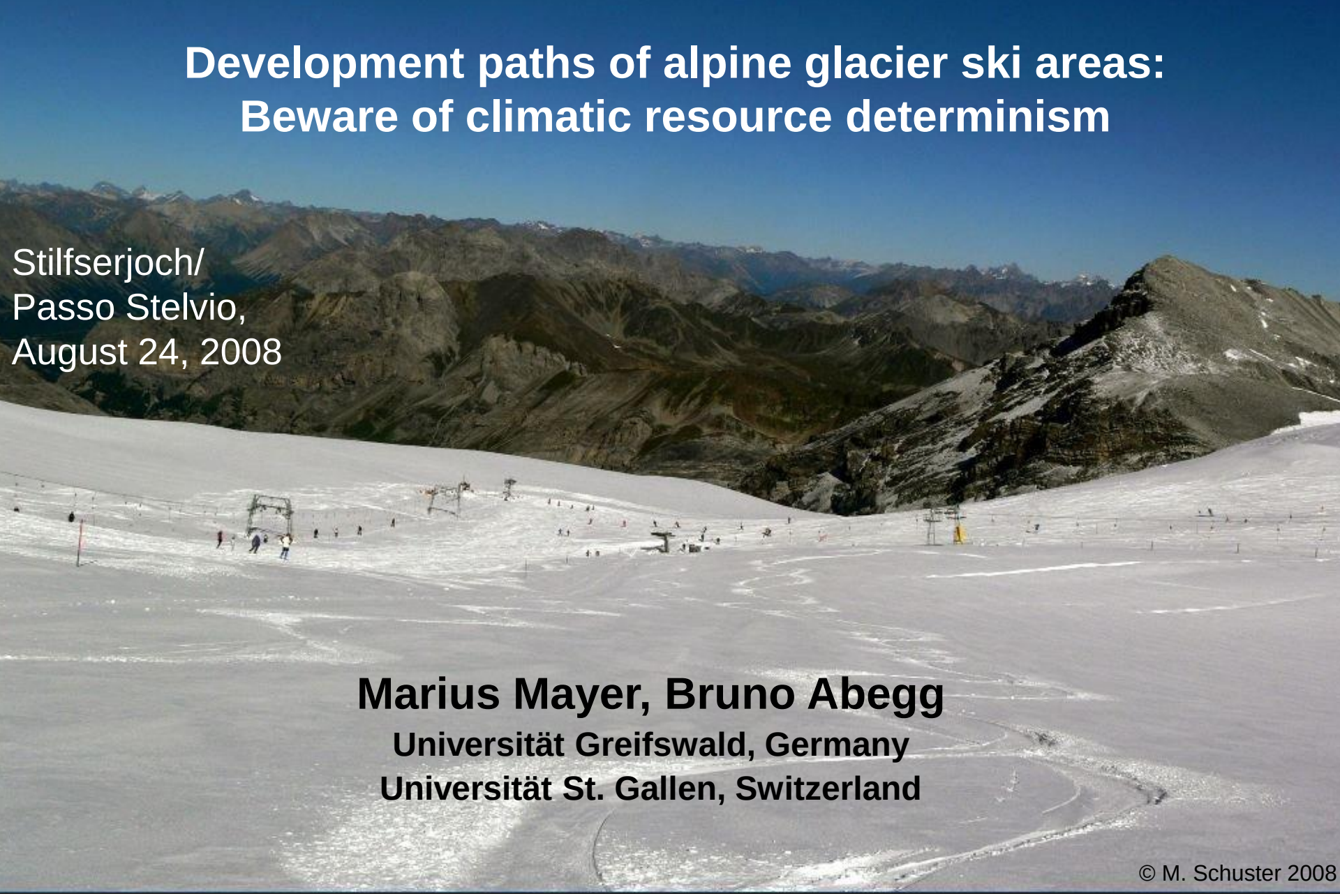
Development paths of alpine glacier ski areas: Beware of climatic resource determinism



Stilfserjoch/
Passo Stelvio,
August 24, 2008

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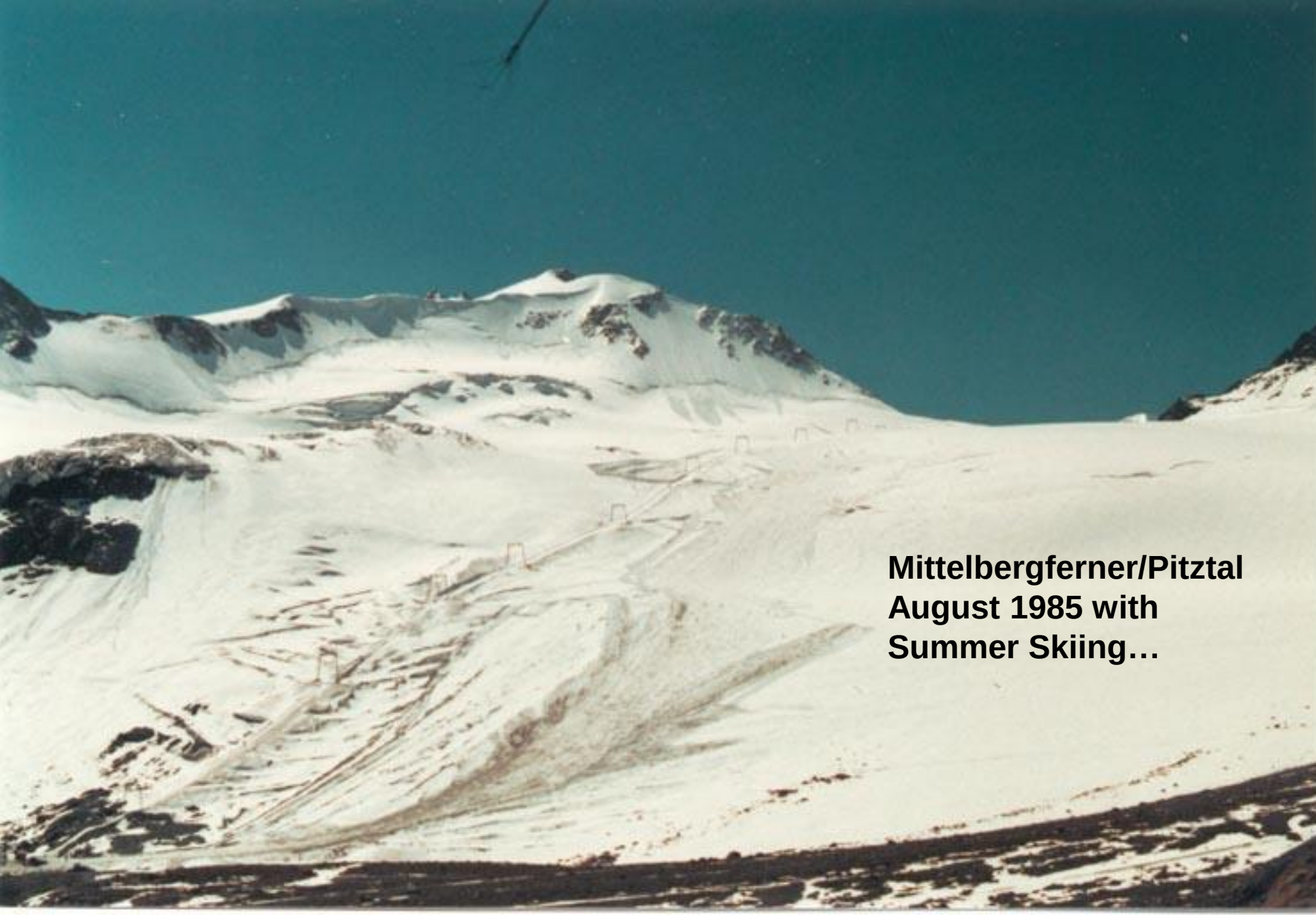
Specific Topic 3.2: Transformation processes in Mountain tourism
Workshop 3.2.A: Adapting tourism destinations to changing availability of resources


Mittelbergferner/Pitztal
August 1985 with
Summer Skiing…

…in August 2003
Photo: Schuster 2003

…in September 2018
Photo: Hasenjägrer 2018

(1) What are the changing resources for tourism within your research?

- Snow and ice are the main natural resources for glacier ski areas (GSA)
- Accelerated loss of ice volumes in the Alps since 1980s
- Operators' finances, knowledge and experience vary over time and space

(2) What are the drivers of change?

- Global warming is the main reason for
  - Glacier shrinkage
  - Accelerated snow melt in spring/early summer
  - Missing snowfalls in summer
  - Retarded snowfalls in autumn
- Further drivers:
  - Availability of financial capital
  - Diffusion of knowledge and experience

(3) Which impacts do these changes have on tourism and livelihood in your study region?

- No linear relationship between climate change and development of GSA
- Operators can choose various ways with differing success
- Many GSA are among the most successful alpine tourism destinations, while there are also several shut-down GSA
- Impacts on tourism and livelihood in the often remote high-alpine valleys do not seem to be severe until now

(4) What are (potential) solutions to these impacts?

- Glacier shrinkage will continue (ZEKOLLARI et al., 2019)
- Adaptation measures will continue, but some lifts, pistes and whole GSA might be closed
- Diversification of tourism offer: pedestrians substitute skiers in GSA in the summer, lead to less operating costs, but also demand investments
- Do glacier shrinkage and related landscape change also negatively impact the attractiveness for these visitor segment?

(5) What is the contribution of science and our role as researchers to help tackle these challenges?

- Not only monitor glacier developments but analyze the consequences of glacier shrinkage on tourism
- Help the operators to project further offer changes and anticipate adaptation measures
- Transdisciplinary research with as much stakeholder involvement as necessary

Thank you very much for your attention!

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Photo: Abegg 2018

Accumulation zone
Accumulation > Ablation
= mass gain

Equilibrum line (~snow line in late summer):
Accumulation = Ablation = Mass equilibrium

Ablation zone
Ablation > Accumulation
= mass loss

Glaciological basis of glacier skiing

- Above the equilibrium line skiing is theoretically possible all year around
- Sensitivity due to rising snow lines related to global warming

Picture source: WINKLER 2009: 39