ICA-CMC workshop
Bohinj, March 2006

Martin Gurtner

From the field sheet to the complete digital workflow
from nature ... 

Tschierva glacier
… to the map
... or a digital model
„side“ product
technology
from reality to models and representations

landscape
survey
selection and editing
cartographic treatment
reproduction
publication
data bank
visualization
plane table survey

- rules as „data model“
- direct measures
- instant classification
- storage on sketch map
maps of the 19th century
map production

Data capture

Map production
map production 1960

- cadastral base map 1:10‘000
- updated with aerial photographs
- field check
- scribing on glass plates
cadastral base map 1:5000 (or 1:10‘000)
stereo plotting
field check
scribing on glass plates
National Map Series 1:25‘000
map revision 1980
field check
field sheets
additions and deletions
comments
details
details (2)
first digital models

Data capture → Geodatabase

Map production
digital elevation model
„wire frame“
panoramas
data capture 2005
field check
GPS and vector editing
TopoPad

swisstopo Martin Gurtner
ICA Bohinj Field sheet
March 2006 Folie 33
editing
cartography
updating the database 2010

Data capture → Database

→ Map production
aerial photography
stereo plotting
new vehicle?
terrain / surface models
digital cartographic model
test sheet 2005
<table>
<thead>
<tr>
<th>Year</th>
<th>Data Model</th>
<th>Data Capture</th>
<th>Data Storage</th>
<th>Cartographic Treatment</th>
<th>Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>Dufour and Siegfried</td>
<td>plane table survey</td>
<td>sketch map</td>
<td>copper engraving</td>
<td>paper maps</td>
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<tr>
<td>1960</td>
<td>National Map Series</td>
<td>aerial photogrammetry, field check</td>
<td>glass plates</td>
<td>scribing on glass plates</td>
<td>aerial photographs, paper maps</td>
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<tr>
<td>2000</td>
<td>National Map Series, VECTOR25</td>
<td>analytical plotter, field check</td>
<td>analogue and vectors</td>
<td>completely digital (bitmaps)</td>
<td>orthophotos, vectors, paper maps, pixel maps</td>
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<tr>
<td>2010</td>
<td>topographic landscape model</td>
<td>digital stereo plotter, field check</td>
<td>vectors</td>
<td>digital (vector graphics)</td>
<td>orthophotos, vectors, vector maps, paper maps, pixel maps</td>
</tr>
</tbody>
</table>
additional information for tourists

- public transport
- informations centres and panels
- marked trails
- tracks for prams, bicycles, ...
- accommodation
- other supplies
conclusion

a thorough field check – combined with data collected from other sources – can provide reliable information for maps and topographic data bases to be used by tourists.
map quality

The best map is the one that offers no surprises to the user!
synthetical „view“