

# ***Austrian Cartographic Commission***

***In the Austrian Geographical Society***

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## **Cartography in AUSTRIA 2011 – 2014**

### **National Report to the 16<sup>th</sup> General Assembly of ICA 2015 in Rio de Janeiro, Brazil**

#### **Contributions to ICA**

The following individuals served on the Executive Committee and Commissions of ICA:

G. Gartner (President of ICA)

F. Hruby (Vice-chair, Commission on Theoretical Cartography)

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

P. Jordan (Chair, Commission on National and Regional Atlases)

K. Kriz (Chair, Commission on Mountain Cartography)

A. Pucher (Vice-chair, Commission on Use and User issues)

M. Schmidt (Vice-chair, Commission on Neocartography)

#### **Development of the Austrian Cartographic Commission (ÖKK)**

Since the last General Assembly of ICA 2011 in Paris, France the number of members of the ÖKK decreased from then 144 to 129 by the end of 2014. The reduction in numbers is a consequence of an adjustment of the member database by eliminating members who have been inactive without membership payment or communication for several years.

Apart from the continuous publication of two information bulletins per annum, a certain number of technical meetings as well as two collective meetings of the ÖKK were arranged each year.

In 2011 the ÖKK celebrated its 50<sup>th</sup> anniversary with a scientific symposium November 10 - 11, 2011. Furthermore, the contributions of 39 authors were published in an anniversary edition of the "Wiener Schriften zur Geographie und Kartographie", Volume 20, edited by the Department of Geography and Regional Research, University of Vienna.

## Technical Meeting in Austria (major events)

### 2011

January 31 – February 3, 2011: International Workshop “Understanding Different Geographies”, Puchberg am Schneeberg, see <http://udg2011.univie.ac.at/>

May 2 -6, 2011: 26<sup>th</sup> Session of UNGEGN (United Nations Group of Experts on Geographical Names), Vienna, see <http://unstats.un.org/unsd/geoinfo/UNGEGN/ungegnSession26.html>

July 6 – 8, 2011: AGIT2011, Symposium and Trade Fair Applied Geoinformatics as well as Geoinformatics Forum (GI\_Forum), Salzburg, further information: <http://www.agit.at> and <http://www.gi-forum.org/>

July 11 – 2, 2011: International Memorial Symposium for Roger Senarclens de Grancy (1938 – 2001), Graz

July 15 – 17, 2011: First European State of the Map Conference (SotM-Europe), Vienna, further information <http://www.sotm-eu.org/cfp>

November 10 – 11, 2011: Symposium on the 50<sup>th</sup> anniversary of the ÖKK, Vienna

November 21 – 23, 2011: 8<sup>th</sup> International Symposium on Location-Based Services, Vienna, see <http://cartography.tuwien.ac.at/8th-international-symposium-on-location-based-services/>

November 25 – 30, 2011: Workshops on “Mapping the World” and “Visual Historiography – Global Perspectives”, Vienna, see <http://hkf-visuellekulturgeschichte.univie.ac.at/veranstaltungen-im-rahmen-des-fsp/2011/mapping-the-world/> and <http://hkf-visuellekulturgeschichte.univie.ac.at/veranstaltungen-im-rahmen-des-fsp/2011/visual-historiography-global-perspectives/>

### 2012

July 4 – 6, 2012: AGIT2012, Symposium and Trade Fair Applied Geoinformatics as well as Geoinformatics Forum (GI\_Forum), Salzburg, further information: <http://www.agit.at> and <http://www.gi-forum.org/>

September 9 – 12, 2012: 30<sup>th</sup> International Symposium of the “International Map Collectors Society”, Vienna

November 20 – 23, 2012: Workshop on “Open Source GIS and Web Mapping”, Vienna

November 22 – 23, 2012: 1<sup>st</sup> Symposium on Service-Oriented Mapping SOMAP 2012, Vienna, see [http://somap.cartography.at/?Past\\_Event\\_-\\_SOMAP2012](http://somap.cartography.at/?Past_Event_-_SOMAP2012)

### 2013

January 16 – 17, 2013: MCM-3 COST Action IC1203 ENERGIC Meeting, Vienna

July 3 – 5, 2013: AGIT2013, Symposium and Trade Fair Applied Geoinformatics as well as Geoinformatics Forum (GI\_Forum), Salzburg, further information: <http://www.agit.at> and <http://www.gi-forum.org/>

October 10, 2013: Exhibition “250 Jahre Josephinische Landesaufnahme”, Vienna

## 2014

May 13 – 14, 2014: Symposium commemorating the 1<sup>st</sup> Topographical Survey in the Austrian-Hungarian Empire on May 13, 1764, Vienna

July 2 – 4, 2014: AGIT2014, Symposium and Trade Fair Applied Geoinformatics as well as Geoinformatics Forum (GI\_Forum), Salzburg, further information: <http://www.agit.at> and <http://www.gi-forum.org/>

July 5 – 7, 2014: 16<sup>th</sup> Session of the UNGEGN Working Group on Exonyms, Hermagor, further information <http://ungegn.zrc-sazu.si/Activities.aspx>

November 26 – 28, 2014: 11<sup>th</sup> International Symposium on Location-Based Services as well as 2<sup>nd</sup> Symposium on Service-Oriented Mapping, Vienna, see <http://www.lbs2014.org/> and [http://somap.cartography.at/?SOMAP\\_2014](http://somap.cartography.at/?SOMAP_2014)

## Universities

### University of Vienna

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

Since the establishment of the new Bachelor- and Master curricula in 2007/2008, the first Master degree in Cartography and Geoinformation Science was awarded in 2011 which was followed by seven more until the end of 2014. Furthermore, seven doctoral degrees were awarded in that period.

Furthermore, the Department of Geography and Regional Research was the venue of the 5<sup>th</sup> and 6<sup>th</sup> ERDAS-Day in 2012 and 2013 respectively. The program of the ERDAS-Day comprises not only technical lectures, but also workshops.

#### Projects

*ASSISTANT – Aiding SuStainable Independent Senior TrAvellers to Navigate in Towns:*

The objective of this project that was initialized in 2012 is to provide accessible support for the use of public transportation, seamlessly spanning trip planning via an online application, scheduling and providing guides for multi-step journeys with provision for supplying information to help the end-user from the last transit stop to the final destination using smartphones. The target group is elderly people, particularly those travelling to unknown places or beginning to use public transportation after having lost the ability to drive. See <http://www.aal-assistant.eu>

*LWD Online Maps:*

This continuing project is an ongoing cooperation of the Tyrolean Avalanche Alerting Service and the University of Vienna, Department of Geography and Regional Research which visually communicates the daily avalanche report. See: <http://www.lawine.at/tirol/>

*LAWIS:*

The cooperation with the Tyrolean Avalanche Alerting Service has been expanded with the

development of the Avalanche Information System. Within LAWIS, data from weather stations, snow profiles and avalanche incidents can be stored and maintained. The system is open to the general public and enhances the distribution of relevant avalanche information in mountainous areas. The geographical coverage of LAWIS has recently been expanded to the Austrian province of Styria and is open to further national and international expansion.

*Omni Suite:*

The aim of this project, which was finished in 2014, was the design and creation of an interactive platform-independent authoring and presentation system in order to visualize global geographic topics on a novel tactile hyperglobe, reaching from evaluating and implementing 3D-engines and the development of an intuitive, framework-based GUI to an “on-the-fly” projection of (dynamic) global data in real-time. See: <http://globoccess.de/>

*WISER:*

This project (started in 2004) is a cooperation of the Department of Geography and Regional Research of the University of Vienna with the International Atomic Energy Agency (IAEA) of the United Nations (UN). The goal of WISER (Water Isotope System for Data Analysis, Visualization and Electronic Retrieval) is the development of a user-friendly, integrated information system which allows for the visualization and distribution of chemical and isotope-hydrological data sets.

*The Cultural History of the Western Himalaya from the 8th Century:*

The “Cultural History Information System” (CHIS) is part of a national research network, dealing with the cultural history of the Western Himalaya from the 8th century. CHIS is an internet-based information system that aims at archiving, visualizing and analyzing spatial data of cultural history. The application allows for queries resulting in map visualizations and features precise object search or special views. The project has been funded by the FWF (Austrian Research Fund) See: <http://www.univie.ac.at/chwh>

*KHM Wien:*

In 2012 and 2013, the University of Vienna, Department of Geography and Regional Research has collaborated with the Kunsthistorisches Museum Wien (Museum of Fine Arts) in the design and implementation of two exhibitions. Maps and other cartographic representations (such as a 4x5m topographic floor map) have been integrated into the museum space. Furthermore, digital online catalogues are available. For more information, see <http://www.muenze-und-macht.at/> and <http://www.khm.at/besuchen/ausstellungen/das-antlitz-des-fremden/>

*ÖROK Atlas:*

Since early in 2007, an internet-based version of the ÖROK-Atlas (Atlas for Spatial Development in Austria, edited by the Austrian Conference for Regional Planning) is available. The atlas has been developed on behalf of the ÖROK (Austrian Conference for Regional Planning) by the Department of Geography and Regional Research, the Austrian Institute for Regional Studies and Spatial Planning (ÖIR, Information Services) and the Department of Geoinformation and Cartography at the Vienna University of Technology. The “ÖROK-Atlas online” features a collection of selected geographical as well as regional statistical data about the spatial development of Austria in cartographic form. Since 2014, a fully updated version of the ÖROK-Atlas is available: <http://www.oerok-atlas.at>

#### *G10ben:*

In the course of the exhibition "Arbeitsplatz" (place of work) at the Technical Museum of Vienna, 10 globes (65 cm in diameter) on the theme "globalization" were created in cooperation with the Technical Museum and worldmapper.com. Each globe represents one unique topic in the field of labor migration and production visualized as an anamorphosis. The printing of 10 globe segments had to be prepared digitally for each globe.

#### *TTMC-Globe:*

On occasion of the regional exhibition of Lower Austria in 2011 the thematic representation of an analogue globe (77 cm in diameter) was prepared digitally. The globe's topic was "Travel time to major cities (TTMC): A global map of Accessibility". Due to the required absolute resolution of 28570 x 14285 px a Cost-Distance model from JRC had to be refined as well as recreated. The underlying data base contains several layers, e.g. cities with more than 50.000 inhabitants as well as the cost raster which consists of roads and railway networks, navigable rivers, lakes, shipping lanes, international borders, land cover, urban areas, altitude and slope. This project was conducted in cooperation with rapp&wimberger Kultur- und Medienprojekte as well as the European Commission Joint Research Centre (JRC).

#### *MeteoGlobe:*

The aim of this project, which was concluded in 2011 and was carried out in cooperation with the Institute of Meteorology and Geophysics at the University of Vienna was the creation of global weather forecast data sets which can be visualized on a tactile hyperglobe for demonstration purposes.

## **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.

The International Master "Cartography" is a joint effort of TU Munich, TU Vienna and TU Dresden. Several intakes have successfully finished the program. As a result the Master program was selected from the European Union as an excellent program of ERASMUS+.

Moreover the Research Group Cartography organized 21 CartoTalks between 2011 and 2014. See: <http://cartography.tuwien.ac.at/cartotalks>

### **Projects**

#### *genderATlas (2013 - ongoing):*

genderATlas is a joint project by Vienna University of Technology, University of Vienna and ÖIR Projekthaus. It aims at creating an online atlas for visualizing and explaining gender-relevant data in its spatial distribution. To ensure the usability of the product, lead users are involved in the design process. See: <http://genderatlas.at/>

#### *basemap.at (2012 - 2014):*

basemap.at is the result of a cooperation of the nine Austrian provinces (geoland.at), ITS Vienna Region (GIP.at operator), Vienna University of Technology and Synergis. From 2012 to

2013, the project team created the foundations for an open web basemap, which was published in 2014. It is used for numerous administrative procedures. In addition, it is also available for private and commercial purposes according to the Austrian Open Government Data conditions. See: <http://basemap.at/>

*fem2map* (2011 - 2013):

The project fem2map focused on motivators and barriers for the participation of women in VGI projects, such as OpenStreetMap. With a combination of qualitative and quantitative methods, strategies were developed for engaging more diverse groups in collecting geographic information. The project was a collaboration between Vienna University of Technology and Salzburg Research.

*EmoMap* (2010 - 2013):

The research project Emomap was a cooperation of Vienna University of Technology, Salzburg Research and WildUrb. It aimed at studying how people's affective responses to environments can be modeled and collected, and how affective responses contribute to a better understanding of human-environment interaction, as well as how they enable smart geospatial applications (e.g., location-based services).

*ways2navigate* (2009 - 2011):

ways2navigate was a joint research project of Vienna University of Technology, Salzburg Research and other Austrian partners. It investigated the suitability of mobile maps, language (verbal descriptions) and augmented reality (AR) for communicating route information to pedestrians in an urban environment.

*FEMroute* (2009 - 2011):

The research project FEMroute by Salzburg Research and Vienna University of Technology investigated how personal and context parameters can be considered in order to improve route planning.

## **Research networks**

COST ENERGIC (2012 - ongoing):

Vienna University of Technology is a partner in the European Network Exploring Research into Geospatial Information Crowdsourcing (ENERGIC). See: <http://vgibox.eu/>

Chernoff Faces (2010 - 2011):

The travel fund WTZ-Scientific and Technological Cooperation enabled further bilateral cooperation between Hungary and Austria on the topic of Chernoff faces in school cartography. See: <http://cartography.tuwien.ac.at/chernoff/>

## **Governmental Cartography**

### **Federal Office of Metrology and Surveying (BEV)**

#### **Department for Cartography**

Cartographic Model 1:50.000 (KM50): In the course of the Nationwide Updating Process (FAKT), 134 topographic maps were edited in the UTM system. As part of the Continuing Updating Process

(LAKT), new segments of highways, freeways, federal roads and railways were added to 76 topographic maps. Raster retouching and frame editing had been carried out, if required.

From 2011 to 2014, 146 UTM map sheets of the ÖK50/25V (1:50.000/1:25:000-Vector) were updated as part of the Nationwide Updating Process (FAKT) as well as from the Continuing Updating Process (LAKT).

Since 2011, the BEV and the Institute of Military Geography (IMG) joined their forces in order to publish common civilian-military issues of the existing national map series. In 2011 a new map series of 12 maps in the scale of 1:250.000 (ÖK250) was published, followed by the new civilian-military issue ÖK500 (1:500.000) in 2012. In 2014, the second edition of the ÖK250 as well as 126 maps of the new civilian-military issue of the ÖK50 (1:50.000) were published. The latter series is yet to be completed and currently covers 66 % of the national territory.

Since 2013 the political issue of the ÖK500, which represents an overview of all administrative districts, is only delivered as a plot on demand only.

Cartographic Model 1:250.000-Vector (KM250V): From 2011-2014, the Cartographic Model 1:250.000-Vector has been completed by adding several topographic data from the Nationwide Updating Process (FAKT) as well as from the Continuing Updating Process (LAKT).

Cartographic Model 1:500.000-Vector (KM500V): The Cartographic Model 1:500.000 has been completed by adding several topographic data from the Nationwide Updating Process (FAKT) as well as from the Continuing Updating Process (LAKT).

Digital Landscape Model (DLM): All major construction projects, which were finished from 2011 to 2014, have been added to the database.

Austrian Map online ([www.austrianmap.at](http://www.austrianmap.at)): The cartographic data sets of the scales 1:25.000, 1:50.000, 1:200.000 and 1:500.000 as well as the index of geographic names have been updated quarterly for the Austrian Map Online.

Austrian Map mobile (AMap): The AMap is available since 2012 for Apple products via the Apple App Store. An Android app was launched in spring 2013. This application offers all federal maps of Austria in high quality and many more features.

The hiking map "Schneeberg und Rax" (1:25.000) was revised with new thematic layers in 2013. Moreover, its layout was revised.

In 2013, the BEV hosted the "Technical Meeting of the EuroGeographics Data Producers" which was attended by more than 50 representatives of national mapping agencies from 29 countries. In this course current and future issues regarding the production of EuroGeographics products were discussed. Besides, the BEV provides three EuroGeographics products: EuroBoundaryMap (EBM, 1:100.000) v8.0, EuroRegionalMap (ERM, 1:250.000) v7.0 and EuroGlobalMap (EGM, 1:1.000.000) v.6.1.

In 2014, the BEV hosted the "Technical Meeting of the EuroGeographics Data Producers" again, which was attended by more than 60 representatives of national mapping agencies from 35 countries. In this course, the BEV presented the updated EuroBoundaryMap (EBM, 1:100.000) v9.0 and EuroRegionalMap (ERM, 1:250.000) v8.0.

## **Institute of Military Geography (IMG)**

In 2011 the Institute for Military Geography (IMG) created a satellite based map of Bhutan which was awarded with a first place in the category „Maps based on satellite images and Remote Sensing“ at the Cartographic Exhibition during the 25th International Cartographic Conference in Paris.

Since 2011 new unified civil-military topographic maps – among others for usage in the field of crisis- and disaster-management – were published in cooperation with the Austrian Federal Office of Metrology and Surveying (BEV): an edition of the topographic map 1 : 500 000, two editions of a series of 12 map sheets in the scale of 1 : 250 000, and 126 of 191 map sheets of the Austrian territory in the scale of 1 : 50 000 so far.

IMG also continued publishing its series of military topographic maps in the scale of 1 : 25 000 for Military Training Areas of „Hochfilzen“ (2012), „Seetaler Alpe“ (2013), and an update of „Lizum/Walchen“ as well as a new map of „Allentsteig“ (2015).

The Austrian Military Geoinformation System (MIGIS) was expanded as a core element in order to provide geodata and services for the Austrian Armed Forces.

## **Working Group for Cartographic Toponyms (AKO)**

The Austrian Board on Geographical Names (officially: Working Group on Cartographic Toponomastics [Arbeitsgemeinschaft für Kartographische Ortsnamenkunde, AKO]) is a group of experts from various disciplines (cartography, geography, linguistics, historiography, and others). It includes representatives of all Austrian institutions relevant for and active in the field of toponymy. The geographer and cartographer Peter Jordan chairs it since 2007 and has been re-elected in 2012 for a second term until 2017.

In 2012, the Board published the “Recommendations for the rendering of geographical names in Austrian educational media” [Empfehlungen zur Schreibung geographischer Namen in österreichischen Bildungsmedien]. The German exonyms listed here and recommended for use in Austrian educational media were selected according to a combination of feature-related, language-related and user-related criteria. The recommendations address not only editors of school atlases and school text books, but of educational media in general as well as press and electronic media. All school atlases published after this date licensed for Austria and produced in Austria respect these recommendations.

Toponymic Guidelines for Austria have been updated and published as a 7<sup>th</sup> edition in 2012. Updates include, e.g., hints at the new place-names act having made 164 names of settlements in Carinthia officially bilingual (German-Slovene),

Functioning as the link between Austrian toponomatics and international authorities in this field, the Board, represented both by its chair and vice-chair (vice-chair until 2012 Hubert Bergmann, since 2012 Gerhard Rampl) took part in the 10<sup>th</sup> United Nations Conference on the Standardization of Geographical Names, New York, 31 July to 9 August 2012, as well as in the 27<sup>th</sup> and 28<sup>th</sup> Sessions of the United Nations Group of Experts on Geographical Names (UNGEGN), New York, 30 July and 10 August 2012, and 28 April to 2 May 2014, resp. The AKO chair was in 2012 re-elected convenor of the UNGEGN Working Group on Exonyms, one of UNGEGN’s ten thematic working groups. In this capacity, he organised workshops in Gdańsk (Poland, May 2012), Corfu (Greece, May 2013) and



Hermagor (Austria, June 2014). The AKO vice-chairs hold another function of UNGEGN's operative management, i.e. International Co-ordinator, Toponymic Guidelines.

Between 2011-2014 AKO continued to be represented by several members in the Permanent Committee on Geographical Names [Ständiger Ausschuss für Geographische Namen, StAGN], the German names board with a coordinative function for all German-speaking countries. Heinz-Dieter Pohl and Peter Jordan were the two Austrian Permanent Members, Hubert Bergmann (until 2014) and Peter Jordan (since 2014) functioned as the Committee's elected vice-chairs.

The AKO chair acted also as an informal secretary general of the Joint ICA/IGU Working Group/Commission on Toponymy founded in 2011. In this capacity he organized toponymic sessions at 32<sup>nd</sup> IGC Cologne 2012 and the IGU Regional Conference Cracow 2014 as well as (together with two other ICA commissions) the seminar "Historical maps, atlas maps, and toponymy" in Leipzig, Germany, 21-23 August 2013, and (together with Cosimo Palagiano) a symposium on place-names changes in Rome, 17-18 November 2014.

A toponymic book series ("Name & Place"), established by the AKO chair in co-operation with Paul Woodman and published by Verlag Dr. Kovač, Hamburg, comprises so far five volumes, three of them published from 2011 to 2014:

Jordan P., Bergmann H., Burgess C., Cheetham C. (eds.) (2011), *Trends in Exonym Use. Proceedings of the 10<sup>th</sup> UNGEGN Working Group on Exonyms Meeting, Tainach, 28-30 April 2010* (= Name & Place, vol. 1).

Jordan P., Ormeling F. (eds.) (2013), *Toponyms in Cartography. Proceedings of the 25<sup>th</sup> International Cartographic Conference, Paris, 3-8 July 2011* (= Name & Place, vol. 2).

Jordan P., Woodman P. (eds.) (2014), *The Quest for Definitions. Proceedings of the 14<sup>th</sup> UNGEGN Working Group on Exonyms Meeting, Corfu, 23-25 May 2013* (= Name & Place, vol. 3).

## Cartographic Publishers

### **Freytag-Berndt & Artaria KG (Vienna)**

In the years 2011, 2012, 2013 and 2014, Freytag-Berndt & Artaria KG published and updated several cartographic products. The versatile range of products includes a selection of roadmaps, leisure maps, city maps, hiking maps and atlases.

In the selection concerning road- and leisure maps, the new series WELT KOMPAKT was issued on waterproof paper. It is bilingual, German and English, and consists of a map with an overview and city maps. It also includes a description of the top sights, the most important information for tourists as well as data about the country and a language guide.

The city maps were expanded with the series CITY POCKET. These compact and waterproof city maps in a practical size and a number of different languages offer a quick overview over hot-spots to themes such as shopping, local delicacies, culture, night-life, sights.

The products in the selection concerning leisure and hiking maps shine in a new and clear design, as well as practical size, folded 10 x 20,5 cm. Information surrounding the regions and communities, top cycling and hiking trails as well as elevation profiles help to organize the new overview.

Additionally, the existing cartographic material is reviewed and updated continuously. For further information see: <http://www.freytagberndt.com/en/>

### **Ed. Hölzel (Vienna)**

From 2011 until 2014, Ed. Hölzel published and updated several cartographic products in the field of pocket maps, camping maps, school atlases and school maps. The publishing house focused on textbooks within the last years. For further information (in German) see: <http://www.hoelzel.at/>

### **New Products**

A comprehensive list of textual publications, map series and atlases as well as digital products being published from 2010 to 2014 can be found in “Kartographische Nachrichten, Fachzeitschrift für Geoinformation und Geovisualisierung”, Kirschbaum Verlag GmbH, Bonn (Germany), in chapter “ÖKK-Nachrichten” (Bulletin of the Austrian Cartographic Commission). See:

Issue 2010/, p. ff. (in German)

Issue 2011/, p. ff. (in German)

Issue 2012/, p. ff.

Issue 2013/, p. ff. (in German)

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