Climate change impacts on and adaptation of nature-based tourism in the Alps

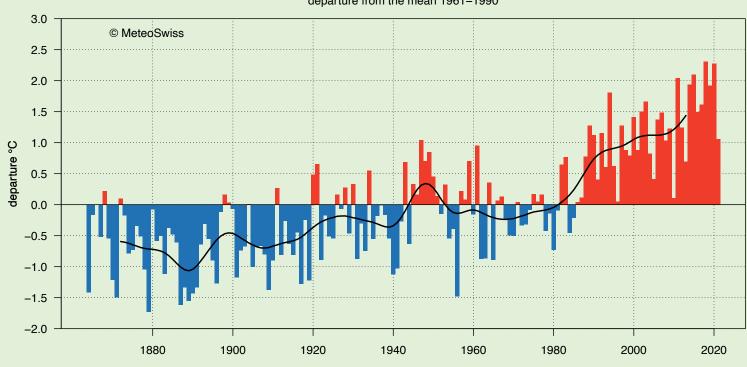
- Lessons to learn for Norway?

Bruno Abegg, University of St. Gallen





Recent developments – climate change



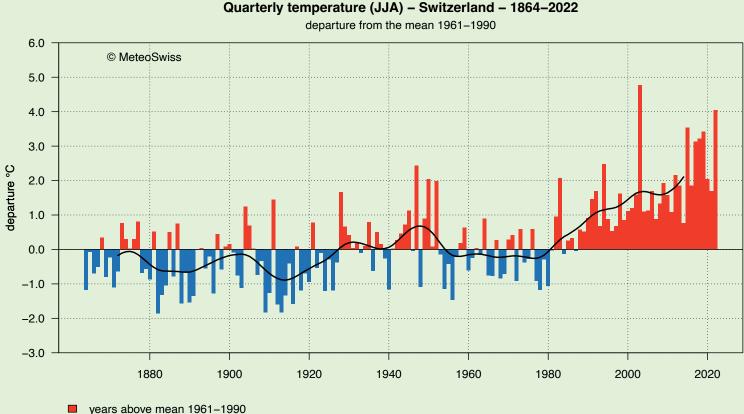
Annual temperature – Switzerland – 1864–2021 departure from the mean 1961–1990

years above mean 1961–1990years below mean 1961–1990

20-year weighted mean (Gaussian lowpass filter)



Recent developments – climate change



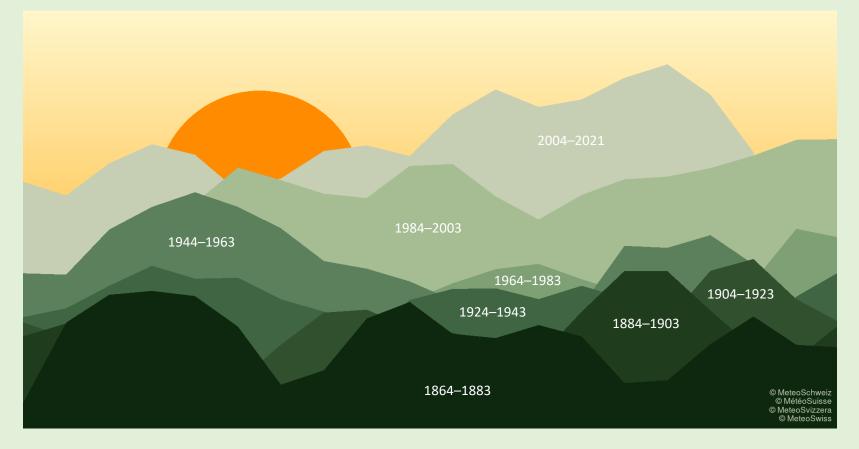
years below mean 1961–1990

20-year weighted mean (Gaussian lowpass filter)

2021/22: Winter DJF warm, dry in the South, sunny Spring MAM warm, extremely dry, sunny, early snow melt Summer JJA extremely warm, dry and sunny, deglaciation, zero-degree line Autumn SO Sept: normal; Oct: warmest ever in D and CH



Recent developments – climate information/services



A wealth of information (a lot of it free available) Numerous initiatives to turn information to services Gap between what is wanted and what can be delivered Limited use of climate information in decision-making processes



Recent developments – climate change impacts

Major challenges Droughts Heat waves Heavy precipitation Less snow

Most affected sectors Water supply Energy supply Agriculture Forestry Tourism Public health Natural hazard management Biodiversity management Spatial planning

Tourism

- Past: strong focus on snow-based tourism (in particular downhill skiing)
- Present: wider focus (seasons, tourism forms, indirect environmental impacts), raising awareness and sense of urgency(?)





Recent developments – climate change adaptation

Adaptation is "daily business"

Diversification as a common strategy

Focus on current climate variability (short-term impacts)

Focus on organizational and technical adaptation

Some evidence that technical adaptation might not help

Emphasis on risks rather than opportunities

Mostly minor changes in the business models

If major changes then because of financial emergencies

Subsidies to support struggling tourism operators

With public money adaptation becomes a socio-political process



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??? What exactly is the role of climate change in transforming tourism ???



COVID-19



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Nature: some places got a break, other places were overrun as never before Tourism operators/destinations: some were on the brink of collapse, others had the best seasons ever

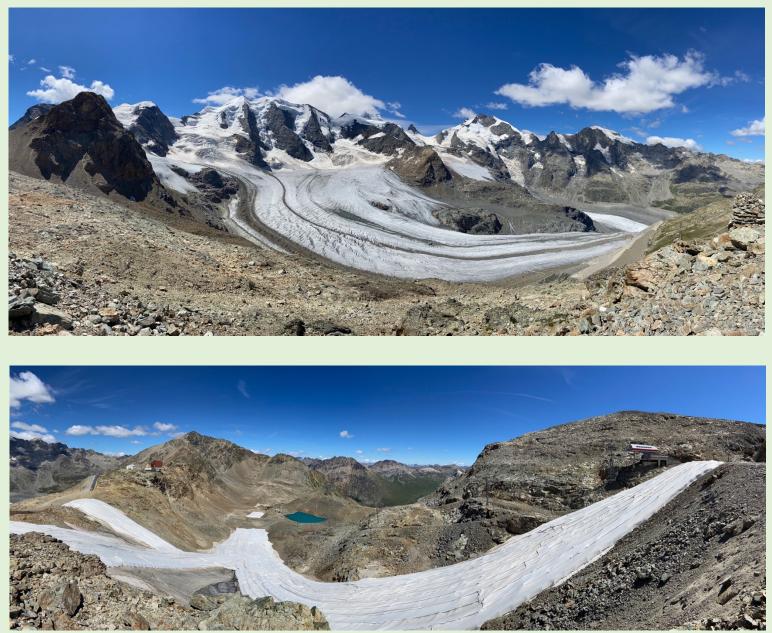


War in Ukraine / Energy Crisis



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Concluding remarks

We aren't talking about a prosperous industry, it's rather a struggling industry Quite a few players are operating in survival mode Survival mode means dealing with the most pressing issues – day in, day out Climate change (again) becomes a distanced threat with lower priority Right now, we are a bit "overwhelmed" (multiple risks, complexities) Likely, there is a "finite pool of capacity" to deal with these challenges Climate change impact research is still dominated by the natural sciences More emphasis on the financial, social and political aspects is needed Re-evaluate approaches, concepts and frameworks to better catch actors' realities, scales and systems



Something to learn for Norway?

You decide

Thank you very much for your attention

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