

Austrian Cartographic Commission

in the Austrian Geographical Society

A-1010 Vienna, Universitätsstraße 7/5

Tel.: +43 (1) 427748604, <http://www.oekk.or.at>

Chair: Prof. Dr. Wolfgang Kainz

E-mail: wolfgang.kainz@univie.ac.at

Vice-Chair: Prof. Dr. Georg Gartner

E-Mail: georg.gartner@tuwien.ac.at

Cartography in AUSTRIA 2019 – 2022

National Report for the 19th General Assembly of ICA 2023 in Cape Town, South Africa.

Austrian Cartographic Commission

Austria is one of the founding members of ICA. At the first General Assembly in 1961, it became necessary to have an Austrian national member in ICA. It was then, when the Austrian Cartographic Commission (ÖKK) in the Austrian Geographic Society was established on 20 March 1961. HANS BOBEK, then the president of the Austrian Geographic Society acted as chair of the ÖKK until 1966 when ERIK ARNBERGER took over who had just been appointed the first full professor of cartography at the University of Vienna in 1965. Since then the chair of the ÖKK was held by ERIK ARNBERGER (1966 – 1985), FERDINAND MAYER (1985 – 1995), INGRID KRETSCHMER (1995 – 2007), and WOLFGANG KAINZ (2007 – present).

By the end of 2022 the Austrian Cartographic Commission had 105 personal and institutional members and considers itself the cartographic face of Austria to the world. Members of ÖKK have been actively involved in various commissions of ICA throughout the years (mountain cartography, atlases, map production and geo-business) and in the Executive Committee (Georg Gartner was vice-president from 2007 – 2011, president of ICA from 2011 -2015, and past-president 2015 – 2019).

ÖKK normally holds member meetings twice a year and organizes scientific events. Highlights of such events are the cartographic conferences of the German-speaking countries Austria, Germany, and Switzerland that were held in Vienna, Austria, in 1970, 1989 (including the German Democratic Republic just before major political changes in Europe), and 2006 (jointly with IGU and ISPRS). In the spirit of these conferences the three societies of Austria, Germany and Switzerland introduced a new EuroCarto series in 2020 with a continuation in 2022 (at this time also including the British Cartographic Society) and a planned follow up conference in 2024.

Contributions to ICA

The following individuals served the ICA in the reporting period:

G. Gartner (Chair, Publication Committee)

M. Jobst (Vice-chair, Commission on Map Production and Geoinformation Management)

P. Jordan (Co-Chair, Commission on Toponymy (ICA-IGU joint commission))

M. Schmidt (Editor of the ICA website)

Scientific Events in Austria

17.04. – 07.06.2019, **Exhibition** – *Wiener Neustadt in alten Ansichten*, Niederösterreichische Landesbibliothek [Wiener Neustadt in Old Views, Lower Austrian State Library]

11 – 13.11. 2019, **Conference** – 15th International Conference on Location-Based Services, University of Technology, Vienna (<https://lbs2019.lbsconference.org/>)

27.09. – 20.12.2019, **Exhibition** – *Von wunderbarer Klarheit*. Friedrich Simonys Gletscherfotografien 1875-1891 [Of Wonderful Clarity – Friedrich Simony's Glacier Photographs 1875-1891], Photoinstitut Bonartes, Vienna

06 – 08.11.2019, **Symposium** – On the occasion of its 50th anniversary, the Austrian Board on Geographical Names (in German Arbeitsgemeinschaft für Kartographische Ortsnamenkunde (AKO)) organized a festive symposium on the topic of “*Place Names and Migration*” at the Federal Office of Metrology and Surveying (BEV). The event was organized together with the Dutch- and German-speaking Division (DGSD) of the UNGEGN, the BEV and the Austrian Geographical Society (ÖGG) [<https://ortsnamen.at/en/ako50/> and <https://ortsnamen.at/en/sammelband-zum-festsymposium-erschieneen/>]

21 – 25.09.2020, **Conference** – Central European Cartographic Conference and 68th German Cartography Congress - *EuroCarto 2020*, jointly organized by the German Society of Cartography, the Swiss Society of Cartography, and the Austrian Cartographic Commission, supported by the International Cartographic Association (ICA) as ICA Regional Conference, held at the Vienna University of Vienna online (<https://eurocarto2020.org>).

19 – 21.9.2022, **Conference** – *EuroCarto 2022* - European Cartographic Conference 2022, jointly organized by the German Society of Cartography, the Swiss Society of Cartography, the British Cartographic Society and the Austrian Cartographic Commission, supported by the International Cartographic Association (ICA) as ICA Regional Conference, held at the Vienna University of Technology (<https://eurocarto2022.org/>)

28.01.2022, **Conference** – *Herrschaft kartieren. Schriftbildliche Darstellungen der habsburgischen Lande im Zeitalter des Humanismus* [Mapping Dominion. Written and pictorial representations of the Habsburg Lands in the Age of Humanism], organized by the Institute for the Study of the Habsburg Monarchy and the Balkan Region of the Austrian Academy of Sciences (online event <https://www.oeaw.ac.at/detail/news/herrschaft-kartieren>)

11.5. – 2.6.2022, **Exhibition** – *7 Erdteile, 7 Weltmeere. Weltaufnahmen: Karten, Klänge, Kunst* [7 Continents, 7 Oceans. World Recordings: Maps, Sounds, Art], organized by the Woldan Collection of the Austrian Academy of Sciences in the Reading Room of the Austrian Academy of Sciences (<https://www.oeaw.ac.at/en/news-1/7-erdteile-7-weltmeere>)

29.04.2021 – 30.01.2022, **Exhibition** – *Die Donau. Eine Reise in die Vergangenheit* [The Danube. A Journey Into the Past] at the Austrian National Library (<https://www.onb.ac.at/en/museums/state-hall/current-exhibition/the-danube-a-journey-into-the-past>).

Education, Research and Development

University of Vienna

Department of Geography and Regional Research – Working Group Cartography and Geoinformation Science

The Department of Geography and Regional Research is a department in the Faculty of Earth Sciences, Geography and Astronomy of the University of Vienna. It has 9 working groups spanning the whole field of geography and cartography. By the end of September 2020 Prof. WOLFGANG KAINZ retired after nearly 19 years as chair of geography and cartography. He is followed by Prof. KRZYSZTOF JANOWICZ as chair of cartography and geo-information.

In the period of 2019 to 2022 the University of Vienna awarded 72 master's degrees in the scientific field of Cartography and Geoinformation Science.

Projects

LAWIS (2002 – ongoing): The goal of this cooperation project between the Avalanche Warning Centre Tyrol (Innsbruck, Austria) and the University of Vienna, Department of Geography and Regional Research is to develop and maintain a complex and very powerful database driven online system embedded within a geo-spatial visualization environment for access of current relevant avalanche information in Europe. Besides the direct link to all European Avalanche Warning Centers with their daily information bulletins further lexical as well as current facts concerning weather, avalanches, snow profiles, and mountain casualties are integrated and made accessible (<https://www.lawis.at>).

ÖROK-Atlas online (2004 - ongoing) is a cooperative scientific project with the goal of developing an online system that enables the user to explore national (Austrian) as well as international (European) statistical information. Users can compare and analyze data and visualize the selected information in a high-quality cartographic environment. ÖROK-Atlas online is a synthesis of Cartography, Geographic Information Technology, Multimedia and Statistical Analysis (<http://www.oerok-atlas.at>).

ALBINA (2017 - 2019) is project that has the goal to produce a joint, multilingual avalanche bulletin, which informs the public daily about the avalanche situation in the entire European region of Tyrol, South Tyrol and Trentino and is implemented as part of an Interreg V-A Italy-Austria project. The developed communication structures promote and facilitate the exchange of information between the experts of the different regions. They are supported by a software system that visualizes weather station data, observations, snow profiles and avalanche events of the entire region and offers the possibility to enter the avalanche bulletin. (<https://avalanche.report>).

Riedenkarten AT (2018 – 2021) is a research and development project with the aim of conceiving a functional as well as user-centered geographic information portal of all Austrian vineyards to record, represent and communicate relevant factors dealing with wine and their spatial-temporal characteristics. Österreich Wein Marketing GmbH (ÖWM) commissioned the project in close cooperation with the University of Vienna, the Department of Geography and Regional Research and the Technical Office for Landscape Planning plan+land, Artner & Tomasits OG (<https://riedenkarten.at/>).

MBBO – Mapping Byzantine Bithynia Online (2019 – 2020) The purpose of this project is to establish a scientific collaboration between the Collège de France and the University of Vienna, which aims to develop a multi-disciplinary digital platform (MBBO Frontend) to visualize and communicate archaeological data that consists of photographs, videos, maps, diagrams, notes and metadata kept in the Collège de France in Paris (<https://geographie.univie.ac.at/arbeitsgruppen/kartographie-und->

geoinformation/forschung/detailansicht-abgeschlossen/news/mbbo-mapping-byzantine-bithynia-online-1/)

CTBTO's Global GeoStories (2019): Within this project six GeoStories on the topic of "Ending Nuclear Explosions" were developed for the Hyperglobe (spherical display) in cooperation with CTBTO (Comprehensive Nuclear-Test-Ban Treaty Organization). The goal was to illustrate this issue on the Hyperglobe to better demonstrate its global impact on humankind. Processes of realization include the creation of storyboards, automated raster manipulation methods, morphing and animation techniques, audio editing, interface development as well as authoring and composing Global GeoStories.

In the "**VIRUS atlas**" project, relevant spatiotemporal facts for Austria are communicated online by means of maps. Information about the COVID-19 pandemic as well as selected areas on the topics of the labor market and demography are included. New, innovative cartographic representation methodologies make it possible to visualize the connections between current topics briefly. The aim of the project is to provide the interested public and decision-makers with an instrument to better assess current hazard situations in Austria (https://map.geo.univie.ac.at/virus_atlas/)

The project "**Beyond East and West: Geocommunicating the Sacred Landscapes of Duklja and Raška through Space and Time (11th-14th Cent.)**", which is carried out jointly with the Austrian Academy of Sciences, Institute for Medieval Research and the Leipzig University of Applied Sciences, Faculty of Computer Science and Media, explores the religious landscape of medieval Illyria. The research results and the elements of the religious historical landscape will be presented in the form of an interactive map-based application and supplemented with 3D views and panoramas of important churches and monasteries (<https://map.geo.univie.ac.at/bew/>).

Vienna University of Technology

Department of Geodesy and Geoinformation – Research Group Cartography

The Research Group Cartography is an integrated part of the Department of Geodesy and Geoinformation of the Faculty of Mathematics and Geoinformation of the Vienna University of Technology.

Since 2018 Prof. GEORG GARTNER and the Vienna University of Technology are members of the Academic Networks of the United Nations Committee on Experts of Global Geospatial Information Management (UN-GGIM).

In the period of 2019 – 2022 the Research Group Cartography organized 7 CartoTalks. For more information visit <https://cartography.tuwien.ac.at/cartotalks>.

The Vienna University of Technology awarded 25 master's degrees and 2 doctoral degrees in the field of cartography.

Projects

EURECA – EUropean Region Enrichment in City Archives and collections, investigates cultural heritage collections of European city archives and collections by applying location-based services (LBS) and personalized, contextualized content (<https://cartography.tuwien.ac.at/eureca/>).

Curricula Enrichment delivered through the Application of Location-based Services to Intelligent Transport Systems / **LBS2ITS** (2021 – 2024) is a project on higher education curriculum development to produce professionals who are equipped to improve the livability of urban and provisional areas in the partner country. This will be achieved through delivering an enhanced curriculum and new didactic practices for LBS and ITS in four Sri Lankan universities (<https://lbs2its.net/>).

In the Erasmus+ project "**DigiGeo**", partners from the Czech Republic, Norway, Finland and Germany are investigating the extent to which a digital transformation of teaching in technical science subjects can be supported (<https://storymaps.arcgis.com/stories/017d7a2d26d846bba7ca3dc3a3572e04>).

Austrian Academy of Sciences

Projects

Politics and poetics of toponyms, identity, and location in multilingual areas. A comparative study of Carinthia (Austria) and the Teschen region (Czech Republic) (FWF project I 2366 G23)

[<https://www.oeaw.ac.at/en/isr/research/associated-projects/the-politics-and-poetics-of-toponymy-identity-and-place-in-multi-lingual-areas-topo>]: The project has been selected by the Austrian Fund

for the Promotion of Scientific Research (FWF) from a large number of submissions for funding. It was carried out in the years 2016-2019 by two research groups in the Czech Republic (headed by P. Mácha, Ostrava) and Austria (headed by P. Jordan). The Austrian research group consists of three persons and is based at the Austrian Academy of Sciences in Vienna. The focus lies on the question of how important it is for members of linguistic minorities to see their place names on road signs and in other ways in public spaces. It compares minority situations in southern Carinthia and in an area with a Polish minority in the Czech Republic. The project was concluded in 2019 with a book publication (<https://link.springer.com/book/10.1007/978-3-030-69488-3>).

Project "**Unfolding the Woldan Collection**" (2018 – 2020): A data model and prototype for dissemination and visualization of cultural heritage in a spatio-temporal way", Collection Woldan, Austrian Academy of Sciences

Projekt "**HistoGIS**" (2018 – 2020), Austrian Centre for Digital Humanities (ACDH)

[<https://histogis.acdh.oeaw.ac.at/>]

Authoritative Cartography

Federal Office of Metrology and Surveying (Bundesamt für Eich- und Vermessungswesen, BEV)

Cartographic models and map series

The revision of the cartographic models of the Austrian map is done according to the established procedures and schedules.

The two cartographic models 1:250 000 – vector (KM250-V) and 1:500 000 – vector (KM5000-V) have been revised with relevant updates by means of the ongoing update and are now available as free products both on the BEV homepage (<https://bev.gv.at>) and on the Federal Open Data Portal (<https://data.gv.at>).

In 2020, the topographic maps Schneeberg-Rax 1:25 000 (ÖK25), all 12 sheets of the Austrian map 1:250 000 (ÖK250) and the Austrian map 1:500 000 (ÖK500) were updated and printed.

Since the end of 2020, the cartographic vector model 1:50 000 (KM50-V) has been automatically derived from the BEV's Digital Landscape Model (DLM), using a newly designed symbol catalog. Examples of a changed color scheme are linear elements (railways and lifts in red) as well as the map font (mountain names in brown, area names in green). New additions include federal and state road numbers as well as leisure areas (in yellow). See Figure 1 for a sample plot.

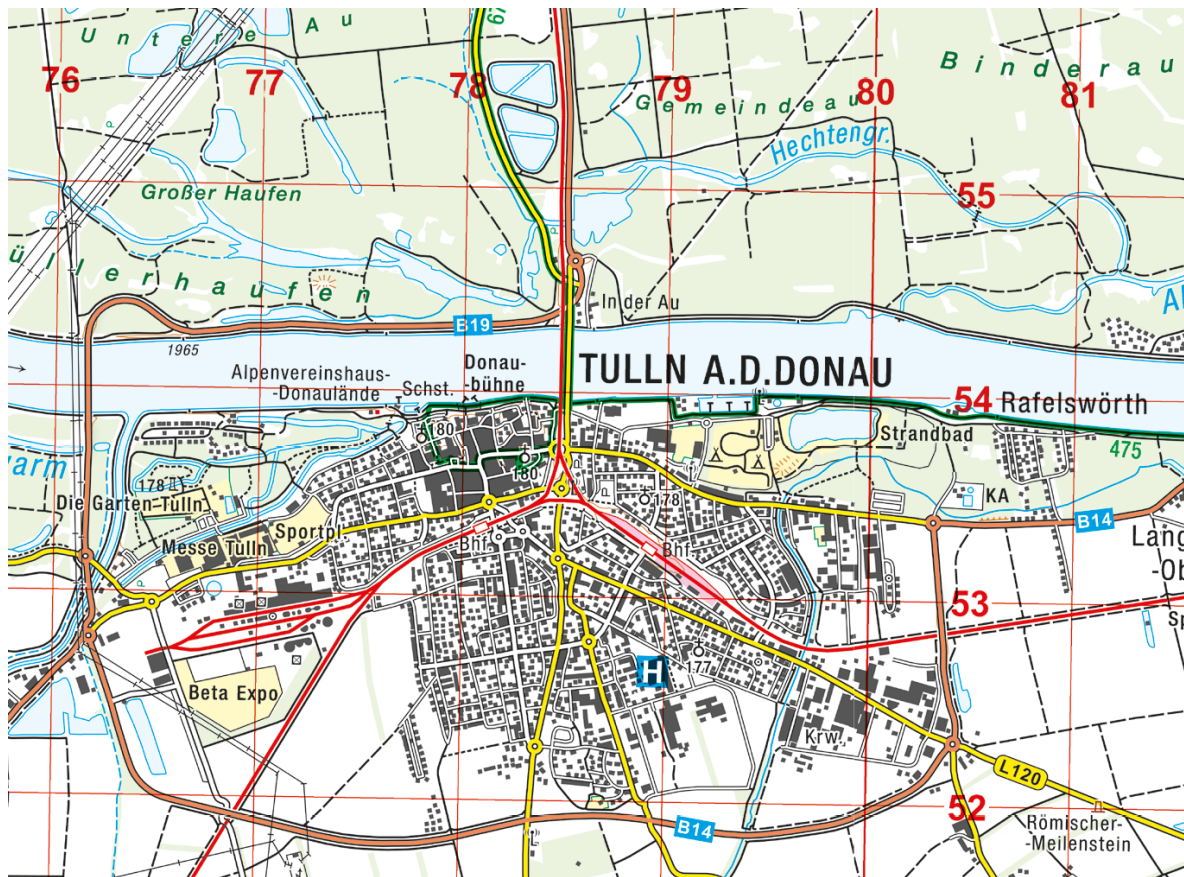


Fig. 1: Sample plot of map sheet ÖK50 Tulln an der Donau, 2021 (Source: BEV)

Digital products

In accordance with the PSI Directive (Public Sector Information Directive 2003/98/EC), the BEV makes its basic geodata available free of charge on the BEV Geoportal under <https://data.bev.gv.at>. In addition to all cartographic models, this also includes the digital landscape model, digital elevation data, cadastral data (including land registers), administrative boundary data and the address register data.

The Austrian Map mobile is an app of the BEV for the iPhone/iPad and for Android smartphones. In this digital product, the high quality of the national maps of Austria is made available free of charge in a user-friendly interface with extensive functionality.

The new free version of the Austrian Map online (AMap Online) is available at a new address <https://maps.bev.gv.at>. It uses both the precise authoritative maps of the BEV and aerial photographs, which makes it possible to switch between these two forms of representation. The functionality has been extended with a more extensive search function (e.g., addresses of the Austrian Address Register, places, and names from the Digital Landscape Model). In addition, it is possible to create tracks and export them to a smartphone or to import tracks and display them on the map. These routes can then be used to generate elevation profiles.

For the Austrian Map mobile as well as the Austrian Map online the cartographic databases of the scales 1:50,000, 1:250,000 and 1:500,000 as well as the geographical list of names are updated every six months.

International Activities

The Austrian content for the EuroGeographics product EuroBoundaryMap (EBM, 1:100.000) and EuroRegionalMap (ERM, 1:250.000) is provided by the BEV on an annual basis.

Apprenticeship geoinformation technician

In the reporting period 18 apprentices successfully completed their training. By the end of 2022 27 apprentices were actively involved in their education and training.

Geological Survey of Austria (Geologische Bundesanstalt, GBA)

In 2019 the Geological Survey of Austria started a new map series “**Geological Map of Austria 1 : 25000**”. The map sheet GK 25 Radenthein-Nordost (NL 33-04-06 NE-Quadrant), together with the map sheet GK 25 Radenthein-Südost (NL 33-04-06 SE-Quadrant), marks the beginning of these series, which is based on the new topographic map sheets of the Federal Office of Metrology and Surveying in the UTM system. This is also associated with numerous innovations in content and layout, including a cross section below the main map, full citations of the documents used and a general symbol catalog for the new map series.

The **GEOFAST** project has the goal to compile digital and nationwide geological maps onto topographic base maps in the scale of 1:50.000. Sheets are not published in print, but for print on demand only. Twenty map sheets were published in the map series of ÖK50 BMN in the period of 2019 – 2022.

Cartographic Publishers

Austrian Alpine Club (ÖAV)

In 2020 the Austrian Alpine Club published a new map: Ladner M., Beer W.: Alpenvereinskarte Nr. 57/1 *Karnischer Hauptkamm West*, 2020. The map "Carnic Main Ridge" is the first Alpine Club map, the production of which is based entirely on newly developed methods. In Austria, the basic topographic data come from the digital landscape model of the Federal Office of Metrology and Surveying Vienna, as well as free authoritative data in the non-Austrian parts. The ground cover was recorded manually, and in the alpine area very extensive terrain work was also carried out. The map design is strongly based on the traditional Alpine Club maps, for which a highly accurate elevation model is required. A specially carried out flight of the foreign part, as well as the border region, provided optimal basic data for data acquisition and the derivation of the terrain representation. The map is assumed to be the first topographic map of its kind in the world entirely produced with ArcGIS Pro.

A historical map of the Zillertal (Zillertal West) from 1930 overlaid with current glacier levels: Edition: 1930 with glacier levels from 2017/18 | Scale: 1:25,000 | Publisher: Alpenvereinskarten | Published 2021. The first Alpine Club map of the Zillertal Alps West dates back to 1930. At that time, it took nine years to complete the paper map. Work was carried out in the field, at stereographs and desk work. Based on modern orthophotos from 2017/2018 and digital terrain models, the current glacier levels have now been recorded and integrated into the historical map on a scale of 1:25,000. An information text on the side of the map section provides information about climate change and glacier development and contains a brief outline of the cartographic working methods of then and now.

In 2022, the Alpine Club Map 30/6 Ötztal Alps, Wildspitze was issued. Like the Carnic Ridge, this map was created entirely in ArcGIS Pro and has a scale of 1:25000 at 78cm x 63cm. Again, special attention was paid to a three-dimensional representation of the terrain, as well as to improved readability. In addition to the depiction of rocks and debris, the glaciers have been provided with their own representation, which provides users with a clear picture of the terrain. The basic data comes from a cooperation project between the Federal Office of Metrology and Surveying Vienna and the Austrian Alpine Club, in which the ÖAV continues to carry out independent field work.

Freytag-Berndt & Artaria KG (Vienna)

In the period of 2019 – 2022 Freytag-Berndt & Artaria KG updated and newly published a wide range of cartographic products. These include automobile and recreational maps in various scales, city maps and topographic hiking maps.

In February 2020, the publishing house Freytag-Berndt & Artaria KG took over the products, production, and distribution of the German cartographic publisher "Public Press". In the summer of 2020, the new web shop with over 50,000 travel items was also renewed. On the occasion of the 250th anniversary of the publishing house, three anniversary atlases, Austrian and German road maps with retro covers and 5 hiking map boxes were published.

In 2022, more than 200 maps were published with road and leisure maps achieving significant growth after the years marked by COVID-19.

With the Travel Atlas Iceland, a product was released for the first time that is completely based on open geodata and was created with the help of automatic generalizations and labeling methods.

In the summer of 2022, together with the subsidiary Bergverlag Rother, the Rother tour app and a tour portal were released, in which both the maps from Freytag & Berndt and the tours from Rother are implemented (<https://rother.app/>).

Since 2022, special theme maps such as adventure guides or motorcycle maps have also been produced for the German-speaking world, which offer the possibility of implementing the routes in digital devices.

More information: <https://www.freytagberndt.com>

Hölzel Verlag (Vienna)

On 29.10.2019, the publishing house Ed. Hölzel celebrated its 175th anniversary. The Marble Hall of the Upper Belvedere in Vienna provided the festive setting for a review of the 175-year history of the publishing house.

In several steps in 2020 and 2021, Verlag Ed. Hölzel was merged with the former Manz Verlag Schulbuch to form Hölzel Verlag and can now offer a wide range of books with an economic and technical focus in addition to school atlases and geography and history textbooks.

The Hölzel Universal Atlas has been expanded under the name "E-Book+" for the Austrian school textbook campaign with a wide range of digital cartographic exercise sheets and interactive assignments.

In 2022, the "Geothek online", a new digital World Atlas Online, was presented as a license-based product. This browser-based product includes printable 2D maps from the Hölzel atlases, a rotating 3D globe with many map themes, and a unique module for statistical maps of the earth. It is specially designed for school teaching but is also available as an individual license.

More Information: <https://www.hoelzel.at>

More Detailed Information (in German)

A comprehensive list of textual publications, map series and atlases as well as digital products being published between 2019 and 2022 can be found in *KN - Journal of Cartography and Geographic Information – Kartographische Nachrichten*, Springer Nature, where every year in Issue 2 (print version) the developments of ÖKK are reported in the section "ÖKK-Nachrichten / ÖKK News".