Designing a Panorama Map with Parallel and Spherical Projection

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Purpose of the Map

- Initiator: Swiss Association for the Protection of Birds SVS / BirdLife Switzerland

- Map Visitor Centers of BirdLife and other organizations for environmental protection
• Design
• Data
• Rendering
• Color Corrections
Design

- First idea: Oblique view of Switzerland
- Highly distorted
- Problem with centers in Northern part
Design

- Second idea: Less oblique
- Looks more familiar, but weaker 3D-effect
Design

• Third idea: Curved horizon
• Impression of depth
Design

- Plan oblique projection: shows inclined mountains but preserves familiar ground shape
Sketch: Spherical horizon with plan oblique view
Data

- DEM
- Satellite Image
- Land cover
Data – DEM

SRTM improved by Natural Graphics (author of Natural Scene Designer)
cell size: 90 m.
Data — Satellite Image

- NASA Geocover 1990, pixel size: 30 m
Data – Land cover

Arealstatistik der Schweiz, Corine Land Cover 100 m.
Rendering

- Custom prototype renderer for plan oblique projection
- Curved horizon with Photoshop (CS 2: Transformation “Upper Arc”)
Rendering — Shading
Rendering – Texture
Rendering – Height Map
Rendering – Land Cover

Nearest Neighbor Sampling
Color Correction

- Combine projected shading, texture, land cover in Photoshop
- Correct false colors in satellite image
- Use land cover and height mask for selective color corrections
Land cover data for color correction of satellite images
• Photoshop is your friend.
• Fast PC with a lot of RAM.
• Render shading, texture, land coverage, and height map separately.
• Take details from satellite image.
• Take classification from land cover data.
• Plan oblique projection preserves familiar ground shape.
Thank you for your attention.