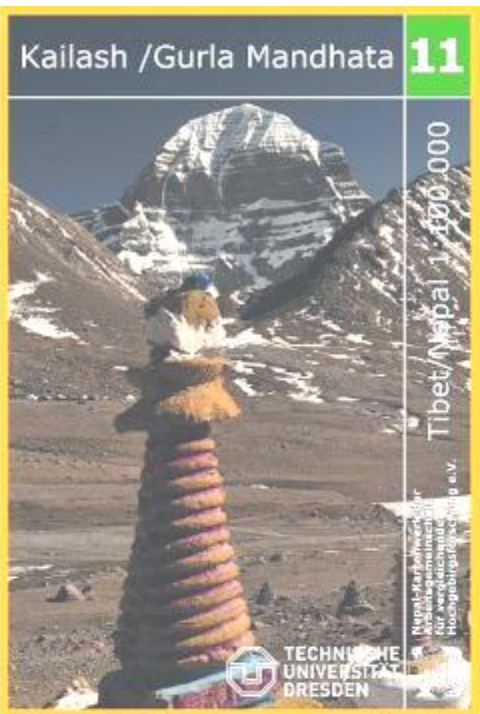
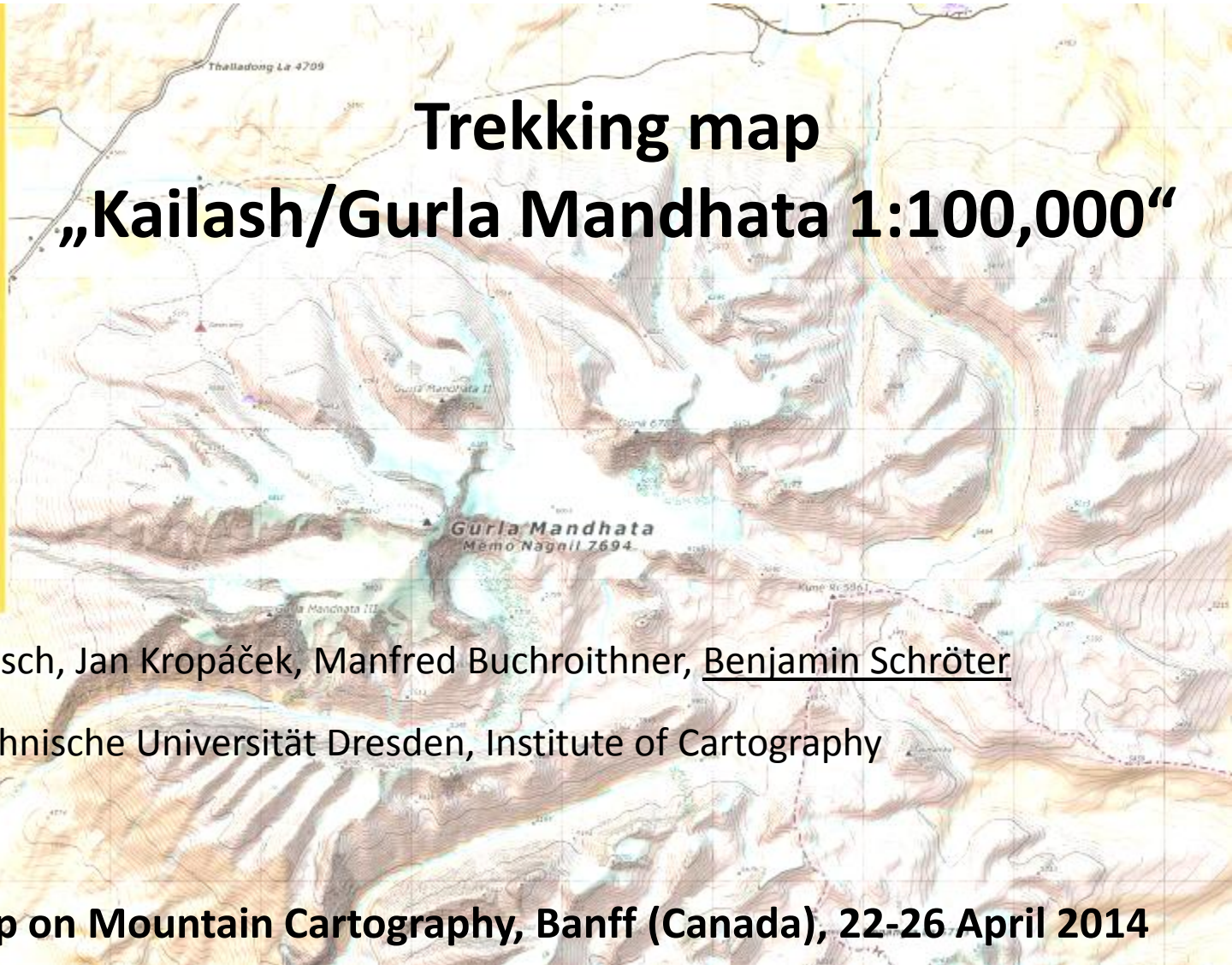




# Trekking map „Kailash/Gurla Mandhata 1:100,000“



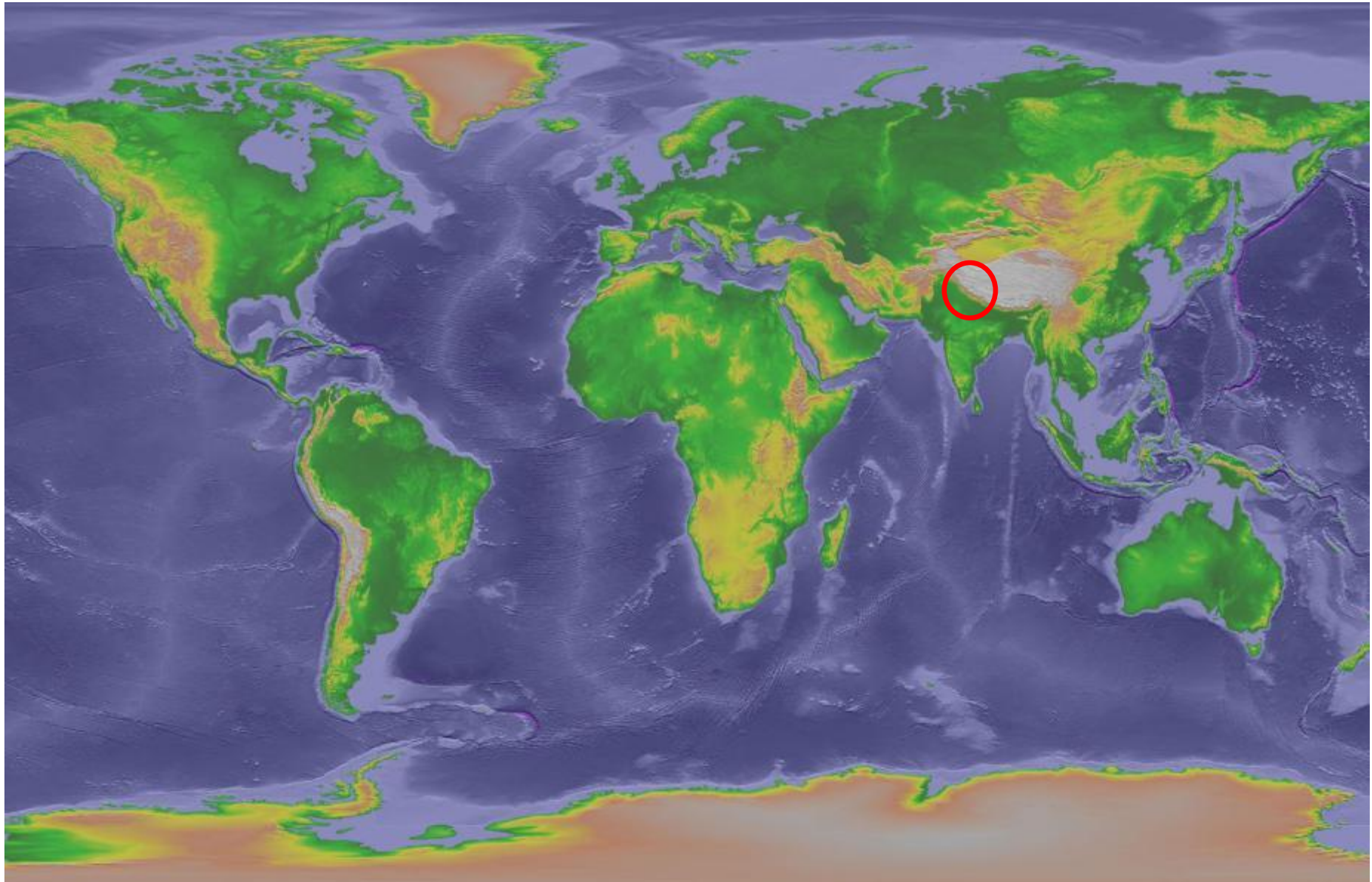
Jacob Trültzsch, Jan Kropáček, Manfred Buchroithner, Benjamin Schröter

Technische Universität Dresden, Institute of Cartography

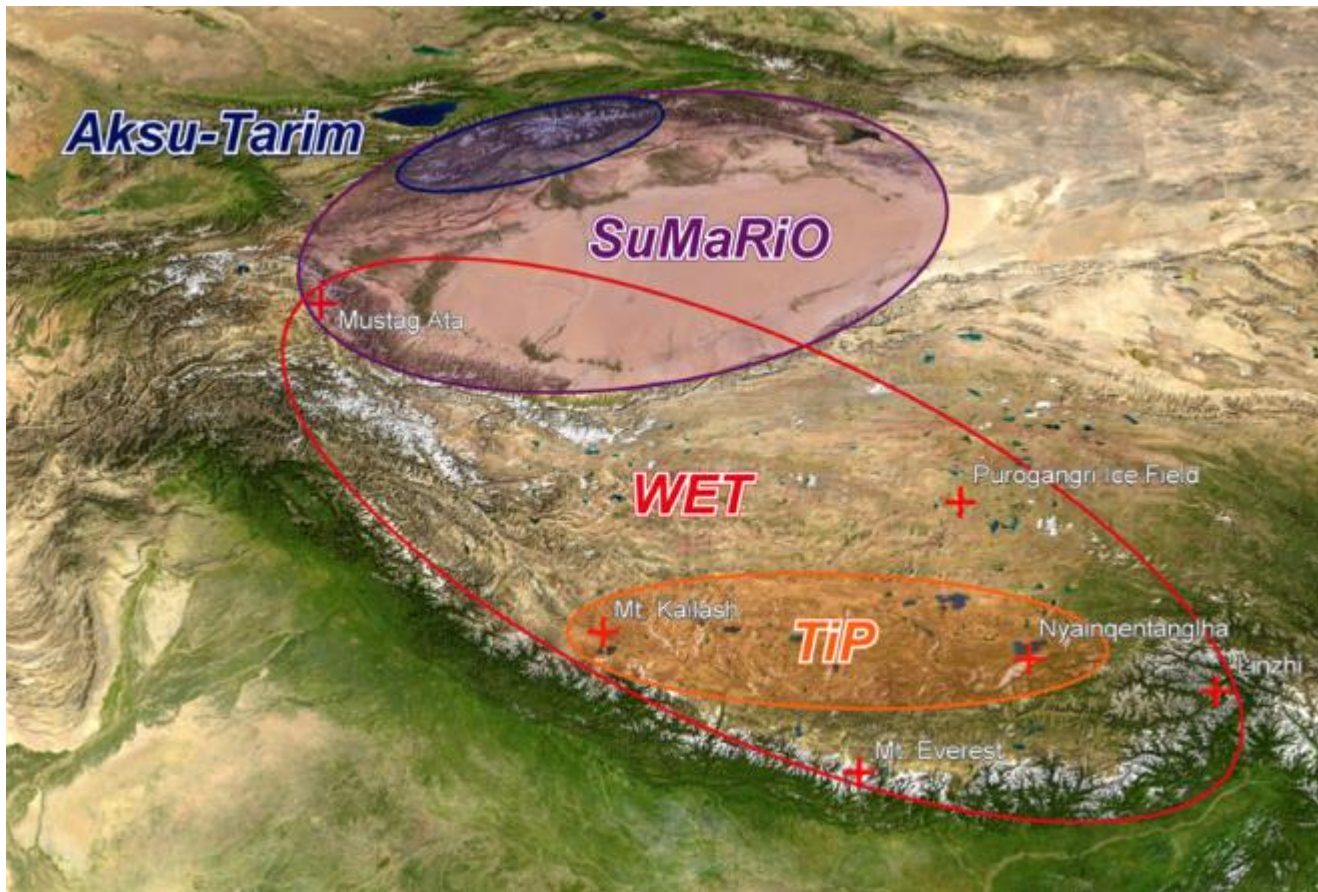
9th ICA Workshop on Mountain Cartography, Banff (Canada), 22-26 April 2014

## Motivation

1. Several trekking maps of high mountain areas worldwide have been published at Institute of Cartography, TU Dresden
2. Complete Himalaya Map Series
3. Demand for an up-to-date map showing this benchmark area of TiP/WET
4. Product!!!



## Framework within research projects: TiP and WET



## Some Information

1. Outstanding cultural and religious importance – pilgrimage (Kailash and Lake Manasarovar circuits)
2. Natural beauty – Climbing/trekking tourism (Gurla Mandhata, Limi Valley)
3. 4 big rivers of SE Asia originate here: N – Indus, E – Brahmaputra, S – Karnali, W – Sutlaj – religious importance and water sources



## Data sources and collection/challenges

1. High resolution satellite imagery: Pleiades, DEM ASTER+SRTM
2. Digitization performed as social cartography project „**Coffee Break Mapping**“ – 16 quadrants with common mapping guidelines





|                      |    |                                                                                      |         |                                                                                                                                            |
|----------------------|----|--------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Kloster              | K  |    | Punkt   | Durch Panoramio Bilder zu erkennen, Tibetisch Gompa<br> |
| Tschörten            | T  |    | Punkt   | Stupa; oft weiß gestrichen<br>                          |
| Gebetsfahnen         | GF |    | Punkt   | Kann deutlich kleiner als dieses Beispiel sein<br>      |
| Windschutz für Tiere | WS |   | Punkt   | Diese Windschütze die als UFO aussehen kommen ziemlich oft vor. Bestehen von steinernen Mauern und gut gedüngten Boden.                    |
| Gletscher            | GL |  | Polygon | den Bergschrund muss man einfach abschätzen                                                                                                |

## Data sources and collection/challenges

1. High resolution satellite imagery: Pleiades, DEM ASTER+SRTM
2. Digitization performed as social cartography project „**Coffee Break Mapping**“ – 16 quadrants with common mapping guidelines
3. Ground data collected during 3 strenuous field trips
4. Local knowledge on toponymic data (hard to get, especially Tibet/China)
5. Significant differences between western/standard Tibetan language, various kinds of transcriptions
6. Tibetologists checked all names/spelling



## KHUMBU HIMAL

2

Nepal 1:50.000

Nepal-Kartenwerk der  
Arbeitsgemeinschaft  
für vergleichende  
Hochgebirgsforschung e.V.



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## SHORONG / HINKU

5

Nepal 1:50.000

Nepal-Kartenwerk der  
Arbeitsgemeinschaft  
für vergleichende  
Hochgebirgsforschung e.V.



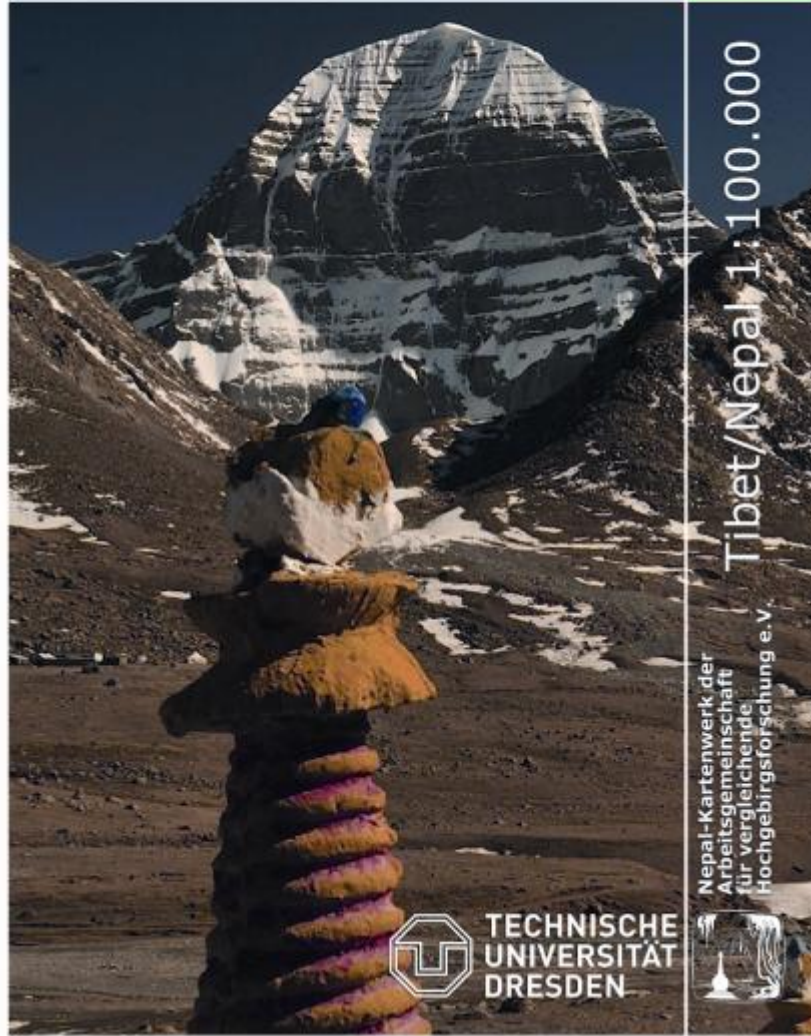
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## Kailash /Gurla Mandhata

11



Tibet/Nepal 1:100.000

Nepal-Kartenwerk der  
Arbeitsgemeinschaft  
für vergleichende  
Hochgebirgsforschung e.V.



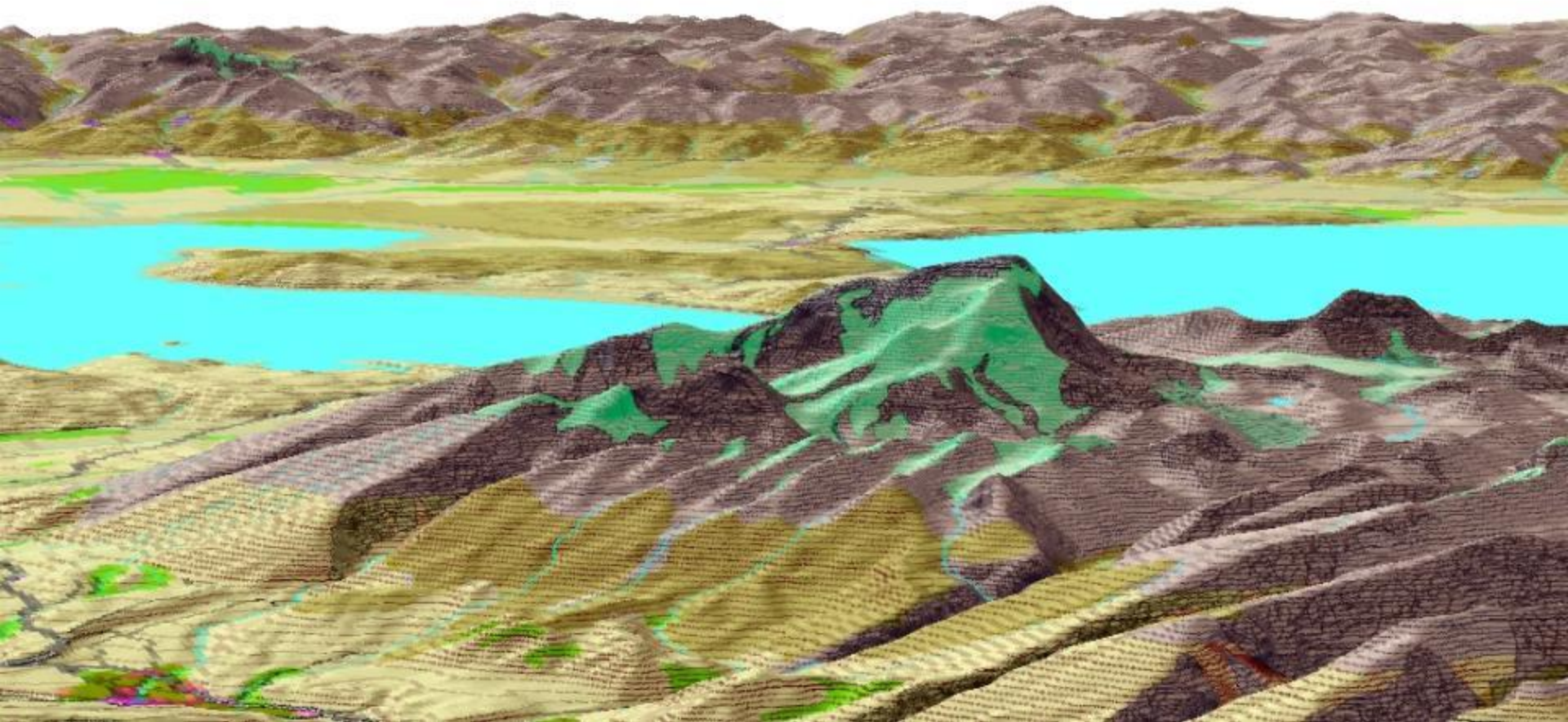


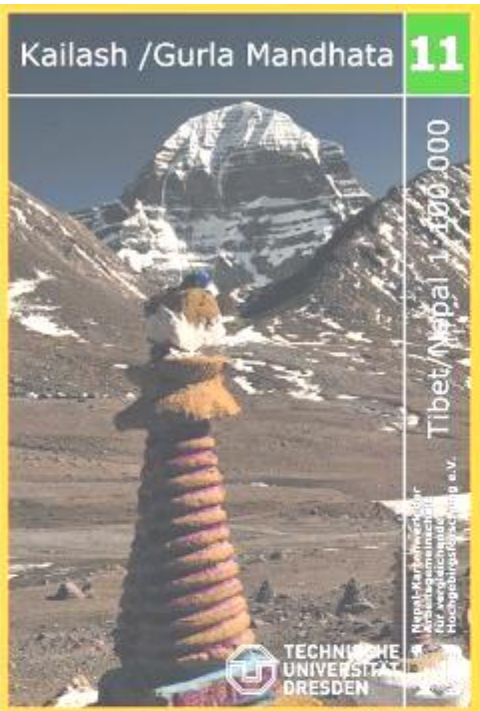




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Faculty of Environmental Sciences, Institute of Cartography





Thank you very much for your  
attention!

!And finally the map!

Further questions: [skal.trylc@gmail.com](mailto:skal.trylc@gmail.com)