	spot heights with value, passes
2	197	198	187	sand-yellow	sandy areas
3	128	64	0	situation-brown	regions, mountain names, islands, lowlands
4	128	64	0	situation-brown	sand (dot pattern)
5	199	183	135	relief-brown	contour lines and values
6	199	183	135	relief-brown	embankment, slope
7	128	64	0	situation-brown	seawall, breakwater / mole, bank reinforcements

Layer 5**Vegetation****P4**

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	128	255	0	forest-green	wood, forest
2	96	164	104	tree-green	vineyard, hops
3	196	255	196	meadow-green	marsh, reed
4	218	196	244	heath-violet	heathland
5	220	220	185	fallow-brown	swamp, moss, peat ditch

Layer 6**Administrative Areas****P 7**

Channel	Red	Green	Blue	Colour	Contents	Comment
0	255	255	255	white	background	
1	222	219	255	border-violet light	national borderline, foreign national borderlines	band, rasterized
2	186	150	171	border-violet dark	all borderlines	line symbol

Layer 7**Traffic****P 3**

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	255	128	0	road-orange	Autobahn, federal main road
2	255	255	0	road-yellow	state roads (Landesstraßen, Staatsstraßen, roads administered by the Laender)
3	255	255	255	white	district and municipal roads
4	255	255	255	white	road under construction
5	128	64	0	situation-brown	outline of roads, centrelines, paths
6	0	128	0	tree-green	European route number box
7	0	128	255	brook-blue	Autobahn number box
8	255	255	0	road-yellow	federal main road number box
9	255	255	255	white	number of Autobahn and European route
10	0	0	0	black	number of federal main roads
11	0	128	255	brook-blue	ferries

Additional layer 8**Hill shading**

Channel	Contents
0	background
1-23	grey values of hill shading
24	cropping mask

Layer 9**Nature parks und military training ground****P5**

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	255	123	123	danger-red	military training ground
2	41	141	49	national park green	national park

Additional layer 10**Geographical grid**

Channel	Red	Green	Blue	Colour	Contents
0	255	255	255	white	background
1	0	0	0	black	geographical grid lines
2	0	0	0	black	external margin
3	0	0	0	black	lettering in the margin geographical grid

Additional layer 11**UTM grid**

Channel	Red	Green	Blue	Colour Channel in L0	Contents
0	255	255	255	white	background
1	33	136	237	blue	utm grid lines
2	33	136	237	blue	utm lettering

2.2 Changes compared to previous datasets

All information shown in the map have been updated to the current state mentioned in section 1.

2.3 TIFF data format

The DTK250 is provided as a set of 80 km x 80 km tiles. The nomenclature of the single tiles is based on the coordinates of the lower left corner in the particular coordinate system. They have the following structure:

PRODUCT_EAST_NORTH_SIZE_LAYER

PRODUCT	- describes the product (here <i>dtk250</i>)
EAST	- Easting coordinate of the lower left corner of the tile, unit „km“ (with zone indication)
NORTH	- Northing coordinate of the lower left corner of the tile, unit „km“
SIZE	- side length of the tile, unit „km“ (here <i>80</i>)
LAYER	- layer designation (here <i>10...11</i>)

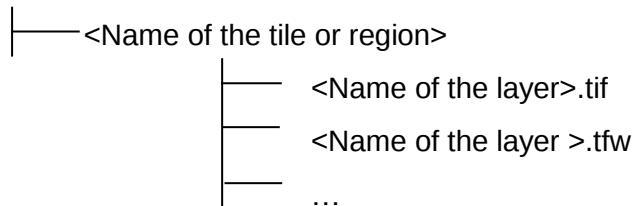
The following georeferencing information is available for each raster index:

- raster file with embedded georeferencing information (GeoTIFF)
- corresponding World file (file extension „.tfw“)

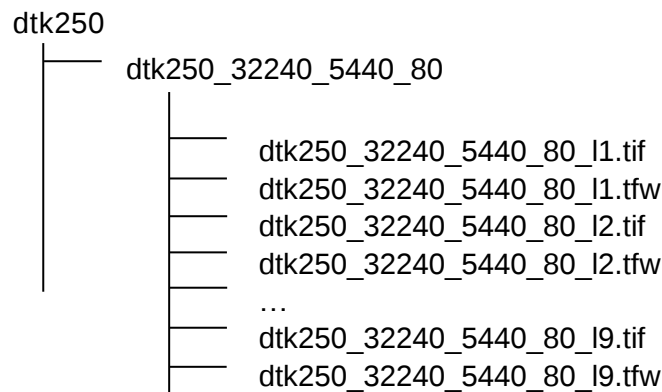
Colour coded data files (the combined layer and the single layers by default) are compressed with LZW method. The TIFF format uses an integrated RGB palette. Colour depth is 8 bit by default.

The delivered data will have the following directory structure:

<Name of the product>



Example:



2.4 Metadata

Metadata for federal datasets as well as for datasets of the Länder is available at the metainformation system by the AdV (AdV-MIS). They will be maintained by the authority charged with data retention.

Information about the currentness of the data is downloadable on our website www.bkg.bund.de under category "Products and services" in the description of this product.

In addition you will find a separate file named *aktualitaet.txt* with every data package which contains information about the currentness of the data.

3 Data acquisition

The database can be obtained free of charge on our website www.bkg.bund.de under category "Products & Services" → "Open Data".

Historical data is also available in our archive.

4 Terms of use

The data are protected by copyright. The data are made available free of charge in accordance with the "[Datenlizenz Deutschland Namensnennung 2.0](#)". The use of the dataset for the maintenance and expansion of the data of the OpenStreetMap project is expressly permitted in compliance with the naming information described in the supplementary text. The source note must be observed.

[Ergänzung der „Datenlizenz Deutschland – Namensnennung – Version 2.0“ für die Nutzung von Daten der Behörden durch das OpenStreetMap Projekt](#) (PDF, 135 KB)

5 Copyright

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6 Contact

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