
Report of the 6th ICA Mountain Cartography Workshop

at Lenk im Simmental (Switzerland), 11–15 February, 2008

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From February 11 to 15, 2008, the 6th edition of the traditional ICA Mountain Cartography Workshop took place for the first time in Switzerland. The workshops focused on mountain-related topographic and thematic aspects and their depiction on maps and map related representations. Every second year since 1998, cartographers and representatives of other fields related to cartography and GIS (like geology, natural hazards, tourism, biology, etc.) are meeting in an inspiring mountain region to discuss their current scientific projects and work.

Under the lead of Prof. Lorenz Hurni, the Institute of Cartography at ETH Zurich was in charge of the organisation

of the event, which took place at Lenk im Simmental. Lenk is a small village in the Bernese Alps, and is situated in a wide valley north of the Wildstrubel massif (Fig. 1). It is surrounded by mountains with altitudes between 2000 and 3500 metres. The skiing areas of Lenk are connected to those of the famous ski resorts of Gstaad (west) and Adelboden (east) by aerial passenger tramways and chair lifts.

The sports and recreational complex KUSPO (“Kurs- und Sportzentrum”) was selected as workshop location (<http://www.kuspo.ch>), providing a convenient infrastructure and an advantageous accommodation (Fig. 2). These conditions



Fig. 1: View towards the upper end of the Simmental (Image: C. Häberling, Zurich).



Fig. 2: Conference room (Image: C. Häberling, Zurich).

made it the ideal place for a successful meeting of both professionals and friends.

During the whole week, the weather was perfect with blue skies and very mild day temperatures. For all participants, these conditions enormously inspired the discussions and activities.

Almost 60 participants and single-day guests from 15 countries participated at the workshop (Fig. 3). Besides long-term members of the commission, also many new experts attended the workshop. We are therefore very pleased and hope for an increasing interest in the Commission on Mountain Cartography also in the future. The workshop and its participants were honoured by welcome addresses of William Cartwright, the President of the International Cartographic Association (ICA), and Stefan Arn, the President of the Swiss Society of Cartography (SGK).

The workshop was comprised of three different kinds of presentations: classic presentations by the participants talking about their latest scientific results and developments, short presentations according to the Pecha-Kucha system (see http://en.wikipedia.org/wiki/Pecha_Kucha) covering production processes and new products, and last, a small map and relief exhibition allowing to show and compare the newest map products (Fig. 4).

The 34 presentations were structured in the following five main thematic blocks: „Physical Geography“, „DEM and Terrain Modelling“, „Relief Depiction“, „History“ and „Multimedia and Mobile“.

In the “Physical geography” block, a number of scientific mapping and cartography projects as well as case studies from all over the world were described in detail (Michaela Kinberger, Uni Vienna; Manfred Buchroithner, TU Dresden; Giorgio Vassena, Uni Brescia; Richard Ladstätter, TU Graz; Sabine Stäuble, Uni Lausanne). Other presentations covered concepts for terrain evaluation or monitoring techniques (Igor Drecki, Uni Auckland; Melanie Kunz, ETH Zurich; David Theler, Uni Lausanne). Finally, developments of new interactive map and 3D-visualisation applications were discussed (Alexander Thimm, Swiss National Park; Karel Kriz, Uni Vienna; Christophe Lienert, ETH Zurich).

In the session „DEM and Terrain Modelling“, projects making use of latest laser technologies or high resolution satellite image data (Julien Vallet, Helimap.ch; Kirsten Wolff, ETH Zurich) as well as new approaches for the visualisation of hidden geological structures (Peter Jordan, Böhlinger AG) or for the derivation of contour lines for small scale maps (Anna Leonowicz, ETH Zurich) were presented. A presentation by Maria Pla and Blanca Baella (ICC, Barcelona)



Fig. 3: Participants at the 6th ICA Mountain Cartography Workshop at Lenk (Switzerland). (Image: K. Kriz, Vienna).

focused on requirements for database-driven relief representations for topographic maps.

The sessions on „Relief Depiction“ covered the broadest variety of presentations. First, the needs of mountain map users, especially members of Alpine Clubs, concerning the accuracy and symbolisation of topographic maps were evaluated (Martin Gurtner, swisstopo). Two authors were dealing with the evolution of classic relief maps or perspective views for different cartographic purposes (Alex Tait, International Mapping; Martin Gamache, National Geographic). Similar, but more technically oriented projects covered the development of new tourist maps with an integrated shaded relief (Roger Smith, Geographx NZ; William McNulty, National Geographic; Tom Patterson, US National Park Service). David Schobesberger (Uni Vienna) presented an evaluation of the use and effectiveness of 2-D or 3-D representations in National Park maps. Loïc Gondol (IGN Paris) talked about tests for new cliff drawings and scree representation in topographic maps. The latter method could be compared with scree representations generated by a software developed by Bernhard Jenny (ETH Zurich). Tibor Tóth (Tóth Graphix) demonstrated his relief shading methods using Photoshop and a tablet device. Stefan Räber (ETH Zurich) presented various physical relief depiction techniques, including the production of physical relief models with modern computer-driven drilling machines for an Earth Science exhibition at ETH Zurich.

The session on the history of mountain mapping started with a biographical presentation of the Swiss topographer and cartographer Jacot-Guillarmod (1868–1925) and his influential cartographic cliff representations (Hans-Uli Feldmann, swisstopo), followed by a presentation about the cartographic tradition and the latest technological developments at the Institute of Cartography of ETH Zurich (Lorenz Hurni). Alistair Pearson (Uni Portsmouth) reported about laser measurements and geometric analysis of the accuracy of a historic relief model.

A session on multimedia application and mobile devices for mountain mapping comprised presentations about Web applications for data acquisition (Dusan Petrovič, Uni Ljubljana), spatial communication using Google tools, (Karel Kriz) and accessibility visualisation (Adrian Weber, ETH Zurich). Furthermore, an implementation of GPS technology for mountain mapping and tour planning was demonstrated by Juan Galera (Uni Leon).

The topics of the eight short presentations, which were grouped in two sessions, were obviously more diversified. The authors covered topics like representation principles of rock representations (Jürg Gilgen, swisstopo), tourist mapping activities in Romania (Gabriela and Marin Ilies, Uni Cluj-Napoca), the historic development of panoramic maps (Arne Rohweder, Gecko Maps), mobile trekking guide devices for the Rwenzori National Park, Uganda (Constante



Fig. 4: Exhibition of mountain maps (Image: C. Häberling, Zurich).

Bonacina, Uni Brescia), smart interactive maps (Nathaniel Kelso, The Washington Post), Multidate habitat mapping approaches in Quebec (Guillaume Fortin, Uni Moncton), a topographic map of the Tatra Mountains (Rafal Jońca, RJ Carto) and traditional hill-shading for digital maps (Gizella Bassa, Gizimap).

A new kind of discussion forum was tried out for the first time in the workshop series and immediately attracted the special interest of the audience due to its topic: The new graphic design of the National Swiss topographic maps. Led by Lorenz Hurni (ETH Zurich), Hans-Uli Feldmann and Martin Gurtner (both swisstopo), the participants discussed vividly the new structure of the map content with new object classes and the displayed design specimens with different symbolisation and labelling options.

The workshop was accompanied by various social events and activities which fostered the personal contact among the participants (Fig. 5). On Tuesday evening, the welcome drink at the "Cinema Lenk" was accompanied by the display of two recent Swiss films: "Heimatklänge" ("Homeland Sounds") about contemporary yodelling and „Marmorera“ about scary events in the aftermath of the flooding of a mountain village by a reservoir. Due to the excellent weather on Wednesday, the opportunities for various outdoor like skiing, snow walking or simply relaxing on a restaurant's sun deck used by everyone. At the curling

event on Wednesday evening, many newly formed international teams were established to master this challenging sport. Finally, the „Raclette dinner“ – a traditional Swiss cheese dish – was very much appreciated by everyone on Thursday evening (Fig. 6).

All papers and contributions for the workshop will be published in the workshop proceedings in Summer 2008. The contributions will also be accessible on the commission website.

The next ICA Mountain Cartography Workshop will be organised by Gabriela and Marin Ilies (Babes-Bolyai University of Cluj-Napoca, Romania) and will take place in Borsa in the Maramures Mountains, Romania on 1–5 September 2010.

For more information about the workshop please visit the website of the ICA Commission on Mountain Cartography (<http://www.mountaintcartography.org/>).



Fig. 5: Participants discussing during a walk near the conference centre (Image: C. Häberling, Zurich).



Fig. 6: Everyone enjoyed the raclette dinner (Image: C. Häberling, Zurich).