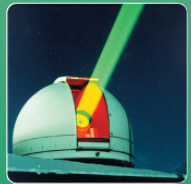
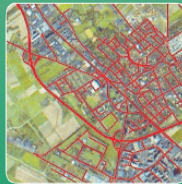




Responsibilities and Organisation



Preface



Dear reader,

with this leaflet I should like to present you the Bundesamt für Kartographie und Geodäsie (BKG) (Federal Agency for Cartography and Geodesy), a higher federal authority assigned to the Federal Ministry of the Interior (BMI). Its tasks consist in providing the spatial reference systems and the basic geoinfor-

mation on the territory of the Federal Republic of Germany, in developing and using the necessary techniques and know-how, in advising the Federal Government in the fields of geodesy and geoinformation as well as in safeguarding the special German interests at an international level.

Geodata are of fundamental importance for the economic and social development of any modern industrial state. About 80 % of all information are estimated to be spatially referenced data. Their range of application includes the fields of regional planning, traffic control, environment and nature protection, national defence, internal security, civil defence, health care, agriculture and forestry, supply and waste disposal, insurance systems as well as citizen involvement in administrative decisions.

Due to the increased availability of modern information and communication technologies and because of different and more extensive requests from many social sectors, the demand for geodata has risen enormously over the last years. It can only be met if geoinformation is acquired, harmonised, managed and processed in digital form (the so-called geodata), and supplied in an appropriate graphic representation using modern media. For this purpose the BKG uses high-performance information and communication technique together with the most recent geodetic and cartographic technologies.

Within the administrative system of the Federal Republic of Germany the acquisition and provision of basic topographic data and technical geodata mainly belong to the responsibilities of the Länder (states). With regard to

state-overlapping, nationwide, and European applications this requires a very effective coordination in the field of geoinformation. For this purpose, the Federal Government established in 1998 the “Interministerieller Ausschuss für Geoinformationswesen (IMAGI)” (Interministerial Committee for Geo Information) and transferred its agency and co-ordination centre to the BKG.

Dear Reader, finally I should like to express my hope that the representations and descriptions below will give you an insight into the tasks and the range of products and services of the BKG, and I should be glad if in this way the dialog between the BKG and the users of its geoinformation products could be furthered and intensified.

A handwritten signature in black ink, appearing to read "Dietmar Grünreich". The signature is fluid and cursive, with a large, prominent loop at the end.

Univ.-Prof. Dr. Dietmar Grünreich
President and Professor

BKG

The range of products of the BKG comprises:

- Geotopographic basic data in digital form as vector and raster data and corresponding maps at different scales;
- Geodetic reference networks for planimetry, altime try and gravimetry.

The BKG is divided into the three divisions:

- **Geoinformation**
- **Geodesy**
- **Central Services**

More detailed information on the BKG's products is given in the following description as well as in other special brochures and via our internet sites (see addresses).

Office building "Villa Mumm" in Frankfurt am Main



Geoinformation

The central task of the Geoinformation division (GI) consists in providing, in close cooperation with the state survey authorities, topographic data in the form of:

- Digital basic geodata of different levels of resolution,
- Topographic map series at different scales,
- Digital cartographic raster data,

and in developing further the methods and procedures required for this, taking into account the most advanced scientific knowledge and technologies.

On the basis of an administrative agreement concluded with the Länder (federal states), the **GeoDataCenter** of the BKG supplies the harmonised basic geodata of the **Authoritative Topographic-Cartographic Information System (ATKIS®)** across the Länder boundaries and covering the whole territory; it is also responsible for the distribution of these data. A metadata information system informs as a central service of the German national survey about the availability and quality of such data.

The GI division produces also the small-scale ATKIS products. These are in particular the small-scale Digital Landscape Models at the scales 1 : 250.000 and 1 : 1.000.000 as well as the small-scale Digital Topographic Map series and the relevant analog map series.

Current key subjects of further development include:

- knowledge-based procedures for extracting features from remote-sensing data and digital maps, which



are to serve the purpose of meeting reliably the demand for up-to-date and complete geodata of the federal agencies,

- processes and procedures for generalising geodata for the derivation of user-specific geodata in digital and analog form (maps),
- processes and procedures for integrating multidisciplinary, heterogeneous geodata for the setup of the Geodata Infrastructure for Germany (GDI-DE®).

In the framework of EuroGeographics the Geoinformation activities are contributing to **cooperation projects** serving the setup and maintenance of databases on the European and global levels. The first transnational European dataset contains the Seamless Administrative Boundaries of Europe (SABE). For this purpose BKG is co-ordinating the production in all European countries concerned. Further products are the small-scale and medium-scale map series EuroRegionalMap 1 : 250.000 and EuroGlobalMap 1 : 1.000.000. Experts of BKG are continuously contributing to international standardisation work in the field of geoinformation and to the bodies of the United Nations for the Standardisation of Geographical Names.

The BKG offers a three-year vocational education and training for **cartographers** teaching how to establish and update topographic and thematic maps as well as related forms of representations. A new focus of interest constitute modern cartographic representations by means of

*Cartographer's
training place*



digital methods and multimedia products from georeferenced data of all kinds.

The Geoinformation division is also responsible for the following **service centres (secretariats)**:

- “Arbeitsgruppe Automation in der Kartographie (AgA)” (Study Group on Automation in Cartography) of the “Arbeitsgemeinschaft der Vermessungsverwaltungen der Länder der Bundesrepublik Deutschland (AdV)” (Working Committee of the Surveying Authorities of the States of the Federal Republic of Germany), and of the “Deutsche Geodätische Kommission (DGK)” (German Geodetic Commission),
- “Ständiger Ausschuss für geographische Namen (StAGN)” (Permanent committee on geographical names),
- Office of Publications of the association „European Spatial Data Research” (EuroSDR, formerly OEEPE).

Furthermore, the Federal Ministry of the Interior has assigned to BKG the agency and co-ordination centre for the **Interministerieller Ausschuss für Geoinformationswesen (IMAGI)**. The concept, worked out by IMAGI, for the Geodata Infrastructure Germany (GDI-DE) is the guideline for the further evolution of BKG’s tasks and for the co-operation with the federal Länder in the course of the setup of the GDI-DE. Within the scope of GDI-DE implementation the BKG has been assigned the task of operating an information system for the nationwide research for geodata (GeoMIS.Bund) and extending it to become a portal for geodata (GeoPortal.Bund).

As a parallel task IMAGI shall safeguard the German interests in the different fields of geoinformation and geodesy and shall take into account the requirements of the European Commission for the German contribution to ESDI (European Spatial Data Infrastructure).

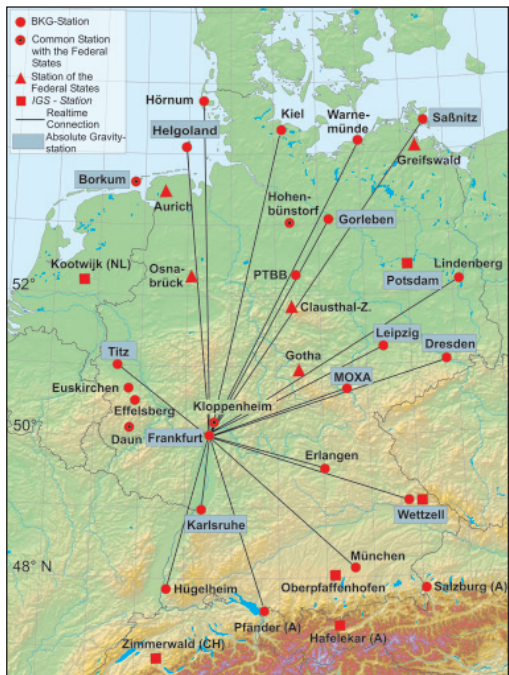


Geodesy

The central task of the **Geodesy** division (G) consists in providing and updating the geodetic **planimetry, altimetry and gravimetry networks** of the Federal Republic of Germany. These fundamental data form the basis for all kinds of survey work, i.e. for the **referencing of geoinformation** as well as for navigation and for scientific earth monitoring with regard to environmental change.

The required measuring data are collected by means of modern geodetic space techniques. At the BKG **Fundamental Station Wettzell**, located in the Bayerischer Wald (“Bavarian Forest”), Very Long Baseline Interferometry to quasars (VLBI), Laser Rangings to Satellites (SLR) and to the moon (LLR) as well as the Global Positioning Systems GPS and GLONASS are employed. Besides Wettzell, the BKG operates nearly another 45 GPS stations in Germany, Europe, and Antarctica, which constitute the German contribution to the international GPS service defining the global reference system for positionings. The German **GPS Permanent Stations Network GREF** is the link between

The German GPS reference network GREF connects national and international reference systems and allows georeferencing up to mm-accuracy



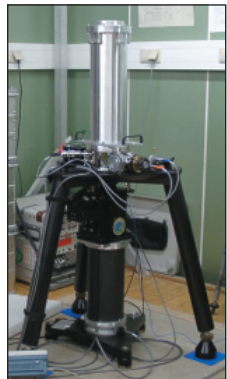
the satellite positioning service SAPOS of the Länder survey authorities and this reference system.

The BKG operates the **Data Centre** of European GPS reference stations and of the European Vertical Control Net. It participates in the evaluation of VLBI, SRL, GPS, and GLONASS observations. Within the frame of the **International Earth Rotation Service IERS**, whose central office is operated by the BKG, the global networks of the different space techniques are combined in order to derive the **International Terrestrial Reference System ITRS** as well as earth rotation parameters.

Efficient high-tech computation and communication methods are employed for the determination of orbits of the global navigation satellites, the derivation of up-to-date coordinates in the **European Terrestrial Reference System ETRS89**, the computation of static and variable parameters of the earth's gravity field, and for the performance of coordinate transformations into uniform reference systems.

In cooperation with services, as e.g. the national GPS information service GIBS, the BKG supplies up-to-date information and products for positionings on a near real-time basis via the internet to users in the administrative, economic, and scientific sectors. GPS observations of selected permanent stations are broadcasted as real-time data streams for precise positionings.

The **German Gravity Reference Network 1994**, comprising measurements of absolute gravity on 30 stations, is provided and maintained by the BKG as a frame structure for the acquisition of terrestrial gravity data. In cooperation with the survey administrations of the Länder a cm-geoid has been derived and made available as reference surface for heights for the purposes of three-dimensional satellite positionings.



Absolutgravimeter FG5

Central Technical Services

In Frankfurt am Main and in the Leipzig branch office, the BKG operates an extensive library (for internal use) which is focussed on publications on geodesy, geoinformatics, remote sensing and photogrammetry, and cartography; an exchange of publications with partner institutions at home and abroad is also maintained.

For the documentation of German and foreign-language specialised literature, the literature data base “GEO-PHOKA” is kept, by means of which task-related literary searching procedures can be accessed via the internet. These data are made available also to the International Association for Geodesy within the scope of its bibliographic service.

The BKG supports the editorial work of the FIG Technical Dictionary of Surveying and Mapping comprising terms and definitions in German, English, and French.

For official tasks a technical translation service is maintained.

For its developments in the fields of instrumentation the BKG operates a precision engineering workshop. There the possibility is offered to get a vocational education and training for **precision mechanic** in the branch of study **construction of precision equipment**. Technical skill, good knowledge in mathematics as well as a precise method of working are the requirements for this trade.

*Geodetic
Fundamental
Station at
Wetzell near
Kötzing in
the Bavarian
Forest*





Addresses

Central Office in Frankfurt am Main

Bundesamt für Kartographie und Geodäsie
Richard-Strauss-Allee 11
60598 Frankfurt am Main Germany

Phone: (069) 6333-1 Fax: (069) 6333-335

Branch Office Leipzig

Bundesamt für Kartographie und Geodäsie
Aussenstelle Leipzig
Karl-Rothe-Straße 10–14
04105 Leipzig Germany

Phone: (0341) 5634-0 Fax: (0341) 5634-415

Fundamental Station Wettzell

Bundesamt für Kartographie und Geodäsie
Fundamentalstation Wettzell
Sackenrieder Straße 25
93444 Kötzing Germany

Phone: (09941) 603-0 Fax: (09941) 603-222

E-mail: mailbox@bkg.bund.de
www.bkg.bund.de