



## Documentation

### Digital Basic Landscape Model Basic DLM



## **Table of Content**

<b>1</b>	<b>Overview dataset</b>	<b>3</b>
<b>2</b>	<b>Description of the dataset</b>	<b>4</b>
2.1	Product specification <i>Compact</i>	5
2.2	Product specification <i>Layers</i>	5
2.3	Changes compared to predecessor data	6
<b>3</b>	<b>Data acquisition</b>	<b>6</b>
3.1	Test data	6
3.2	Ordering of data	6
<b>4</b>	<b>Terms of service and note of source</b>	<b>6</b>
<b>5</b>	<b>Contact</b>	<b>7</b>

## 1 Overview dataset

<b>Product:</b>	Basic DLM (AAA)
<b>Content:</b>	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. The product is available in the specifications “Compact” and “Layers”
<b>Area:</b>	Federal Republic of Germany
<b>Spatial structure:</b>	<i>Bundesland</i> (Land/state of the Federal Republic of Germany) is offered as standard classification. In addition any other spatial extent is possible.
<b>Georeferencing:</b>	<ul style="list-style-type: none"> <li>• UTM projection in zones 32 or 33, ETRS89, Ellipsoid GRS80 (EPSG:25832 or 25833)</li> <li>• Gauß-Krüger projection in 2nd, 3rd, 4th or 5th meridian strip, Bessel Ellipsoid, DHDN (EPSG: 31466, 31467, 31468 or 31469)</li> </ul>
<b>Position accuracy:</b>	± 3 m for traffic routes and water bodies ± 15 m for all remaining objects
<b>Currentness:</b>	See the <a href="#">currentness of data</a> on the BKG homepage. Update period Basic data = 3 to 5 years Top data = 3 to 12 months
<b>Data formats:</b>	NAS (for „Compact“), SHAPE (for „Layers“)
<b>Data supply*:</b>	Dataset via download or data storage medium
<b>Changes compared to previous datasets:</b>	Yes (for further information see No. 2.3)
<b>Historical data:</b>	Not available
<b>Data volume:</b>	7,58 GB (NAS); 25,5 GB (SHAPE)
<b>Data source:</b>	Datasets of ATKIS Basic DLM of the <i>Bundesländer</i>

\* 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 Informationssystem (ATKIS®<sup>1</sup>) based on the common data model for AFIS®<sup>2</sup>, ALKIS®<sup>3</sup> and ATKIS® (AAA).

The documentation *modelling the geoinformation of Official Surveying and Mapping* (in short: GeoInfoDok) describes the projects of AFIS®, ALKIS® and ATKIS® with their characteristics in a continuous form defined on a Länder-crossing basis. Fundamental properties of geo objects are represented in the AAA Basic scheme. In the AAA technical 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<sup>4</sup> 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.

The *Basic DLM's* scope of information is oriented according to the *topographic map of ordnance survey* (1 : 25.000), but has a higher accuracy of position ( $\pm 3m$  are aimed) for the most important punctiform and linear objects.

Detailed information for the objects and their modelling rules could be found in the „ATKIS-OK Basis-DLM 6\_0.pdf“ (ATKIS® feature type catalog) and the „Erläuterungen zum ATKIS Basis-DLM 6\_0\_1.pdf“ (Explanations on the ATKIS®) on the *AdV* home page<sup>5</sup>.

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

### **Compact:**

All AAA-objects are so called *inventory data*<sup>6</sup>. It is delivered in format *NAS* (*norm based substitution interface*<sup>7</sup>) 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*.

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<sup>1</sup> In German: *Amtliches Topographisch-Kartographisches Informationssystem*

<sup>2</sup> In German: *Amtliches Festpunkt Informationssystem*

<sup>3</sup> In German: *Amtliches Liegenschaftskataster Informationssystem*

<sup>4</sup> <http://www.adv-online.de/Startseite/> ; most of the documents are only available in german

<sup>5</sup> Only in german

<sup>6</sup> In German: *Bestandsdatenauszug*

<sup>7</sup> In German: *Normenbasierte Austauschchnittstelle (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 (English documents at the bottom):

<http://www.adv-online.de/GeoInfoDok/GeoInfoDok-6.0/Dokumente>

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

Data sets which cover larger areas have to be portioned. In this case the portions are integrated to a data convoy.

The delivery standard is based on the administrative unit *Bundesland*. One portion is based on the data amount and is separated in object types (maximum 10.000 objects per portion).

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.

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)

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<sup>8</sup> In German: Normbasierte Austauschschnittstelle (NAS)

<sup>9</sup> In German: Bestandsdatenauszug

- *AdV product specification* for ATKIS-Basic DLM data in Shape-format (content specific for the product).

These documents could be found on the homepage of BKG-[Geodatenzentrum](#).

### **2.3 Changes compared to predecessor data**

Since 2020 the distribution of the „layer“-dataset is based on the „*ADV product specification Basis DLM Shape*<sup>10</sup>“ Version 1.1. Since then a layer for the relation „*Fachdatenverbindung*<sup>11</sup>“ (fdv01) is added.

## **3 Data acquisition**

### **3.1 Test data**

Test data can be downloaded from our website under the heading „Test data“. In terms of content and structure, they correspond to the data supplied later and can therefore be used for very concrete application testing purposes.

### **3.2 Ordering of data**

Orders can be placed via the online ordering system on our website under the heading “Online Shop for Geodata” or “Online Shop for Services”.

Alternatively, you can send your order to the Service Center (DLZ).

## **4 Terms of service and note of source**

The data are protected by copyright. They are only provided against a fee. The provisions of the Directive on Fees for the Provision and Use of Geographic Reference Data of the Surveying Authorities of the Laender of the Federal Republic of Germany (AdV Fee Directive - AdV-GR) shall apply. For the acquisition of rights of use, please contact the Central Office for Geotopography of the AdV / Service Center.

Federal Agencies and other holder of rights of use according to § 3 V GeoBund received the data free of charge.

The source has to be referenced. In particular, each user must place the source note to all geodata, metadata and geodata services recognizable and in an optical context. Changes, adaptations, new designs or other modifications must be accompanied by a change notice in the source note.

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<sup>10</sup> In German: AdV Produktspezifikation ATKIS Basis DLM Shape

<sup>11</sup> *Fachdatenverbindung* is a connection to additional data which are originally not covered by the AAA-Schema

The source note and change notice are to be designed as follows. When displayed on a website, the source note must be linked to the URL "<http://www.bkg.bund.de>".

© GeoBasis-DE / BKG (year of last data acquisition)

© GeoBasis-DE / BKG (year of last data acquisition) (data changed)

## **5 Contact**

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