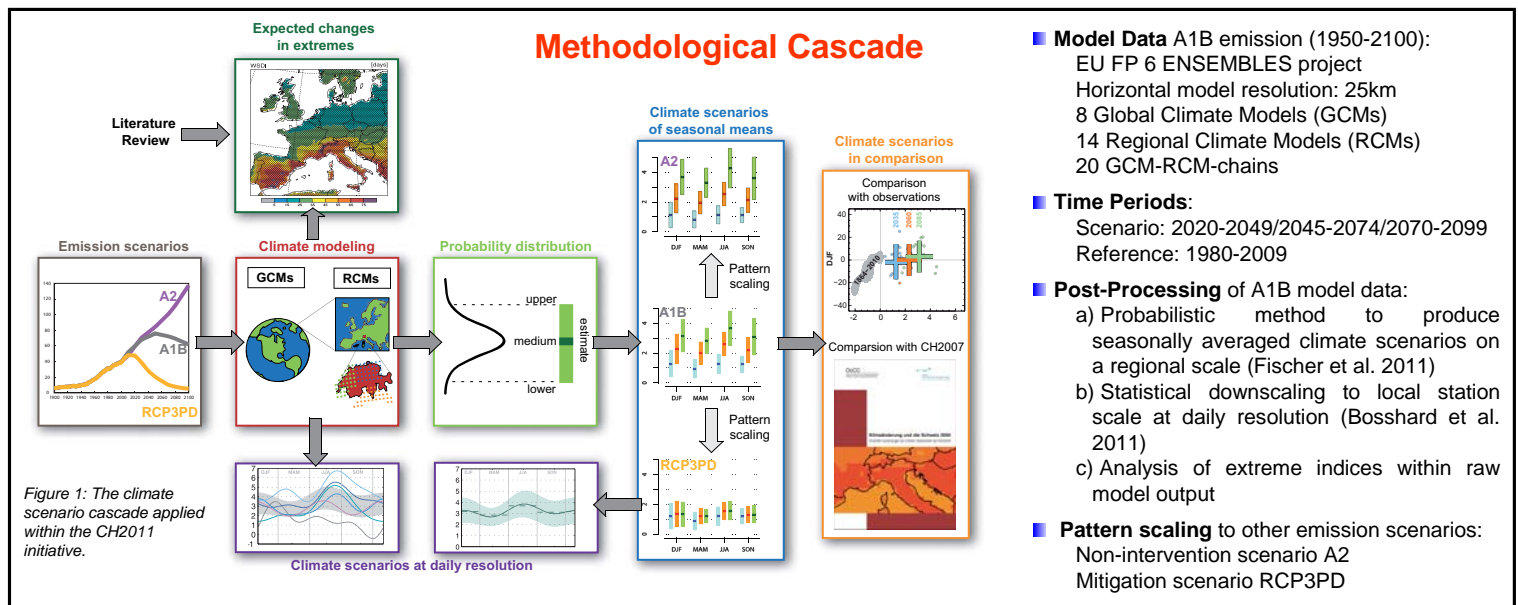


Swiss Climate Change Scenarios: The CH2011 Initiative

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The CH2011 Scenarios provide a new assessment of how climate may change in Switzerland over the 21st century. They are based on a new generation of global and European-scale regional climate models. The model data have been provided by several international projects. New statistical methods were used to generate multi-model estimates of changes, and associated uncertainties. Projected changes in temperature, precipitation and extreme events are provided for three representative regions of Switzerland on seasonal time-scales, and also at individual station sites on daily timescales.



Future Swiss Climate

- Swiss climate projected to depart significantly from present and past conditions
- Very likely increase in mean temperature
- Likely decrease of summer mean precipitation by the end of the century all over Switzerland
- Likely increase of winter precipitation in Southern Switzerland
- Even if global temperature change stabilized below 2°C (rel. to pre-industrial levels), a further warming for Switzerland of 1.4°C toward end of the century projected
- Without mitigation efforts the warming and summer drying would be twice to three times as large

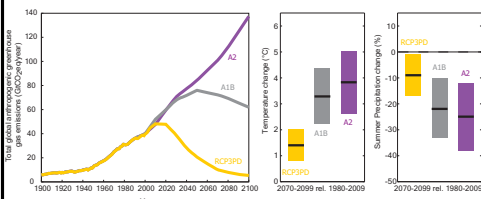


Figure 2: The three pathways of past and future anthropogenic greenhouse gas emissions, along with projected annual mean warming and summer precipitation changes for Switzerland for the 30-year averaged centred at 2085.

Changes in Extremes



- Indication of more frequent, intense and longer-lasting summer warm spells and heat waves
- Number of cold winter days and nights expected to decrease
- Projections of the frequency and intensity of precipitation events more uncertain; substantial changes cannot be ruled out
- Shift from solid (snow) to liquid (rain) precipitation expected => increase in flood risk in the lowlands

Conclusion

The new CH2011 scenarios have been released on 28 September 2011. The data should serve as a basis for a variety of climate change impact studies in Switzerland. They should help guide decision making related to future Swiss climate adaptation and mitigation strategies. Well established national climate scenarios allow end users to explore possible impacts and adaptation strategies in a coherent manner.

Resources

- Website**
www.ch2011.ch
- Download**
• Full Report (English)
• Summaries (English, German, French, Italian)
• Climate Scenario Data
→ www.ch2011.ch
- Contact**
info@ch2011.ch

Publications

CH2011 (2011), *Swiss Climate Change Scenarios CH2011*, published by C2SM, MeteoSwiss, ETH, NCCR Climate, and OcCC, Zurich, Switzerland, 88pp. ISBN: 978-3-033-03065-7
Bosshard, T., S. Kotlarski, T. Ewen, and C. Schär, 2011: *Spectral representation of the annual cycle in the climate change signal*, Hydrol. Earth Syst. Sci., 15, 2777-2788, doi:10.5194/hess-15-2777-2011.
Fischer, A. M., A. P. Weigel, C. M. Buser, R. Knutti, H. R. Künsch, M. A. Liniger, C. Schär, and C. Appenzeller, 2011: *Climate Change Projections for Switzerland based on a Bayesian multi-model approach*. Int. J. Climatology, doi:10.1002/joc.3396.