Geoinformation in Teaching and Research

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Study Courses since Fall Semester 2005/2006:

- Surveying (Bachelor Eng.)
- Cartography (Bachelor Eng.)
- Geoinformation (Bachelor Eng.)
- Geodesy and Cartography (Master Sc.)
- Geoinformation (Master Sc.) (projected)
University Places (Number of First-Year Students p.a.)

- **Bachelor Courses**
  - Cartography: 40
  - Surveying: 40
  - Geoinformation: 40

- **Master Courses**
  - Geodesy and Cartography: 40
  - Geoinformation (projected): 20
Laboratories (among Others):

- Digital data centre (computer pools)
- Lab for cartographic reproduction
- Lab for photogrammetry
- Lab for map compilation and design
- Lab for geodetic measurements
- geo3 – Institute for Geo Research
Main Research Areas:

- Remote sensing related products
- 3D Modelling
- GIS application in planning and documentation
- Selected geodetic research activities
Remote Sensing Related Products:

- city and tourist maps
- detailed geologic mapping
- monitoring and change detection of natural resources
3D Modelling:

- Data collection: photogrammetry and scanning
- Modelling
- Virtual visualization
Application of GIS:

- Health GIS
- Accessibility analysis
- Archaeological documentation
Selected Geodetic Research Activities

- Contributions to climate research
- Software development in the field of coordinate transformation and satellite geodesy
Photogrammetry of Archaeological Excavations
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Internet GIS of Oasis Settlements in Oman

- archaeological survey using an IKONOS satellite image
- field survey of places of excavation with GPS
- interactive internet application with maps, pictures, information about archaeological sites
- visualisation and presentation of research results
Selection of a Linkage to a Web Page

Selection of the object

HTML page with representation of the object
Map Compilation as a GIS Product

Satellite image map → GIS → „Classic“ city map
Virtual City Landscape of Adis, Ethiopia
Forest Management in Mongolia

Spatial distribution of forest and steppe fires from 2000 to 2005. Data source: MODIS “Active Fires“
Map of 1981 Karte, prepared by former GRAS (GMRD)

New map, printed 2004
Accessibility Analysis

Differenzräume
Anfahrt zum Hbf im Vergleich zur Anfahrt zum Zoo
- mehr als 10 min kürzer
- mehr als 5 bis 10 min kürzer
- mehr als 2 bis 5 min kürzer
- 2 min kürzer bis 2 min länger
- mehr als 2 bis 5 min länger
- mehr als 5 bis 10 min länger
- mehr als 10 min länger
Surveying of Greenland Ice
First Results of the Greenland Expedition

- Altitude change [m]
- Hight [m]
- Distance [km]

West coast
East coast
Thank you for your attention!