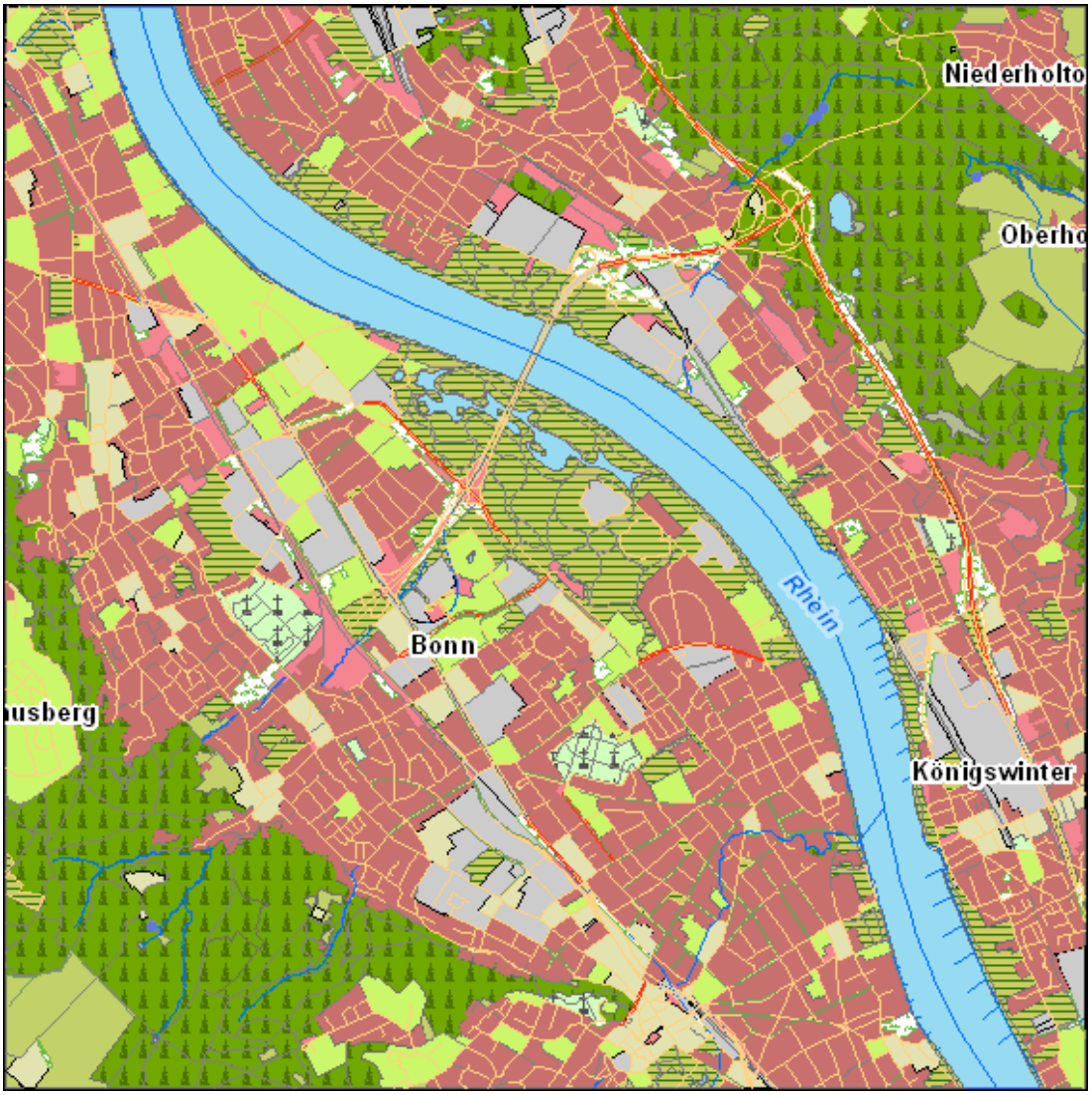
# Documentation

## Digital Basic Landscape Model
## Basic DLM AAA-AS7



## Table of Content

# 1 Overview dataset

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|---|---|
| **Product:** | Basic DLM (AAA) |
| **Content:** | Description of the topographic landscape objects in vector format based on the AFIS-ALKIS-ATKIS data model and the relevant regulations of the ATKIS Basic DLM feature type catalogue.<br>The product is available in the specifications “Compact” and “Layers” |
| **Area:** | Federal Republic of Germany,<br>Without Sachsen (only in GID6) |
| **Spatial structure*:** | *Bundesland* (Land/state of the Federal Republic of Germany) |
| **Georeferencing*:** | • UTM projection in zones 32 or 33, ETRS89, Ellipsoid GRS80 (EPSG:25832 or 25833)<br>• Gauß-Krüger projection in 2nd, 3rd, 4th or 5th meridian strip, Bessel Ellipsoid, DHDN (EPSG: 31466, 31467, 31468 or 31469) |
| **Position accuracy:** | ± 3 m for traffic routes and water bodies<br>± 15 m for all remaining objects |
| **Currentness:** | See the currentness of data on the BKG homepage.<br>Update period<br>Basic data = 3 years<br>Top data = 3 to 12 months |
| **Data formats:** | NAS (for „Compact“), SHAPE (for „Layers“) |
| **Data supply*:** | Dataset via download or data storage medium |
| **Changes compared to previous datasets:** | YES<br>Layer rel02_l : AX_Strukturlinie3D (62030) in HE, SN<br>Layer sie05_f : AX_Gebaeude (31001) und AX_Bauteil (31002) in HE, RP, TH |
| **Historical data:** | Not available |
| **Data volume:** | 8.00 GB (NAS); 41.1 GB (SHAPE) |
| **Data source:** | Datasets of ATKIS Basic DLM of the *Bundesländer* |

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

## 2 Description of the dataset

The Basic DLM (AAA) is one of the components of the German Topographic Cartographic Information System (*ATKIS*®[1]) based on the common data model for *AFIS*®[2], *ALKIS*[3]® and *ATKIS*® (*AAA*).

With the introduction of Version 7 were a fundamental change of the documentary-structure. Fundamental properties of geo objects are represented in the *Basic scheme* of the GeoInfoDok. In the *AAA application scheme* the application objects (features) are described with their attributes. The *object catalogue* is structured in *object domains*, *object groups* and *object types* which is very useful and interesting for users.

All documents of the *GeoInfoDok* are published on the *AdV* home page[4] where further information and explanation about the products of this documentation could be found.

The *Basic DLM* describes the topographic features in vector format. The features are assigned to a certain feature type and defined on the basis of their spatial position, geometrical type, descriptive attributes and relations to other objects. The spatial position of the *Basic DLM* is indicated independently of scale and projection. Each object has his own unique identifier (OBJID), which is constant for the whole life circle of the object.

According to *Basic DLM's* model accuracy it is complete and accurate in positioning. Data capturing of objects and information is application neutral.

If there is an appropriate meaning of objects within the scale 1:5.000/1:10.000 they must be captured completely.

Detailed information for the objects and there modelling rules could be found in the „*OK Basis-DLM 7.1.2.pdf*" (ATKIS® feature type catalogue) and the „*Erläuterungen Basis-DLM 7.1.2.pdf"* (Explanations on the ATKIS®) on the AdV home page[5].

Concerning data distribution two products of the Basic DLM are distinguished at BKG:

**Compact:**

All AAA-objects are so called *inventory data*[6]. It is delivered in format *NAS* (*norm based substitution interface*[7]) based on the OGC *geographic markup language (gml).*

**Layers:**

Dataset with a predefined structuring of data regarding the content in thematic layers by bundling semantically associated feature types and simplification of the original data structure through connecting non-spatial objects or information to the spatial objects. Data format is *ESRI-Shape*.

[1] In German: *Amtliches Topographisch-Kartographisches Informationssystem*
[2] In German: *Amtliches Festpunkt Informationssystem*
[3] In German: *Amtliches Liegenschaftskataster Informationssystem*
[4] http://www.adv-online.de/Startseite/ ; most of the documents are only available in German
[5] Only in German
[6] In German: Bestandsdatenauszug
[7] In German: Normenbasierte Austauschschnittstelle (NAS)

## 2.1 Product specification *Compact*

The dataset is based on the specification of *GeoInfoDok*. The following documents provide comprehensive information about general AAA model fundamentals, contents and modelling rules of the *Basic DLM:*

- main document *GeoInfoDok*
  (general documentation to the reference model of AAA, main schema, NAS, etc.)
- Catalogue of *ATKIS* objects in the Basic DLM (only in German)
  (object types with definition, attributes, relation etc.)
- Explanation to the *ATKIS* Basic DLM (only in German)
  (modelling, content, etc. related to the *Basic DLM*)
- Modelling examples to the *ATKIS* Basic DLM (only in German)
- external model for data exchange (XML schema)

These documents are online on the AdV home page:

https://www.adv-online.de/GeoInfoDok/Aktuelle-Anwendungsschemata/

The data exchange according to the *AAA data model* occurs by *norm based substitution interface*[8] (NAS). The data is delivered as *inventory data*[9].

One portion is based on the in object types, the amount of objects may vary.

Delivery in optional spatial areas occurs in tiles. The tiling is based on the rectangle which covers the chosen area. All objects which are covered by the area or intersect the border of the area remain uncut. The data convoy could include empty tiles.

## 2.2 Product specification *Layers*

Besides the *NAS* data format the product constitutes an alternative data format for the *ATKIS Basic DLM* data, not intending to cover the full scope of work of *NAS* data. Particularly the focus lies more on the immediate, uncomplicated usability of a simple layer based data structure which easily could be used in systems for visualising or further processing of geodata. The distribution of the „layer"-dataset is based on the „*ADV product specification Basis DLM Shape*[10]" Version 1.1.

Main characteristic from the user's point of view:

- Bundling of semantically combined feature types through definition of thematic layers
- Direct connection of attribute information to the respective object geometries
- Connection of non-spatial information on the relevant features with spatial information (as far as possible)

The exchange of data in the layer based data structure occurs in SHAPE format. Following documents supply comprehensive information on this interface:

- *AdV-Shape-profile* (general specification for data supply)
- *AdV product specification* for *ATKIS-Basic DLM, Version 2.0* data in Shape-format (content specific for the product).

These documents could be found on the product page at the homepage of BKG.

[8] In German: Normbasierte Austauschschnittstelle (NAS)
[9] In German: Bestandsdatenauszug
[10] In German: AdV Produktspezifikation ATKIS Basis DLM Shape

## 3 Further Information

Further information concerning the product are available at gdz.bkg.bund.de. In case of any questions, you are welcome to contact our service centre at dlz@bkg.bund.de.

General information regarding the Federal Agency for Cartography and Geodesy can be found on our homepage www.bkg.bund.de.