Country Profile: Belgium

Country Profile (PDF)

Country Resources

Topographic

Series	Publisher	Scale	Years	Sheets
Netherlands 1:250,000 Scale Vector Data	TDK	1:250,000	2008	35

Aeronautical

Series	Publisher	Scale	Years	Sheets
The Netherlands 1:500,000 Scale Aeronautical Charts	ATCN	1:500,000	2014	1
France 1:500,000 Scale Aeronautical Charts	IGN	1:500,000	2016	6

Thematic

Series	Publisher	Scale	Years	Sheets
The World 1:30,000,000 Scale Topographic Map Series 1145 (NGA)	DMA	1:30,000,000		2

Global Census Archive: GIS Census Data

East View Geospatial has an ongoing effort to add GIS census data to our Global Census Archive program. Please contact us for the status and availability of Belgium census resources.

Global Resources

Topographic

Series	Publisher	Scale	Years	Sheets
Soviet Military City Plans	VTU GSh	Varies	1944 – 2003	3,021
Soviet Military 1:100,000 Scale Topographic Maps	VTU GSh	1:100,000	1947 – 1999	24,897
Soviet Military 1:200,000 Scale Topographic Maps	VTU GSh	1:200,000	1949 – 2009	17,799
Soviet Military 1:500,000 Scale Topographic Maps	VTU GSh	1:500,000	1953 – 1998	3,093
Soviet Military 1:1,000,000 Scale Topographic Maps	VTU GSh	1:1,000,000	1948 – 1994	1,089

Nautical

Series	Publisher	Scale	Years	Sheets
NGA Nautical Charts POD Certified (All Scales)	NGA	Varies	1943 – 2013	4,517

Aeronautical

Series	Publisher	Scale	Years	Sheets
Joint Operations Graphic (JOG 1501A) 1:250,000 – Aeronautical	DMA	1:250,000	1958 – 2007	6,380
Tactical Pilotage Chart (TPC) 1:500,000 Scale – Aeronautical	DMA	1:500,000	1967 – 2006	618
Operational Navigation Chart (ONC) 1:1,000,000 Scale – Aeronautical	DMA	1:1,000,000	1969 – 2001	248
Jet Navigation Chart (JNC) 1:2,000,000 Scale – Aeronautical	DMA	1:2,000,000	1971 – 1999	117

Global Navigation and Planning Chart (GNC) 1:5,000,000 Scale – Aeronautical	DMA	1:5,000,000	1981 – 1999	27

Note: East View Geospatial is continuously sourcing new resources that may not yet be listed in Global Explorer. Please contact us if you have geodata needs beyond what is listed above and we will be happy to discuss available off-the-shelf and custom solutions.

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Historical Country Mapping Information

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Country Profile (PDF)

Topographic

As the birthplace of **Mercator**, who produced a map of Flanders in 1540, Belgium has a long and eminent tradition of topographic mapping, and large-scale cover had been achieved by **Fricx** and by **Ferraris** in 1744 and 1778 respectively.

The national survey authority, located in Brussels, owes its origin to the **Depôt de la Guerre**, founded in 1831, which became successively the **Institut Cartographique Militaire** (1878), and the **Institut Géographique Militaire** (1947). Finally, the military authority became a semi-civilian one in 1976, under the trusteeship of the **Ministry of Defence**, and the present title of **Institut Géographique National** (**IGNB**) (or **Nationaal Geografisch Instituut** in Flemish) was adopted. The Institute is responsible for geodetic survey, official mapping and air photography. It is not, however, responsible for cadastral mapping.

Soviet military topographic mapping of Belgium exists at the following scales: 1:1,000,000 (2 sheets, complete coverage, published 1986-1990); 1:500,000 (4 sheets, complete coverage, published 1985-1995); 1;200,000 (15 sheets, complete coverage, published 1966-1989); 1:100,000 (39 sheets, complete coverage, published 1978-1991); 1:50,000 (129 sheets, complete coverage, published 1986-1990) and city (1:10,000) topographic mapping of 12 major cities from Aalst to Verviers published between 1965 and 1987. These products are available in print, digital raster and digital vector GIS formats from **East View Geospatial**.

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3D/DEM

IGNB has prepared a digital elevation model from contours on the existing 1:50,000 scale map, which has been used to produce the Relief map of Belgium, and a 1:10,000 scale digital elevation model is in preparation.

Formerly, large-scale mapping of the urban areas was carried out by the **Service Topographique et de Photogrammetrie** of the Ministry of Public Works. However, following the moves towards regional devolution which have taken place over the last decade culminating in the declaration of a federal state in 1993, authorities in the three regions of Wallonia, Flanders and Brussels Capital, have assumed this responsibility. In Flanders, **GIS-Vlaanderen** has been established under the **Ministerie Vlaamse Gemeenschap** with the aim of integrating the supply of geographical information in the region. 1:1,000 scale maps of agricultural areas, used for land consolidation schemes, are prepared by **Vlaamse Landmaatschappij** (**VLM**), while those required for areas of industrial development are contracted to a private company, **CARDIB c.v.**. The Flemish government also commissioned a set of 682 digital color orthophotos of the whole region which were supplied by **Eurosense Belfotop N.V.**, Wemmel, an international company specializing in aircraft remote sensing and mapping. The orthophotos also cover the Brussels Capital Region and are distributed on 27 CD-ROMs. The **Support Centre** (**Ondersteunend Centrum – OC**) of GIS-Flanders has also prepared a digital regional zoning map, and is developing a metadata management system for the region. The main task for the future is the construction of a large-scale digital base map for Flanders.

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GIS/Vector

1991 marked the end of conventional cartography at **IGNB**, and the initiation of a program to create a totally digital production environment for all topographic mapping. Digital databases are being developed at three scale resolutions: 1:10,000, 1:50,000 and 1:250,000. The new 1:10,000 vector database is also being used to produce new sheets in the 1:20,000 series, which will progressively replace the 1:25,000, former basic scale map series, and for selective urban mapping at 1:5,000 scale. The 1:20,000 scale map uses the same sheet lines as its predecessor, and is printed in six colors. Contours are at 2.5 m intervals, and in most respects the map content is identical to the 1:10,000 scale map.

In 1993, digital production of a new 1:50,000 map began, and for this, a separate, more generalized database is being developed. This map was being published on sheet lines which are slightly modified from the earlier edition, and these are shown on our index map. It will result in the number of sheets in the series being reduced from 74 to 61 or fewer. Most cover the area of four 1:20,000 scale sheets. Contours are at 5 m intervals and a version with UTM grid overprinted in purple is available. The legend is given in four languages, and the projection is Lambert conformal conic, WGS 1984 datum.

The third database is at a resolution of 1:250,000 and is used in the production of a general map of Belgium, usually now published as a single sheet printed back-to-back. This serves as an excellent road map of the country, and a version published in 1988 was adapted to show points of traffic congestion and suggested alternative routes, while in 1989 it formed the basis of a map of long-distance footpaths. Since 1993, the digital data have themselves been available in a structured format. The 1:250,000 map is on the UTM projection.

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Nautical

Coastal charting is undertaken by the **Hydrografische Dienst der Kust**, while an internal navigation chart of the rivers Escaut and Rupel is published by the **Dienst der Zeeschelde**.

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Geological/Scientific

Earth science mapping is undertaken by the **Service Géologique de Belgique** (**SGB**), which is a division of the **Ministère des Affaires Économiques**. Mapping at 1:40,000 scale was completed as early as 1911, and sheets in this series are still available either as originals or as color copies. A national 1:25,000 scale series was started in 1958, but only nine sheets have been published, and these are on the older sheet lines also used for the soil and vegetation maps. New mapping has been initiated by the regional administrations. In 1993 a new series of 1:50,000 scale geological maps of Flanders was started and now covers most of the region. In the Walloon Region a new 1:25,000 scale geological series was commissioned in 1992 and is available from the **Direction Générale des Ressources Naturelles et de l'Environnement** (**DGRNE**), Ministère de la Région Wallone, Jambes.

A geomorphological mapping program was initiated in 1965 by the **Centre National de Recherches Géomorphologiques** (**CNRG**) under the direction of **Professor P. Macar**, but only nine 1:25,000 scale sheets have been published. They conform with the modern topographic sheet layout. **CNRG** is based at the University of **Liège**.

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Imagery

Basic scale mapping at 1:20,000 scale was accomplished for the whole country by 1871, and derived maps were subsequently published

at scales of 1:40,000, 1:100,000, 1:200,000 and 1:320,000. The current family of scales is, however, entirely the product of post-World War II survey, and has been compiled using aerial photography. The basic scale of this mapping was originally 1:25.000. There was also a 1:10,000 scale map, but this was produced by enlargement from the 1:25,000 scale. In 1989, it was decided to replace this map with a new basic, fully digital 1:10,000 scale map to meet contemporary requirements. The data is collected from 1:21,000 scale aerial photography, and plotted using analytical or pseudo-analytical photogrammetry. The stereo plots are then converted to a structured vector database. The specification is designed for easy adaptation to scales of 1:20,000 and 1:5,000. The first hard copy sheets of the new 1:10,000 scale map were published in 1991. A separate, detailed legend in four languages was published in booklet form in 1994. The map is printed in six colors and is extremely detailed. Contours are at 2.5 m intervals, roads are classified by status and width, a large number of land cover categories are shown by colored area and point symbols, and buildings are classified according to use. Sheets use the same numbering as the old 1:10,000 scale series, i.e. divisions of the 1:25,000 scale series, but are further divided into a north (*nord/noord*) and south (*sud/zuid*) sheet. The projection is Lambert conformal conical with two standard parallels (Lambert Belge 72) datum, Hayford 1924 ellipsoid. By mid-1999, sheets covering more than one-third of the country had been published.

In the Walloon Region, the **Direction de la Topographie et de la Cartographie** of the **Ministère Wallon de l'Equipement et des Transports** (**MET**), is preparing a digital base map for the whole region at 1:1,000 scale (Projet Informatique de Cartographie Continué – PICC). The data is being captured from air photography flown at scales of between 1:4,000 and 1:6,000, and the work is being done jointly with private companies. This map is in the Belgian Lambert co-ordinate system, and comprises more than 100 vector layers. The intention is to provide a seamless digital database rather than printed maps.

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Vegetation/Forestry

A major program of soil mapping began in 1947 with the foundation of the **Comité pour l'Etablissement de la Carte des Sols et de la Végétation de la Belgique** (**CECSVB**). The survey was undertaken by units associated with several universities and was coordinated at the **University of Gent**. The publication scale is 1:20,000, field work was completed in 1974, and national published cover is almost complete. Sheets are accompanied by explanatory booklets. The committee was also responsible for a parallel series of vegetation maps, of which 27 sheets were published. The soil maps of Flanders have been digitized by the **Departement Leefmilieu en Infrastruktuur, Vlaamse Landmaatschappij**. At the University of Leuven, a computerized national soil database has been constructed (the COBIS project) which incorporates soil profile data and information derived from the soil maps, but has not involved digitizing the boundaries of the soil series. There are plans to produce a 1:250,000 scale soil map of the country as part of a European project.

In 1977, the former **Ministry of Public Health and Environment** in collaboration with eight universities and two scientific institutions began preparation of a 1:25,000 scale *Carte d'évaluation biologique*, which was intended to identify areas of prime ecological importance and to serve as a tool in environmental impact studies and planning. Sheets were compiled from existing resource data and published in groups of four together with a text and legend. A handbook was published in 1979. In 1986, the funds were terminated with only about 40 percent of the maps published, but the Flemish maps have been incorporated in the GIS being developed by the **Ministerie Vlaamse Gemeenschap**.

The 1:50,000 scale land use map of the Walloon Region was prepared from LANDSAT TM and SPOT remotely sensed data. This series is complete in 47 sheets and was commissioned by the **Direction Générale des Ressources Naturelles et de l'Environnement**. The 13 land use categories are shown on an image map background. Similarly, GIS-Vlaanderen has prepared a digital land use map of the Flemish Region from LANDSAT TM data.

The **Ministère des Classes Moyennes et de l'Agriculture** (**MCMA**) published a new map of agricultural regions in 1993, and in 1996 issued A4 size color maps of agricultural regions and provinces, types of agriculture, and of horticulture.

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Atlas

The first edition of the Belgian national atlas, *Atlas de Belgique*, was issued over the period 1950-75. Since 1978, a second national atlas, *Tweede Atlas van België/Deuxième Atlas de Belgique*, has been in progress. The new edition is in similar format to the old, except that text (in Flemish, French, German and English) is normally incorporated on the reverse of the map folios, and sheets are issued either flat or with guards for inserting into a binding. The atlas is produced under the direction of a **Commission de l'Atlas National**, under the **Comité National de Géographie**. Publication has proceeded slowly, and of a projected 96 sheets, only 34 have so far been published. Most maps are at a scale of 1:500,000. Recent sheets include maps of economic activity, a satellite image map, a land use map and a four-sheet, 1:250,000 scale map of quaternary geology.

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Cadaster

For the Brussels Capital Region (Région de Bruxelles-Capitale), the **Centre d'Informatique pour la Région Bruxelloise** (**CIRB**) is undertaking a project called *UrbIS*, which involves the creation of a multi-level GIS comprising the digitized parcels of the cadastral plans, referenced to the new **IGNB** 1:10,000 scale base map, street network data and postal information. The initial version comprises an administrative database, and a road network database. Version 2, currently being introduced, provides a much more planimetrically accurate database (UrbIS Top), which is being plotted photogrammetrically from 1996 and 1999 photography. 1:4,000 scale color aerial photographs covering the whole Brussels Capital Region, have been digitized and form another element (UrbIS Fot) in Version 2. These GIS data is available, and further data layers may be added in the future.

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Tourist/Reference

Of particular value to tourists is the series of maps at 1:100,000 originally produced between 1986 and 1989, and subsequently issued in a new edition. The 19 overlapping sheets are printed on two sides, one side presenting a conventional, contoured topographic map and the other showing cultural and tourist locations, long distance footpaths and suggested itineraries. The sheets are each packaged with a text explaining the geography of the area. In 1992 these maps were assembled into an atlas, printed in seven colors, and including an index to more than 11,000 places.

Belgian commercial map publishers include **Geocart** and **De Rouck Cartographie**, both of which now produce their mapping digitally. **De Rouck's** publications include a road atlas of Belgium and Luxembourg, regional and provincial maps and atlases of the country, street maps of major towns, and a street level CD-ROM of the whole of Belgium. It also publishes road maps of other European countries, and wall maps for the school and office. A large number of individual large scale maps and guides for hikers, cyclists and car tourists have been produced collaboratively by the **IGNB** and local authorities and tourist offices.

Tele Atlas, based in Gent, has developed a vector database of the European road network for use in car navigation systems.

Many general road maps are also published by foreign publishers, including **Michelin**, **Ravenstein** and **Kummerly and Frey** (**K+F**). The Dutch publisher **ANWB** has a map of inland waterways.

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Census/Demography/Statistics

The **Institut National de Statistique** (**INSB**), Brussels, distributes maps of census tracts at 1:10,000 scale, available in both digital and hard copy, and has also produced numerous thematic maps based on census statistics. A number of colored maps at a scale of

approximately 1:1,100,000 are currently available for purchase, illustrating population characteristics by commune from the 1991 census and an Atlas du recensement de la population et des logements en 1991 is in preparation. **INSB** has also produced a CD-ROM of statistical data, which includes 1981 census data at the statistical sector level, and annual chronological data for the period 1980-89 at the commune level.

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