

**NCCR CLIM+ Kick-Off Event**

# Welcome

10.00–12.30 Program Audi Max

12.30–13.30 Apéro Foyer Audi Max and Uhrenhalle

September 10, 2026



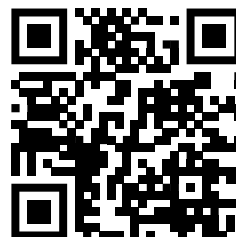
**NCCR CLIM+ Kick-Off Event**

# Welcome

**Moderation: Bettina Walch, Plan Biodivers**

September 10, 2026

**Program**



**NCCR CLIM+ Kick-Off Event**

# Welcome and introduction to the NCCR CLIM+

**Prof. Sonia I. Seneviratne, ETH Zurich**

**Prof. Karin Ingold, University of Bern**

September 10, 2026



# 2026 summer: A wake-up call?



Abo Sommerbilanz in Grafiken

## Sie dachten, 2003 war ein extremer Sommer? Schauen Sie sich die Daten von 2026 an

Viele Hitzetage, Extremtemperaturen, Tropennächte: Dieser Sommer hat alles bisher Dagewesene übertroffen – und zeigt, was schon in naher Zukunft normal sein könnte.

Yannick Wiget, Patrick Vögeli, Marc Brupbacher  
Publiziert: 01.09.2026, 05:39

436 | | | |

Hitzewellen 2026

## Hitzesommer fordert mindestens 35'000 zusätzliche Tote in Europa

Neue Zahlen zeigen das Ausmass des Hitzesommers. Die Schweiz ist mit 220 zusätzlichen Todesfällen erfasst – doch ihre Bilanz reicht nur bis Ende Juni.



Edgar Schuler  
Publiziert: 25.08.2026, 09:06

58 | | |

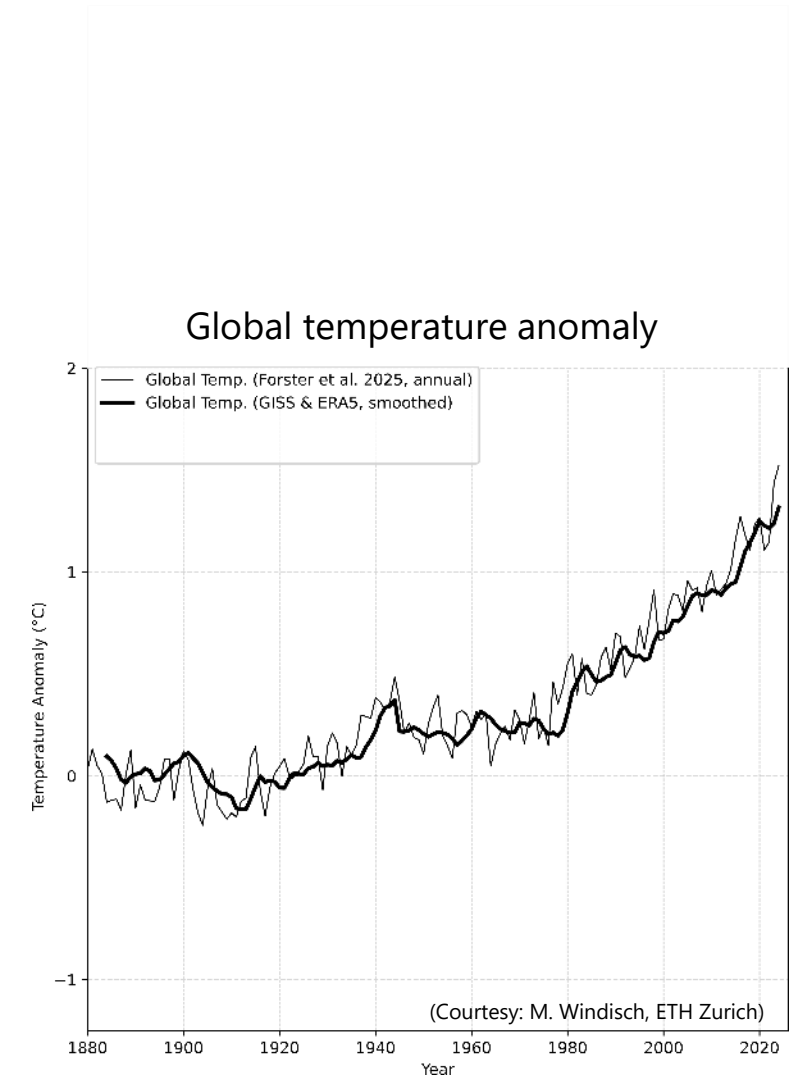
(TagesAnzeiger, 2026)

# We are in a climate crisis: Changes in climate extremes can no longer be ignored



# Why an NCCR on climate extremes & society now?

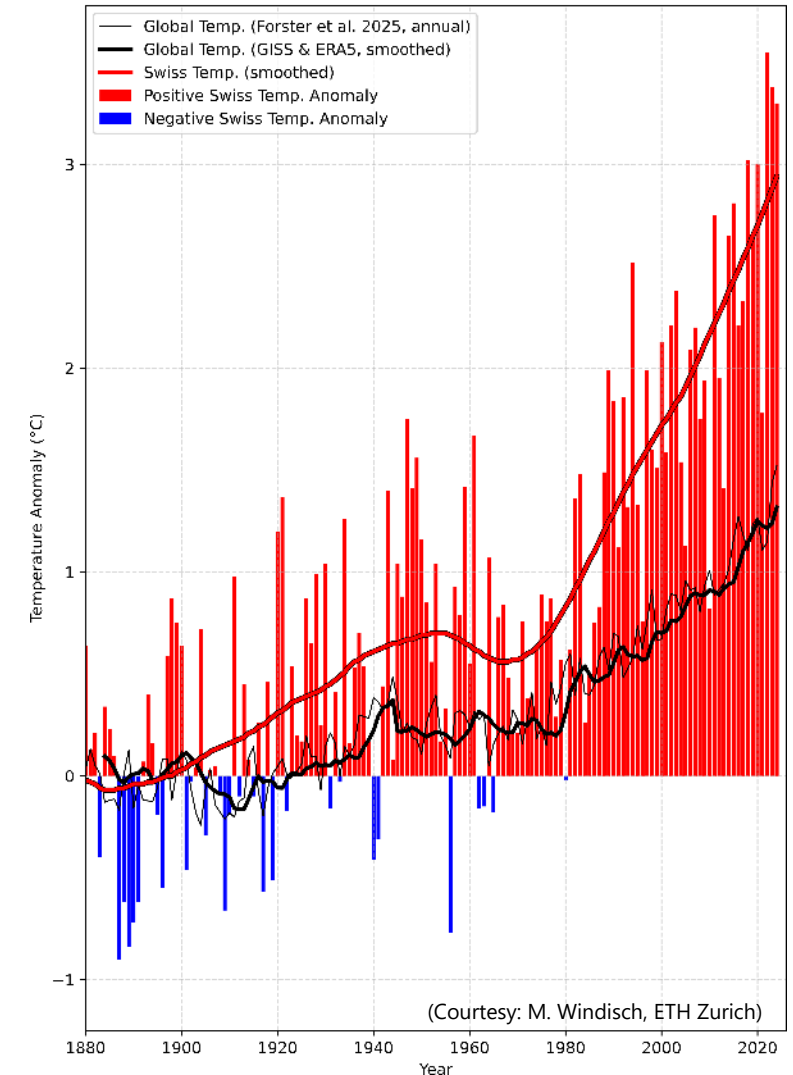
A long-term global warming of 1.5°C will be reached before 2030.  
Switzerland is a hot spot of warming.



# Why an NCCR on climate extremes & society now?

A long-term global warming of 1.5°C will be reached before 2030.  
Switzerland is a hot spot of warming.

Global vs Swiss temperature anomaly



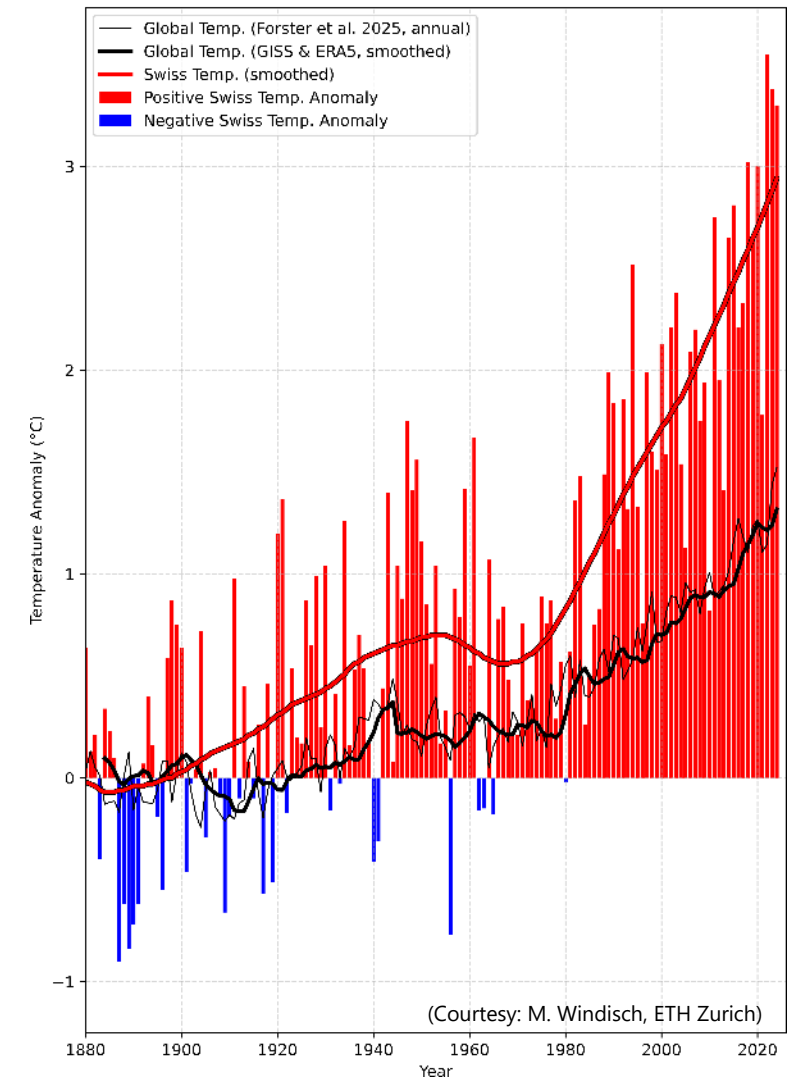
# Why an NCCR on climate extremes & society now?

A long-term global warming of 1.5°C will be reached before 2030. Switzerland is a hot spot of warming.

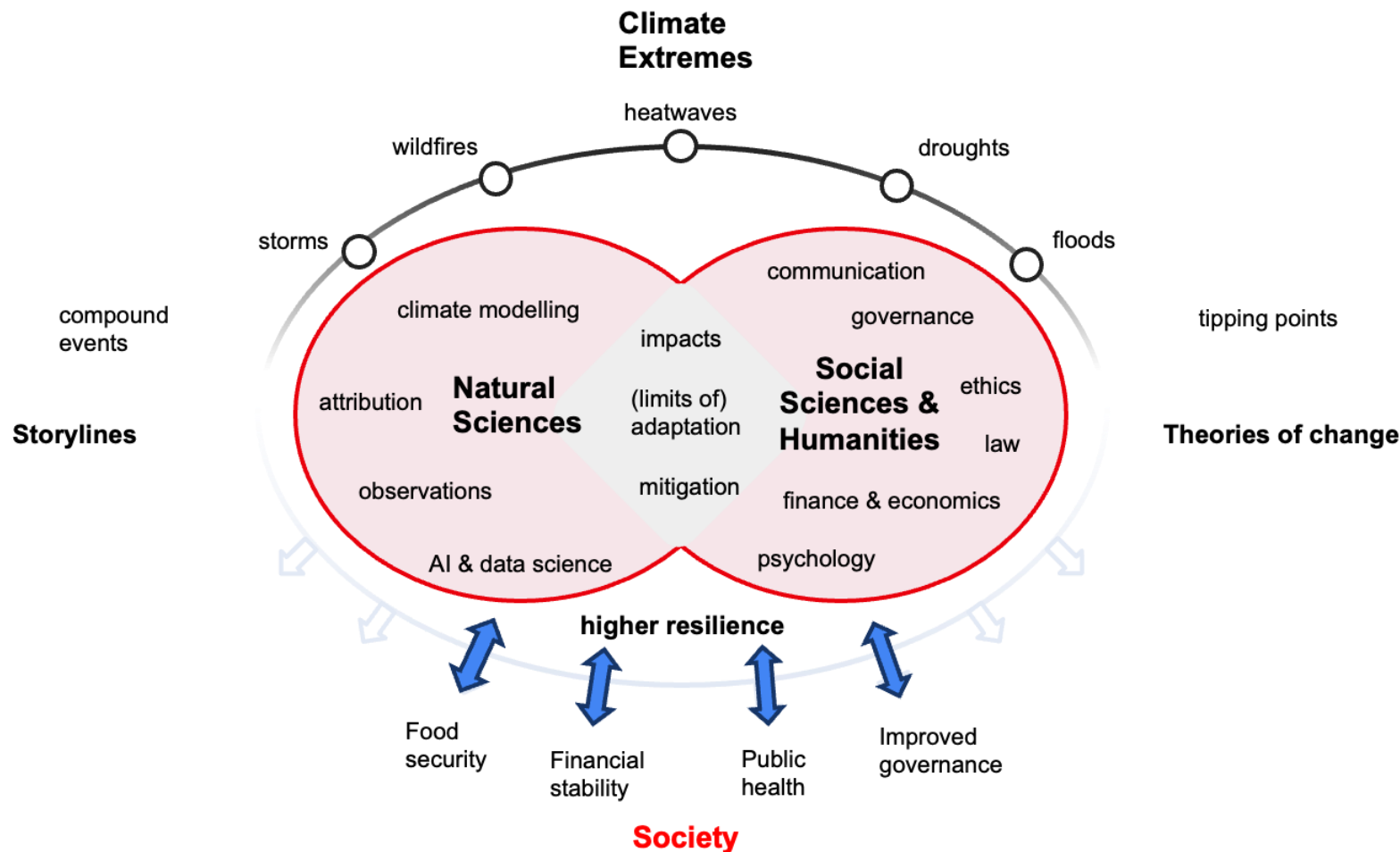
Adaptation and mitigation are lagging behind. The climate crisis is without precedent and defining issue of the 21st century.

No easy solutions: Inter- and trans-disciplinarity are needed to address the emerging threats and solutions.

Global vs Swiss temperature anomaly



# NCCR CLIM+: Exploring a new frontier in climate science



## NCCR CLIM+: Key innovations

Natural/physical sciences: Exploring the climate phase space for high-impact & (up-to-now) rare events

Social sciences/humanities: Develop and establish the social sciences & humanities of climate extremes in Switzerland

Storylines combined with theories of changes: Working towards more society resilience

# NCCR CLIM+: Seven storylines



Financial stability  
and supply chains



Heat and health



Climate and  
agriculture



Hydrological  
extremes



Eroding rule of law  
and institutional trust



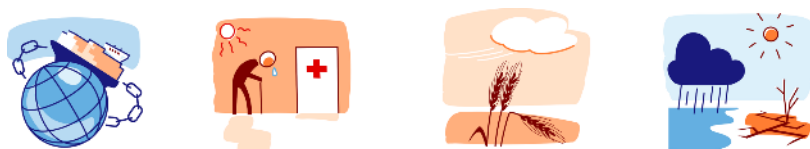
Positive social  
tipping points



Climate tipping points  
and abrupt changes



# NCCR CLIM+: Seven storylines & stakeholders



SCHWEIZERISCHE NATIONALBANK  
BANQUE NATIONALE SUISSE  
BANCA NAZIONALE SVIZZERA  
BANCA NAZIONALE SVIZZERA  
SWISS NATIONAL BANK



suva

Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Office for the Environment FOEN



Stadt Bern



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Nationale Plattform Naturgefahren PLANAT  
Plate-forme nationale «Dangers naturels»  
Piattaforma nazionale «Pericoli naturali»  
National Platform for Natural Hazards



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Department of Finance FDF  
State Secretariat for International Finance SIF



Ville de Lausanne



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,  
Education and Research EAER  
Federal Office for Agriculture FOAG

CLIMADA  
Technologies

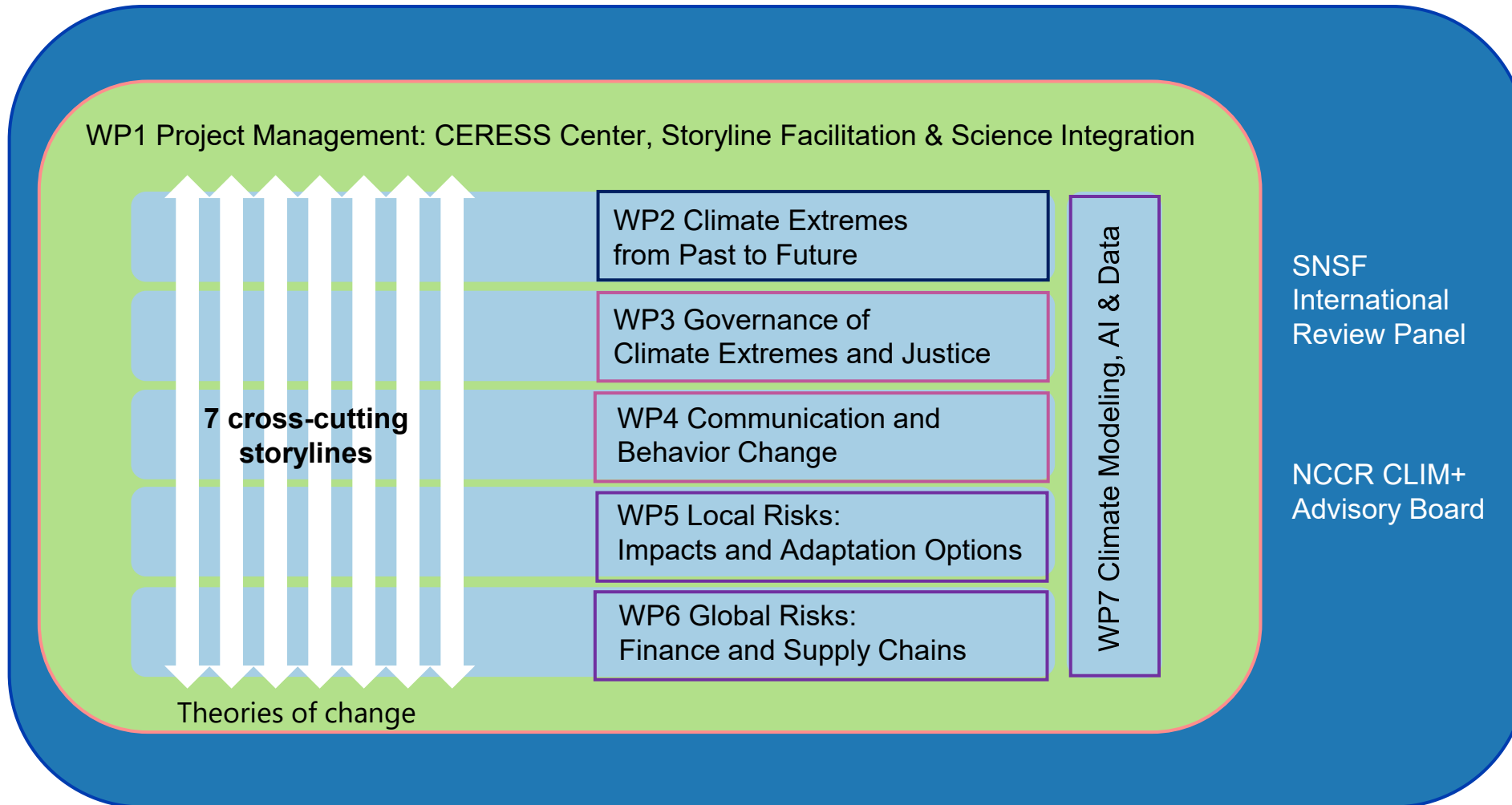


Swiss Re

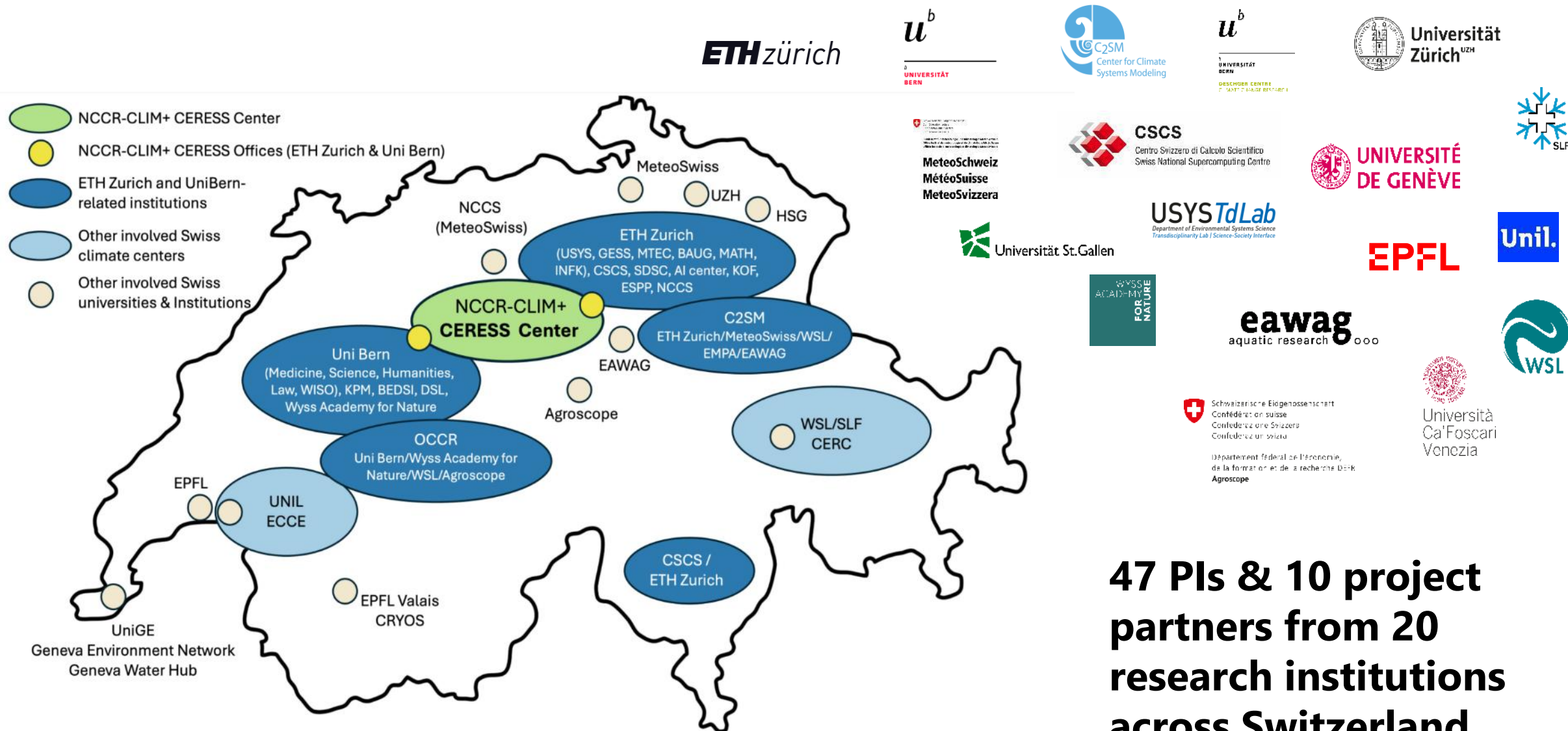


# NCCR CLIM+: Collaborative and interdisciplinary approaches

High integration of all WPs; Storylines provide the integration between WPs and to stakeholders



# Who is contributing to the NCCR CLIM+



**47 PIs & 10 project partners from 20 research institutions across Switzerland**

# NCCR CLIM+: Team of Directors



Sonia I. Seneviratne,  
ETH Zurich



Karin Ingold,  
Uni Bern



David N. Bresch,  
ETH Zurich



Olivia Romppainen-Martius,  
Uni Bern



# NCCR CLIM+: Executive Managers



Petra Sieber,  
ETH Zurich



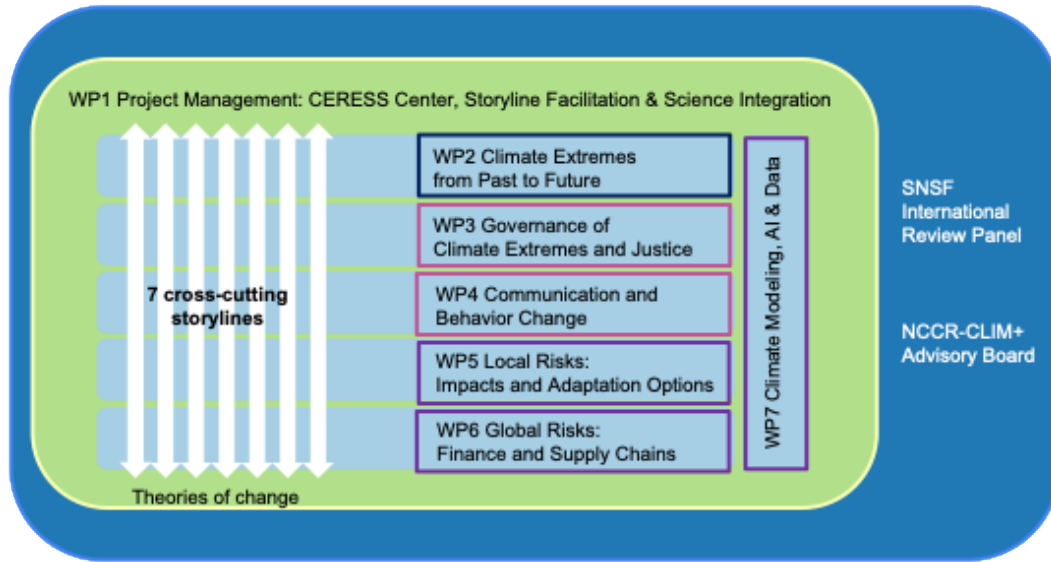
Lucas Oesch,  
Uni Bern



# NCCR CLIM+: The PIs and project partners



# NCCR CLIM+: From interdisciplinarity to science integration



- **47** Principal Investigators
- **10** Project partners
- **20** Partner institutions
- **22** Stakeholder organizations
- approx. **27 Disciplines**



# How and where everything started



# And where we are going to



# And where we are going to



Our aim is to create an  
inter- and  
transdisciplinary  
community on  
"Climate Extremes &  
Society"



What do you expect from the new NCCR CLIM+?



Scan the  
QR code

or join at  
**menti.com**

and use code  
**5484 6912**



**NCCR CLIM+ Kick-Off Event**

# From the proposal to the successful NCCR

**Prof. Uwe Sauer, ETH Zurich**

**Prof. Hugues Abriel, University of Bern**

September 10, 2026



**NCCR CLIM+ Kick-Off Event**

# Building the scientific basis for informed climate policy

**Prof. em. Thomas Stocker, University of Bern**

September 10, 2026





$u^b$

b  
UNIVERSITÄT  
BERN

OESCHGER CENTRE  
CLIMATE CHANGE RESEARCH

# The Natural Science Perspective:

Building the scientific basis for informed climate policy

**Thomas Stocker**

Physics Institute  
Oeschger Centre for Climate Change Research  
University of Bern

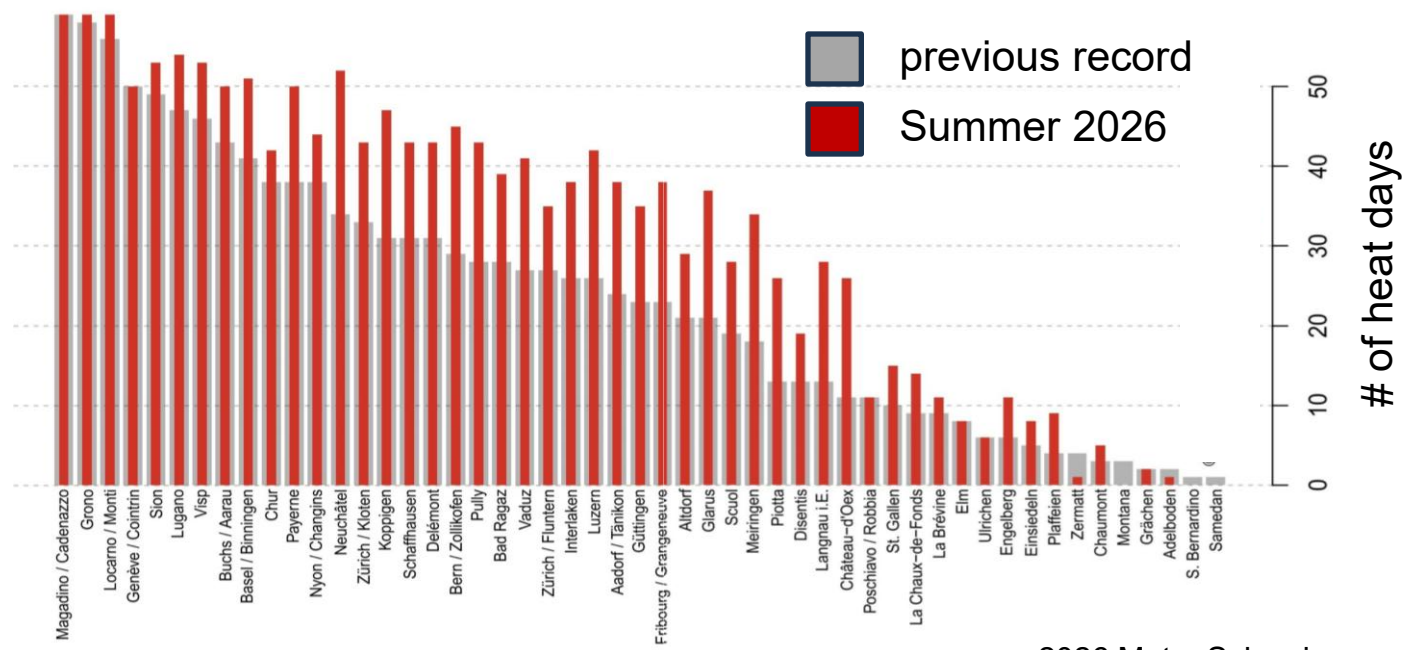
Photo: Dominik Plüss, Ormalingen BL



Photo: BRK News, Lac des Brenets NE



## Summer 2026: A surprise?



## Physical understanding of the global effects

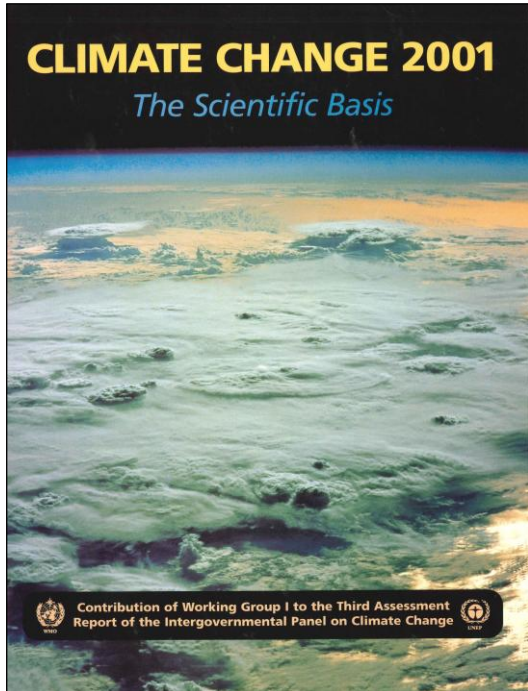
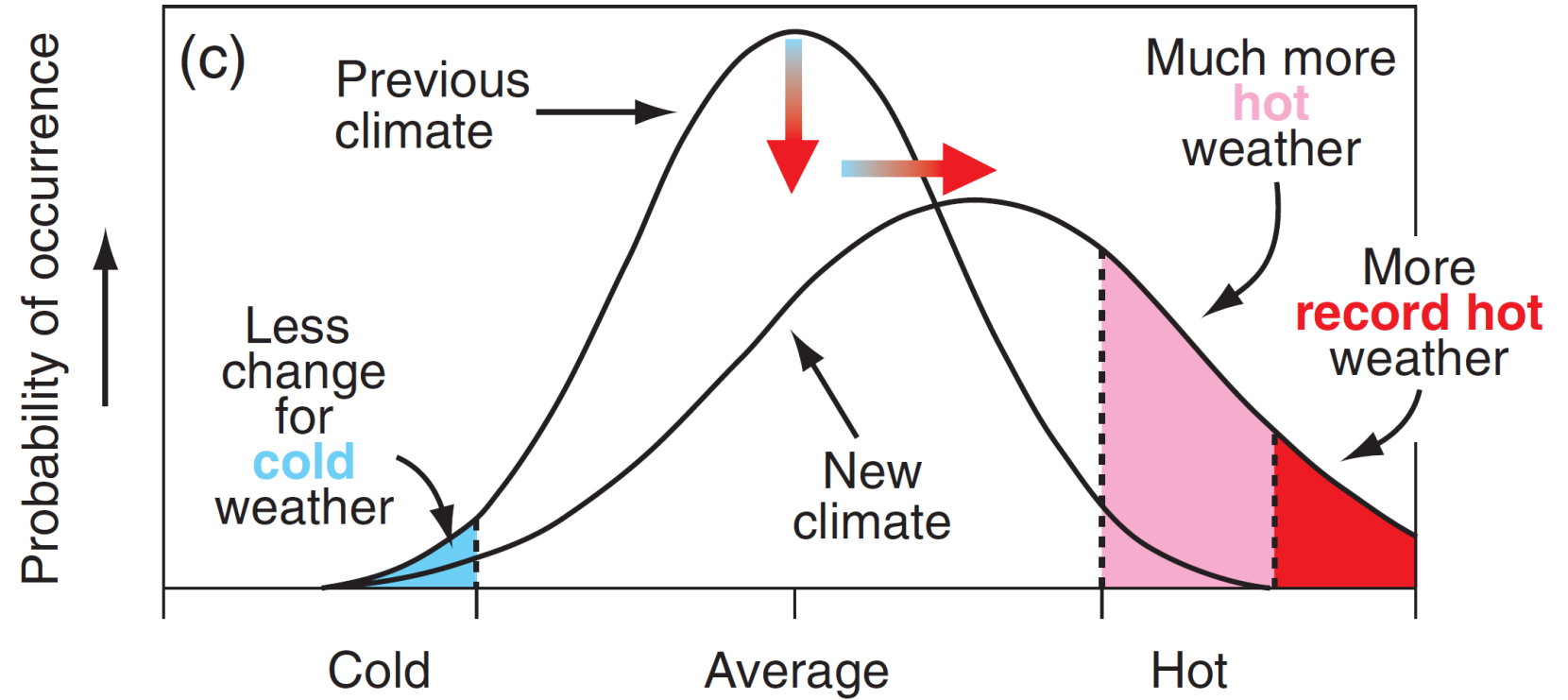
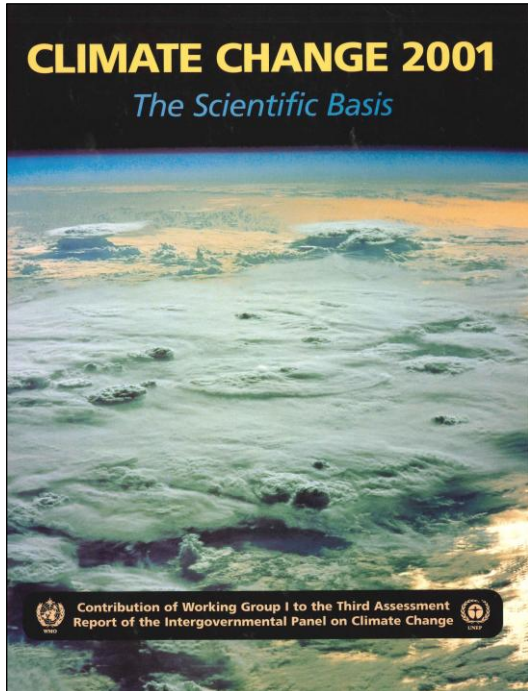


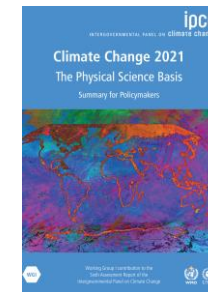
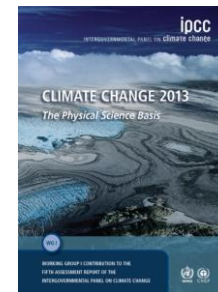
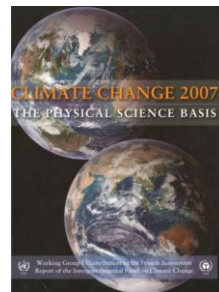
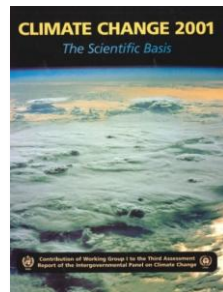
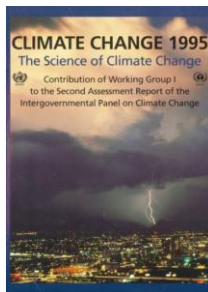
**Table 1:** Estimates of confidence in observed and projected changes in extreme weather and climate events.

| Confidence in observed changes<br>(latter half of the 20th century)                  | Changes in Phenomenon                                                                  | Confidence in projected changes<br>(during the 21st century)                                                        |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Likely <sup>7</sup>                                                                  | Higher maximum temperatures and more hot days over nearly all land areas               | Very likely <sup>7</sup>                                                                                            |
| Very likely <sup>7</sup>                                                             | Higher minimum temperatures, fewer cold days and frost days over nearly all land areas | Very likely <sup>7</sup>                                                                                            |
| Very likely <sup>7</sup>                                                             | Reduced diurnal temperature range over most land areas                                 | Very likely <sup>7</sup>                                                                                            |
| Likely <sup>7</sup> , over many areas                                                | Increase of heat index <sup>12</sup> over land areas                                   | Very likely <sup>7</sup> , over most areas                                                                          |
| Likely <sup>7</sup> , over many Northern Hemisphere mid- to high latitude land areas | More intense precipitation events <sup>b</sup>                                         | Very likely <sup>7</sup> , over many areas                                                                          |
| Likely <sup>7</sup> , in a few areas                                                 | Increased summer continental drying and associated risk of drought                     | Likely <sup>7</sup> , over most mid-latitude continental interiors. (Lack of consistent projections in other areas) |
| Not observed in the few analyses available                                           | Increase in tropical cyclone peak wind intensities <sup>c</sup>                        | Likely <sup>7</sup> , over some areas                                                                               |
| Insufficient data for assessment                                                     | Increase in tropical cyclone mean and peak precipitation intensities <sup>c</sup>      | Likely <sup>7</sup> , over some areas                                                                               |

# Physical understanding of the global effects

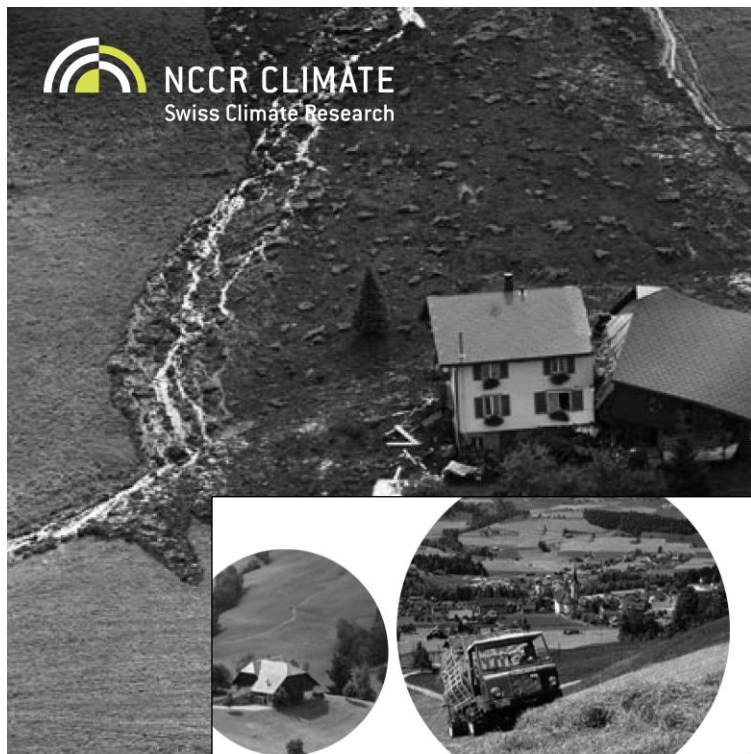
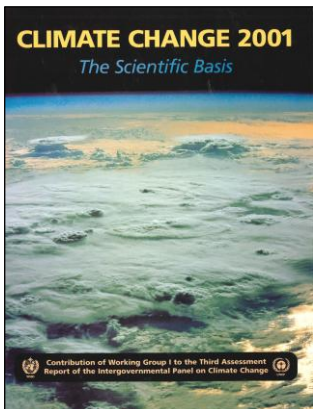


IPCC 2001, Figure 2.32



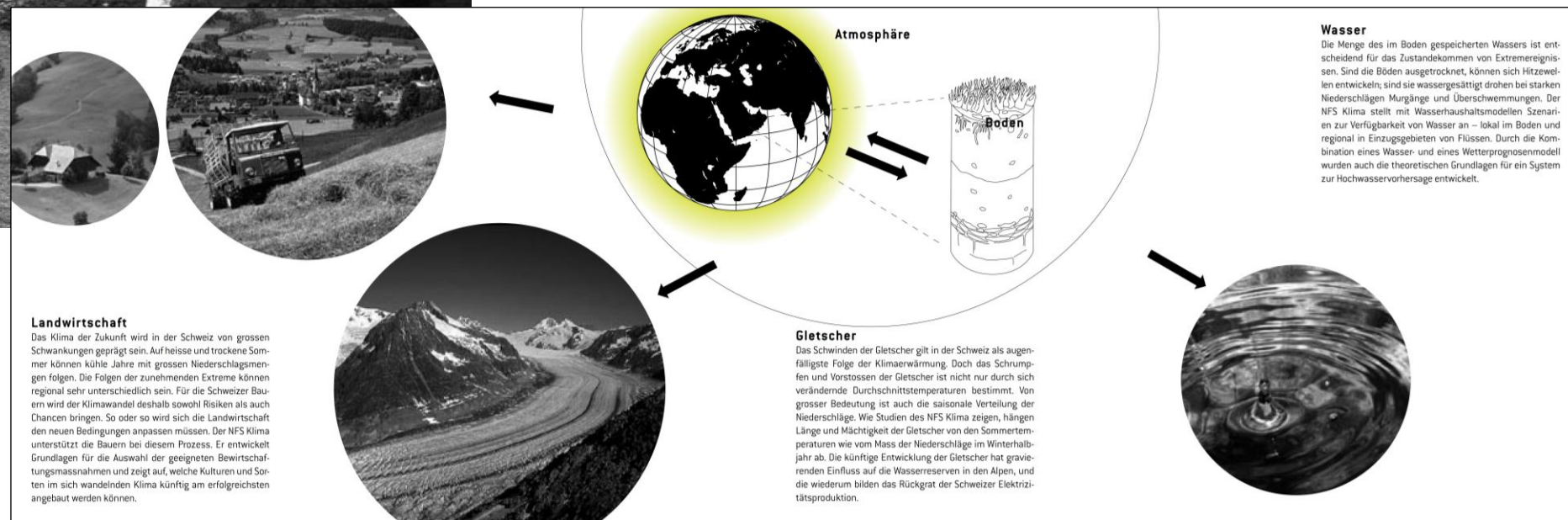
AR7

# But what are the risks for Switzerland?



## NCCR Climate 2001-2013

Climate Variability, Predictability, and Climate Risk



# Summer 2026: A window to the future — a call to action

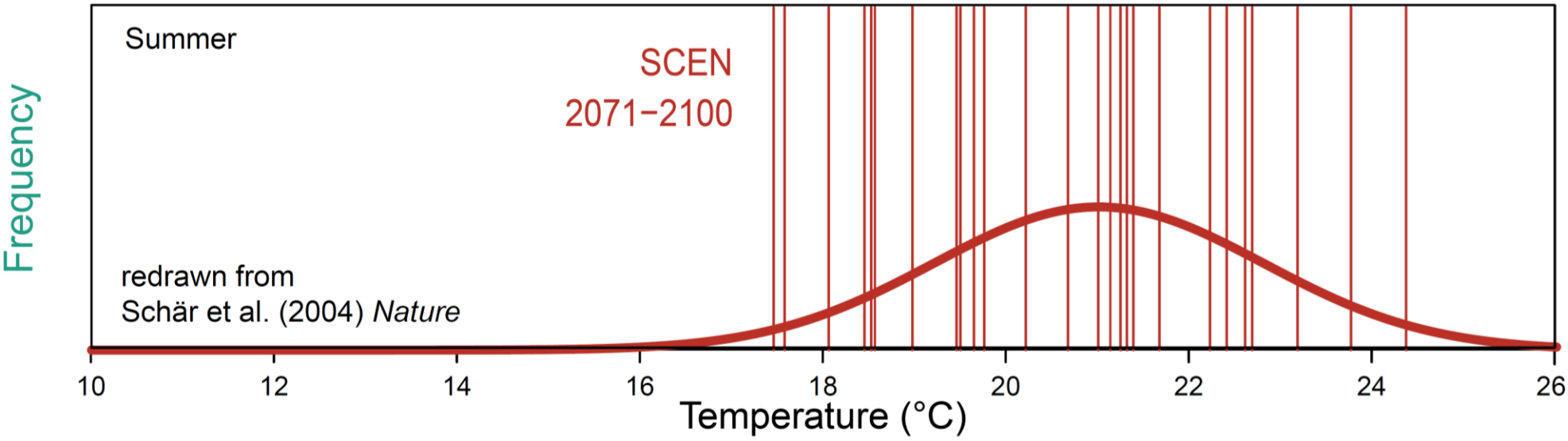
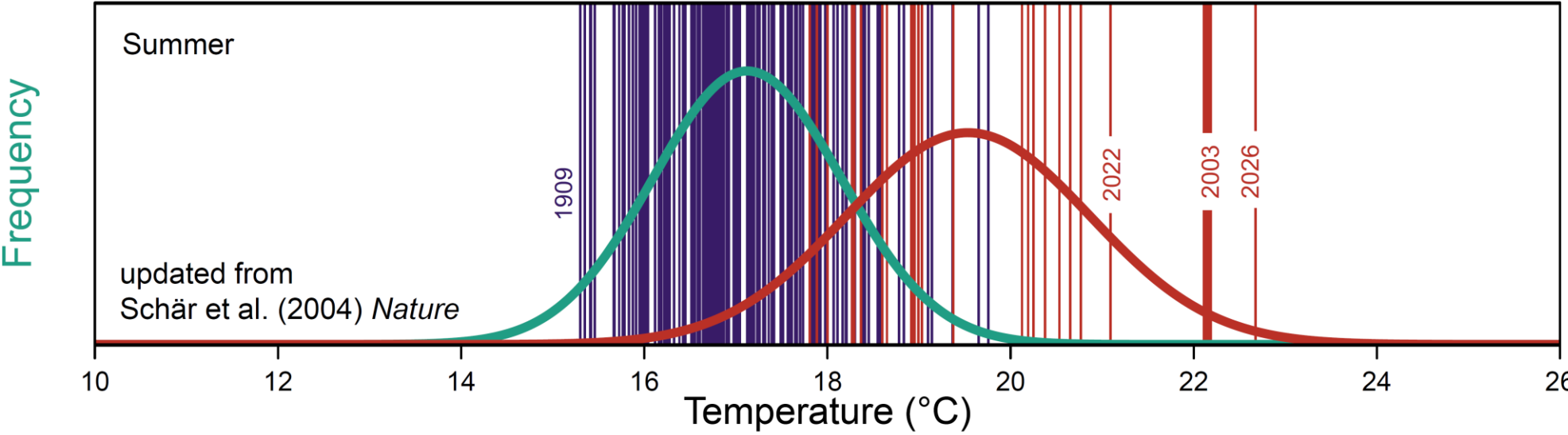
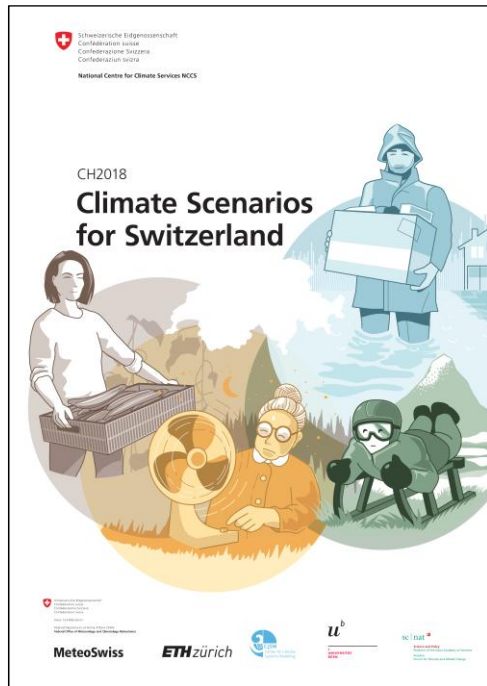


Figure provided by E. Fischer and S. Scherrer, ETHZ and MeteoSchweiz



## A HARD LOOK AT OUR FUTURE CLIMATE

Right across the globe, temperatures are rising – and so is the danger that the climate will change dramatically. The countries which signed the Paris Agreement have committed to reducing their greenhouse gas emissions and averting a dangerous disruption of the climate system. Switzerland, too, has committed to halving its emissions by 2030 compared with 1990. The Federal Council wants to achieve even greater emissions reductions in the longer term.

We are on the right path, but in order to achieve our ambitious targets, we need everyone to be involved: from members of industry to politicians and individuals. Using tried and tested instruments in the transport, buildings, industrial and agricultural sectors, the Federal Council intends to take Switzerland into a low-emissions future. Switzerland can achieve significant reductions in greenhouse gases by means of renewable energy, carbon-neutral transport and greater levels of efficiency.



It is the ***rarest and most extreme events*** for which the changes are largest.

Since most ***damages*** depend nonlinearly on the magnitude of extreme events, every degree of warming will disproportionately increase the overall potential risk from climate extremes.

# Latest knowledge: Future climate in Switzerland



## Switzerland's future climate



Heat warnings in summer, increased droughts, winters with little snowfall, and more intense and frequent heavy rainfall with flooding: the impacts of climate change are becoming more pronounced and occurring at a faster rate. The effects are clear to see, most notably in the form of glacier melt. As an alpine country, Switzerland is affected by these changes. How can we plan for them and what action can we take?

To answer these questions, we need to have reliable and up-to-date information. The Climate CH2025 climate scenarios developed by the Federal Office of Meteorology and Climatology (MeteoSwiss) in collaboration with ETH Zürich and the Center for Climate Systems Modeling (C2SM) provide this vital scientific basis. The

## More extreme heat

### Warmest night of the year

until 1991–2020: **+3.2 °C**  
since 1901

in addition: **+3.8 °C**  
in a 3-degree world

Extreme heat is becoming more frequent and more intense

**Pages 8 and 9**



## Drier summers

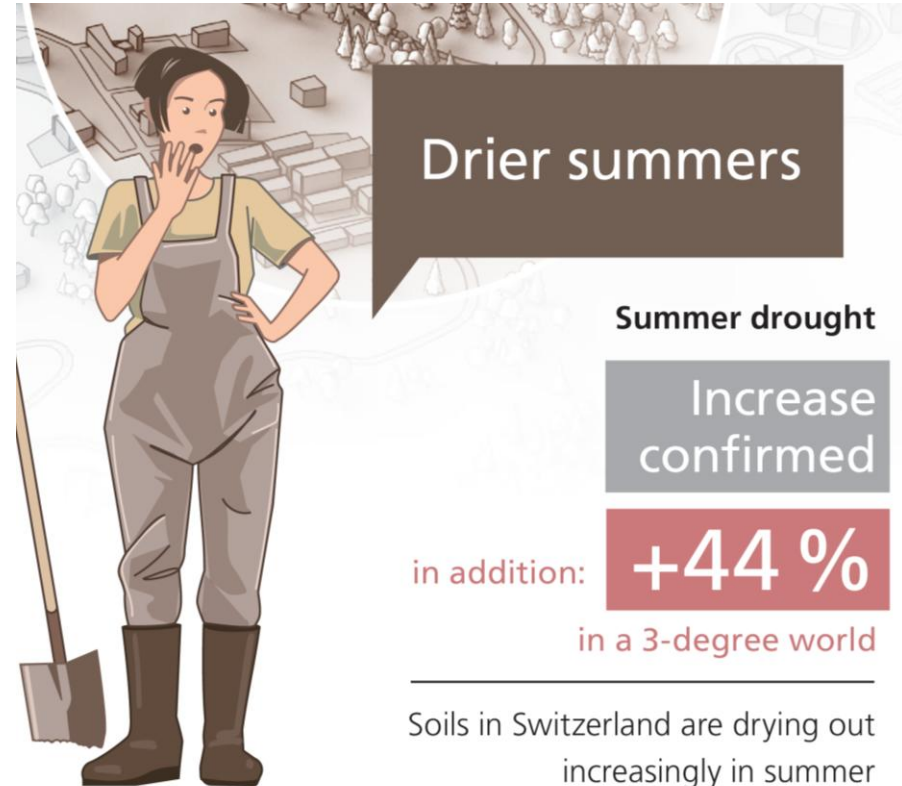
### Summer drought

Increase confirmed

in addition: **+44 %**  
in a 3-degree world

Soils in Switzerland are drying out increasingly in summer

**Pages 10 and 11**



# Latest knowledge: Future climate in Switzerland



## Switzerland's future climate



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## More frequent and more intense heavy precipitation

Intensity of a 1-day precipitation event with 50-year return period

until  
1991–2020: **Increase confirmed**

in addition: **+11%**

in a 3-degree world

Heavy precipitation is becoming more frequent and more intense

**Pages 12 and 13**



## Less snow



Average zero-degree line in winter

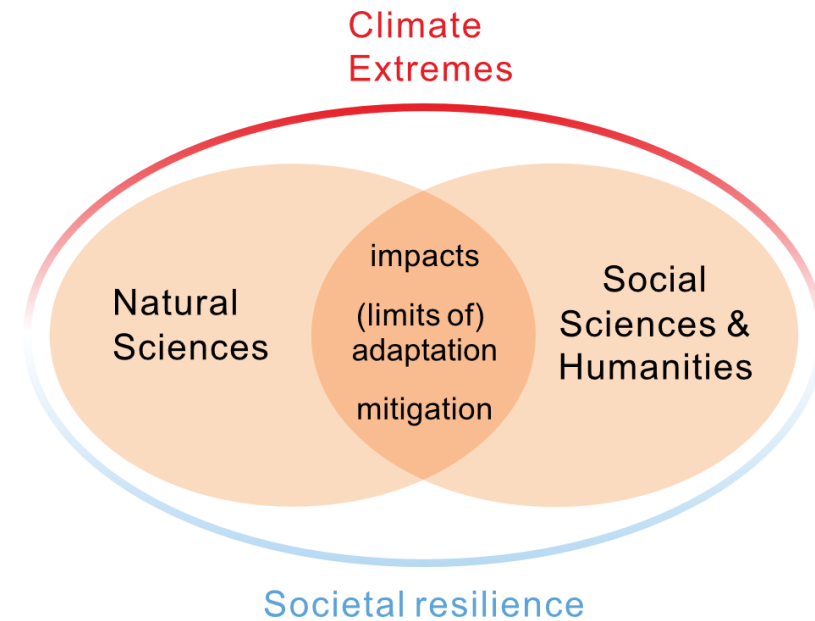
until  
1991–2020: **+480 m**  
since 1901

in addition: **+550 m**  
in a 3-degree world

Precipitation is falling more often as rain instead of snow

**Pages 14 and 15**

NCCR  
CLIM



- ❖ establish new cross-cutting professorships
- ❖ safeguard access to real-time data
- ❖ LISTEN TO THE SCIENCE — **NOW**

**NCCR CLIM+ Kick-Off Event**

# Learning from climate extremes and societies of the past

**Prof. Eleonora Rohland, Bielefeld University**

September 10, 2026



# Learning from Climate Extremes and Societies of the Past

The Humanities and Social Sciences Perspective

Eleonora Rohland, Bielefeld University, Center for Interdisciplinary Research (ZiF)

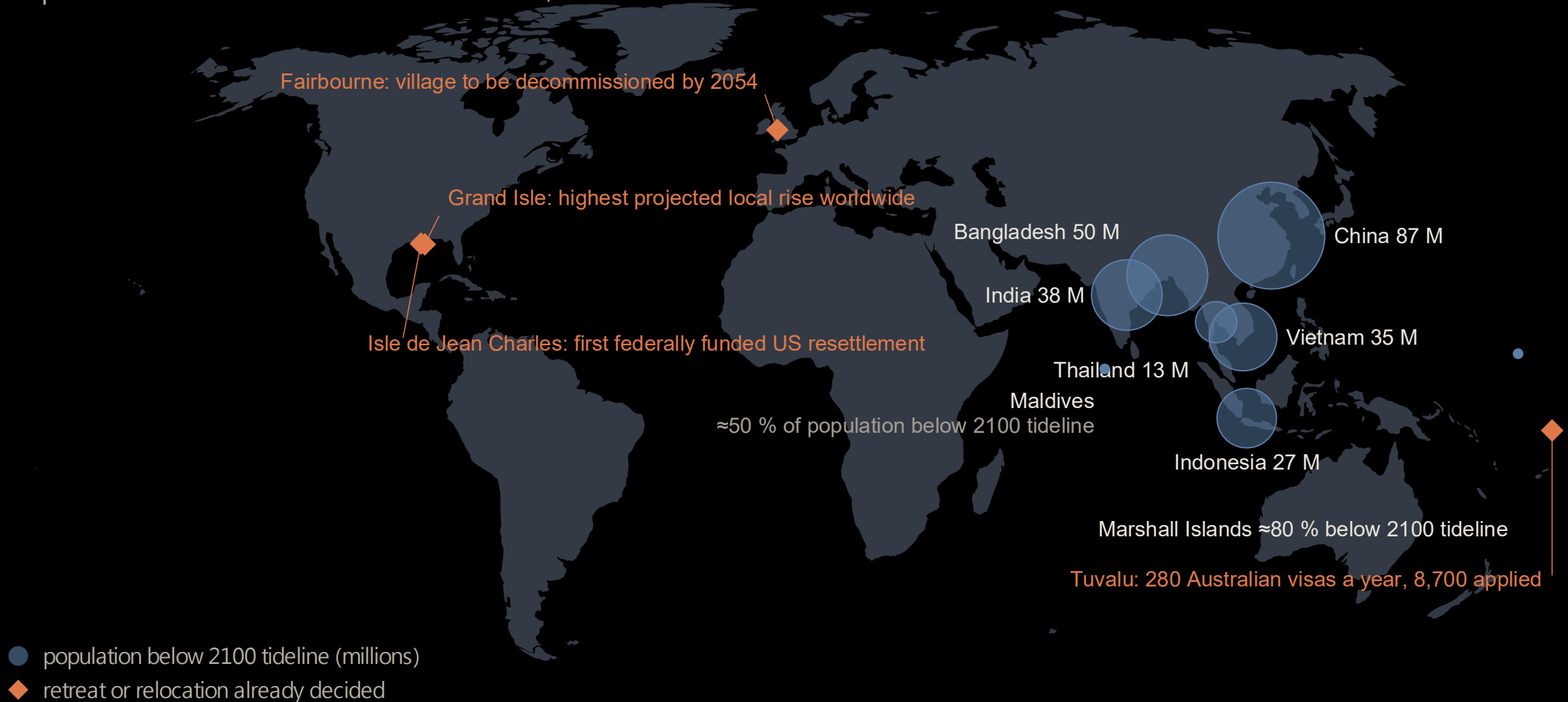
NCCR Clim+ Kick-Off Event, September 10, 2026, ETH Zürich

# Some Questions...

- At what societal level and spatial scale do we assess resilience?
- Across what timescales should we and can we assess resilience?
- What role do time, culture, and disaster memory play for resilience towards climatic extremes?
- As climatic change accelerates and pushes some systems toward irreversible thresholds: are there limits to societal resilience?

# Sinking Land, Rising Sea Levels: Challenges to Resilience and Adaptation

Exposure is concentrated in the Global South; decided retreats are not.



Sources: IPCC AR6 Synthesis Report, Fig. 3.4; Kulp & Strauss 2019, Nature Communications 10:4844; Australian DFAT / ABC News 2026; Gwynedd Council / Fairbourne Moving Forward; Louisiana Office of Community Development; NASA Sea Level Projection Tool.

New Orleans

# Diese Stadt ist verloren

Von Benjamin von Brackel, 4. September 2026

|| Controlled resettlement vs. chaotic depopulation ||



## New Orleans Area Map

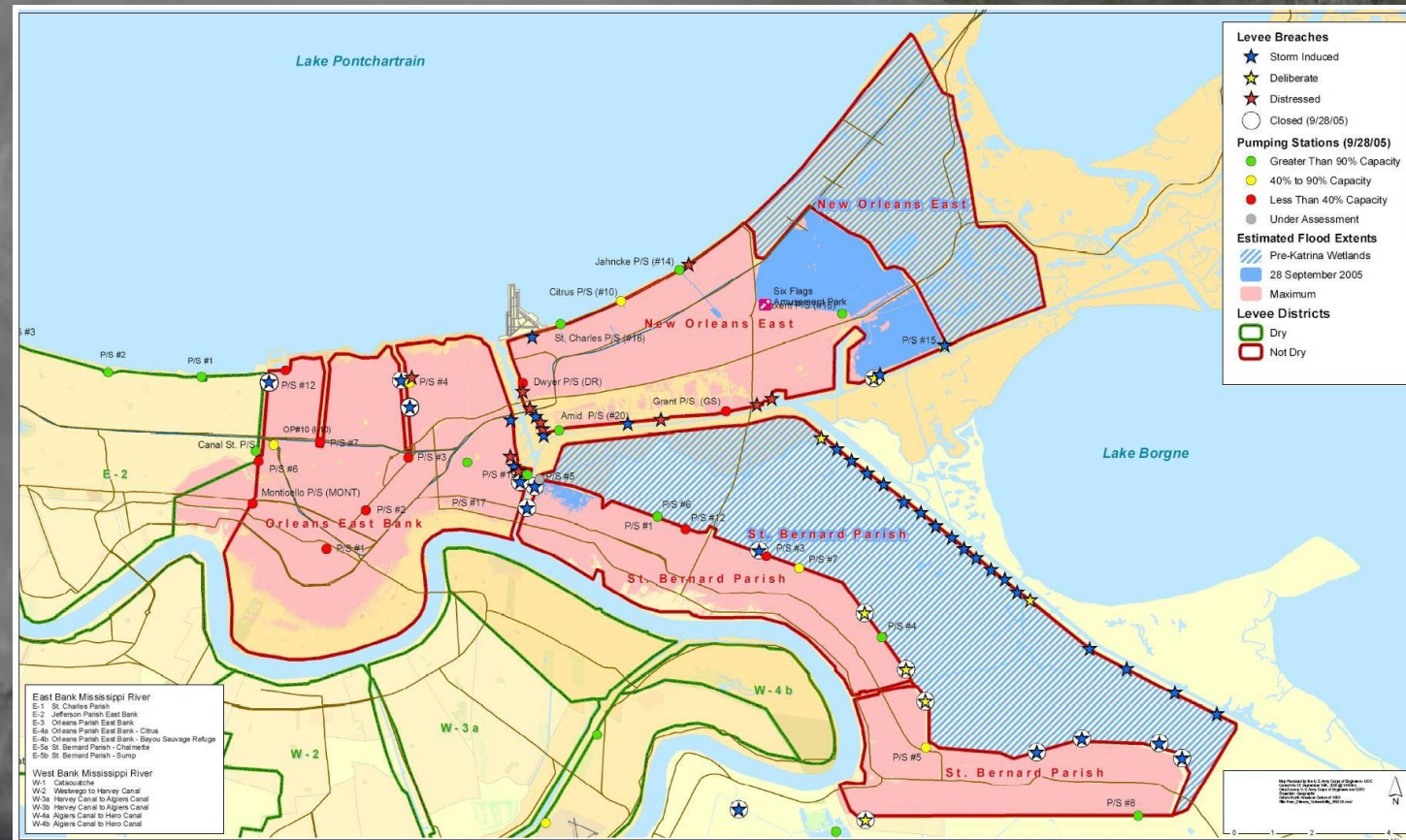


## City of New Orleans Ground Elevations

From Canal St. at the Mississippi River to the Lakefront at U.N.O.

# Hurricane Katrina 2005, New Orleans, USA

- Made landfall as a strong category 3 Hurricane on August 29, 2005
- Overtopped Hurricane Protection System Levees (built in 1965)
- C. 1800 people killed in Louisiana (c. 1000 in New Orleans)
- 134,000 homes damaged in New Orleans
- Overall loss from Katrina \$125 billion (\$186.3 billion in 2022 Dollars)

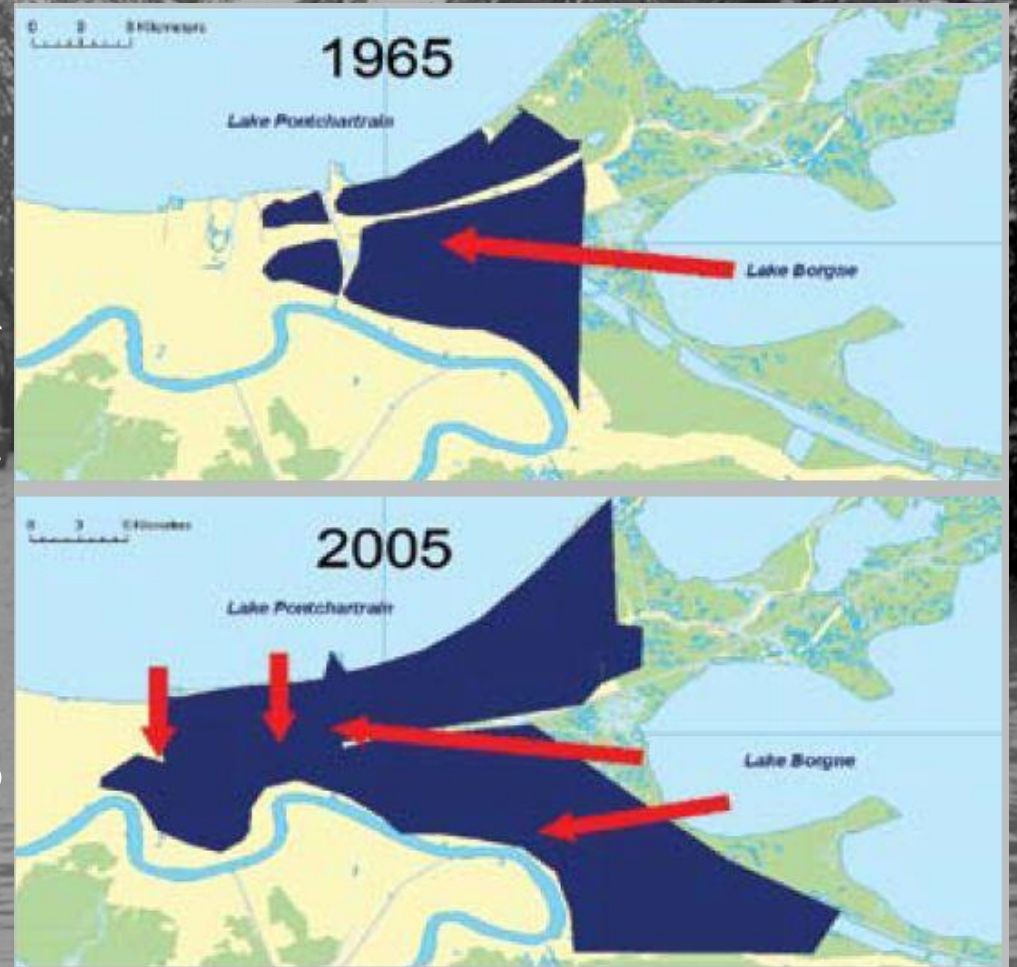


Source: U.S. Army Corps of Engineers Digital Library via Wikimedia Commons

# Hurricane Betsy 1965, New Orleans, USA

- Made landfall as a strong category 4 Hurricane on September 9, 1965
- 76 people killed in Louisiana (84 in total)
- 10,000 homes damaged in New Orleans
- More than 120,000 people in emergency shelters
- **Overall loss** from Betsy (LA, MS, FL) \$ **1.4 billion** (1965 Dollars)

Risk Management Solutions (2006: 4)

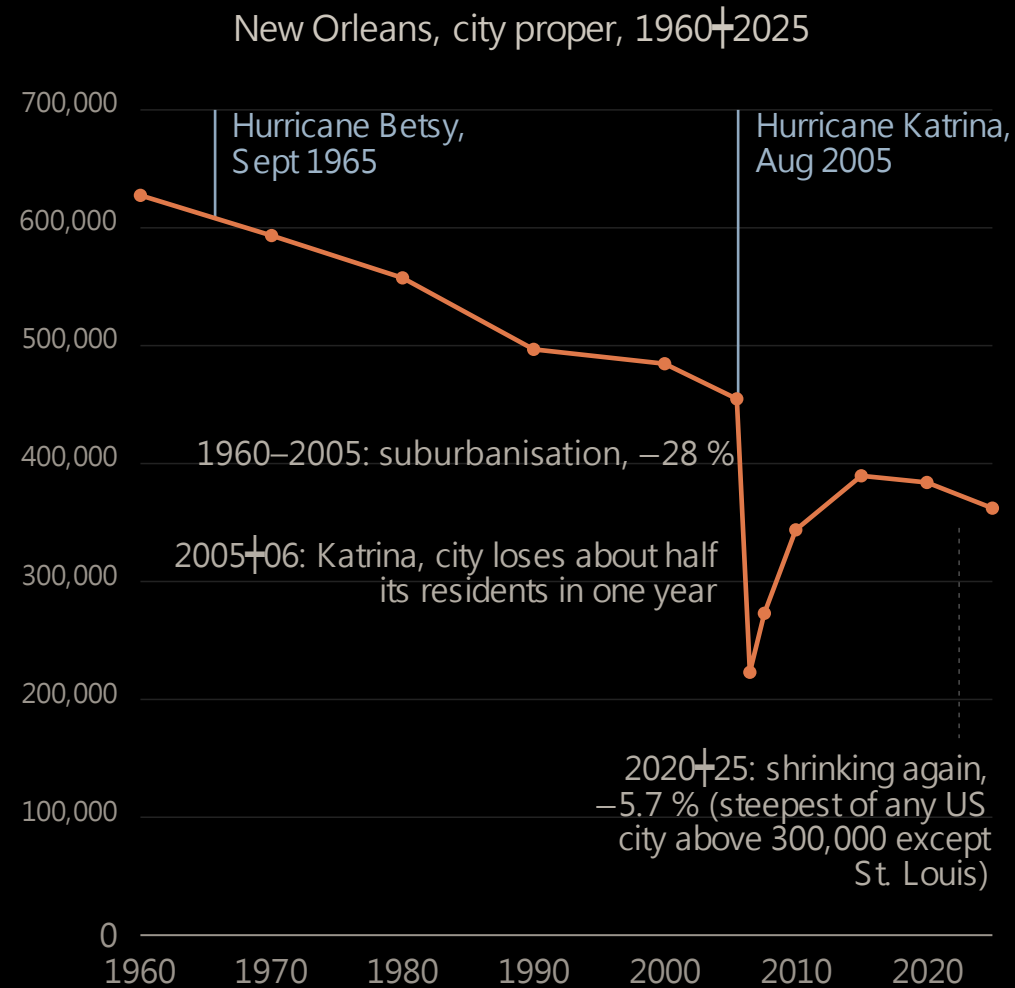


# ...and back to the aftermath of Katrina

## Resilience in the Face of Disaster?

- Recovery **uneven** across neighborhoods: by mid-2015, 40 of 72 New Orleans neighborhoods had recovered 90%+ of pre-storm population, 16 surpassed it = others lagged far behind. Not a uniform ||the city came back. F
- **Infrastructurally:** Hurricane and Storm Damage Risk Reduction System (HSDRRS) was built betw. 2005 and 2018, i.e. 563 km levees and floodwalls, including IHNC Surge Barrier (concrete floodwall with two enormous gates)
  - Withheld hurricane Ida in 2021

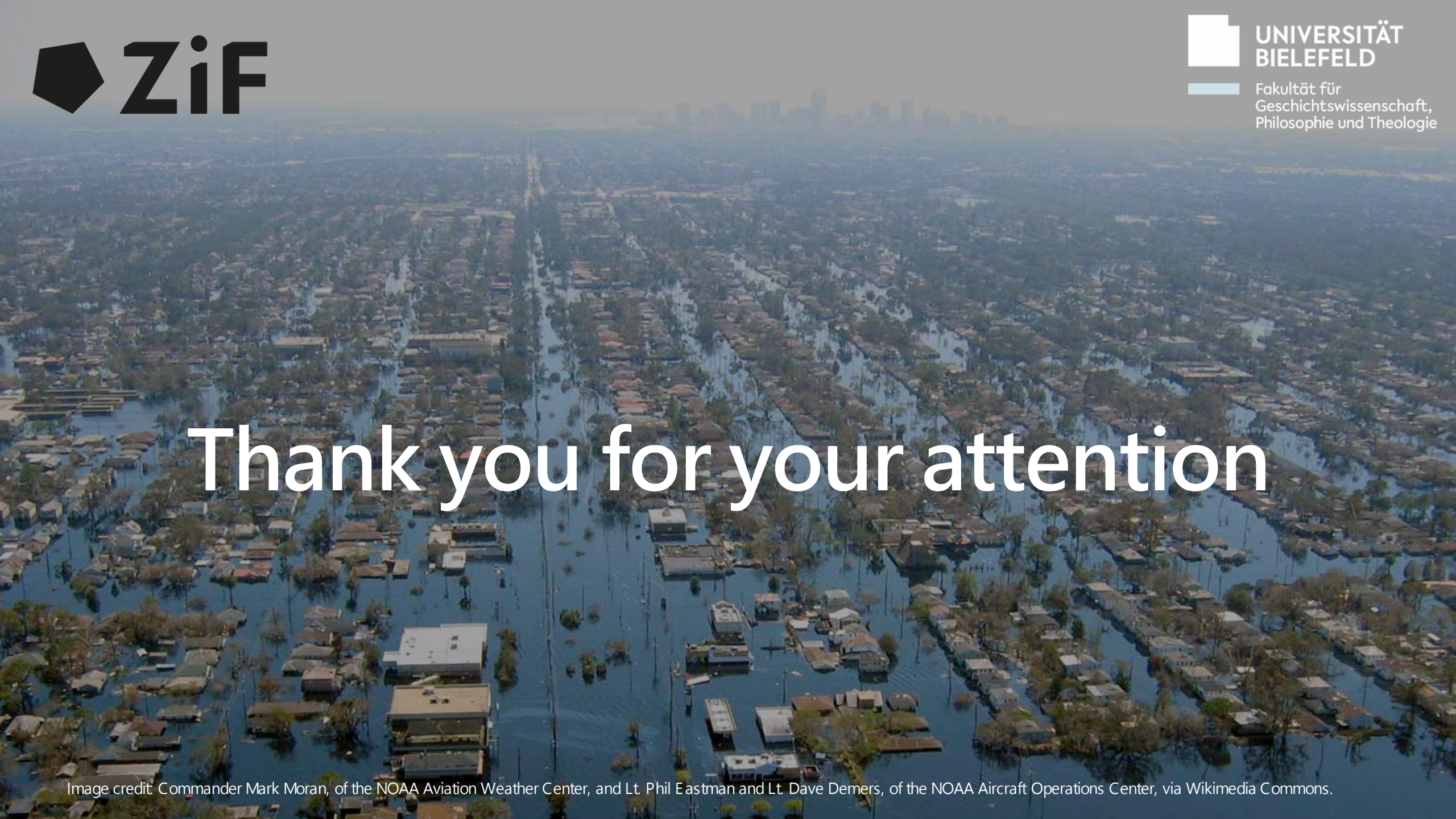
# △ Controlled resettlement vs. chaotic depopulation } : New Orleans — s Demography in Context



Sources: US Census Bureau, decennial censuses 1960–2020 and City and Town Population Totals 2020–2025; New Orleans intercensal estimates 2005–2007 and 2015 from City of New Orleans Master Plan (2010/2017) and Census Bureau. See also: Benjamin von Brackel, "Diese Stadt ist verloren," Süddeutsche Zeitung, 4 September 2026.

# Some more Questions...

- What does resilience mean in affluent societies like ours, or the US?
- Can societal resources be implemented in a scientifically sound way for an ordered retreat from places that are under threat from anthropogenic climate change?
- How can political systems prepare themselves for these kinds of challenges?
- Resilience and adaptation alone are not enough, mitigation is the other half of the equation.

An aerial photograph showing a vast area of a city completely inundated with floodwater. The water is a deep blue-grey color, and numerous houses, trees, and some commercial buildings are visible as islands in the sea of water. In the far distance, a city skyline is visible under a hazy, overcast sky.

# Thank you for your attention

**NCCR CLIM+ Kick-Off Event**

# Climate adaptation in practice. A journey through the canton of Lucerne

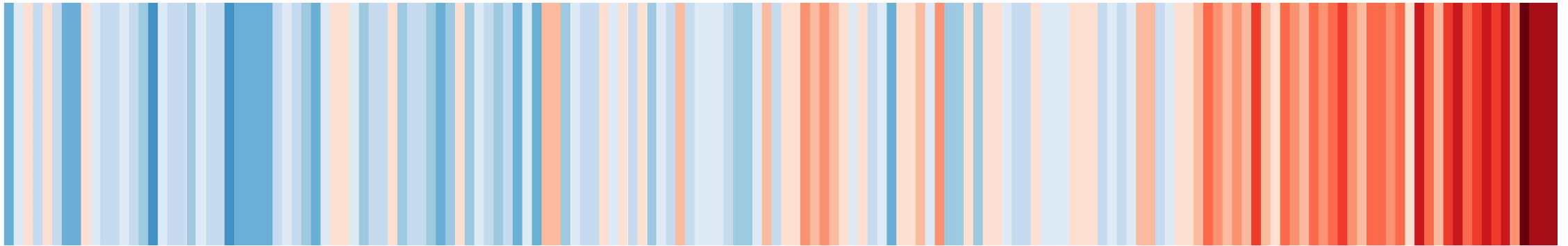
**Jürgen Ragaller, Canton of Lucerne**

September 10, 2026



# **Climate Adaptation in Practice**

## **A Journey Through the Canton of Lucerne**



1864

2025

*NCCR CLIM+ Kickoff*

*Jürgen Ragaller, Canton of Lucerne,  
Department of Building, Environment and Economy, Projects and Strategy, Climate*

# Welcome to the Canton of Lucerne



Image: Lucerne Tourism

# Welcome to the Canton of Lucerne

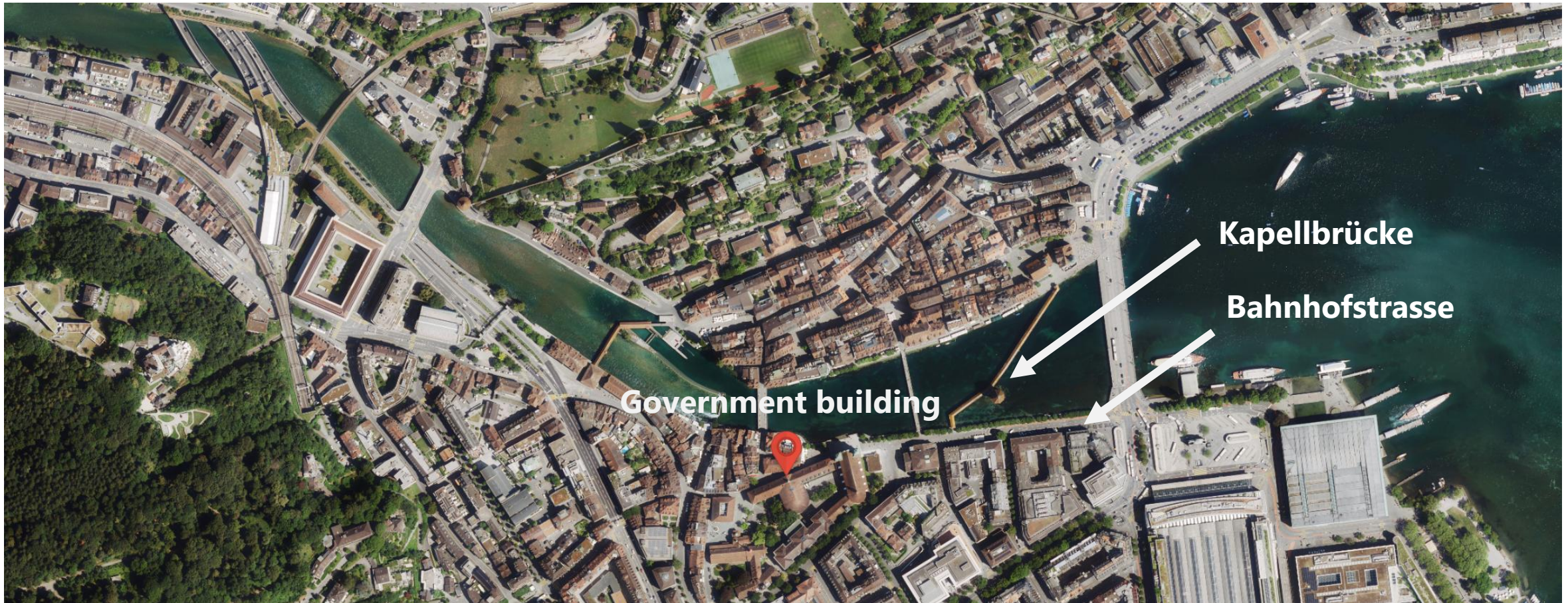


Image: Canton of Lucerne, GIS

# Climate Analysis Map at Night (Heat Island Effect)

Heat island effect / °C

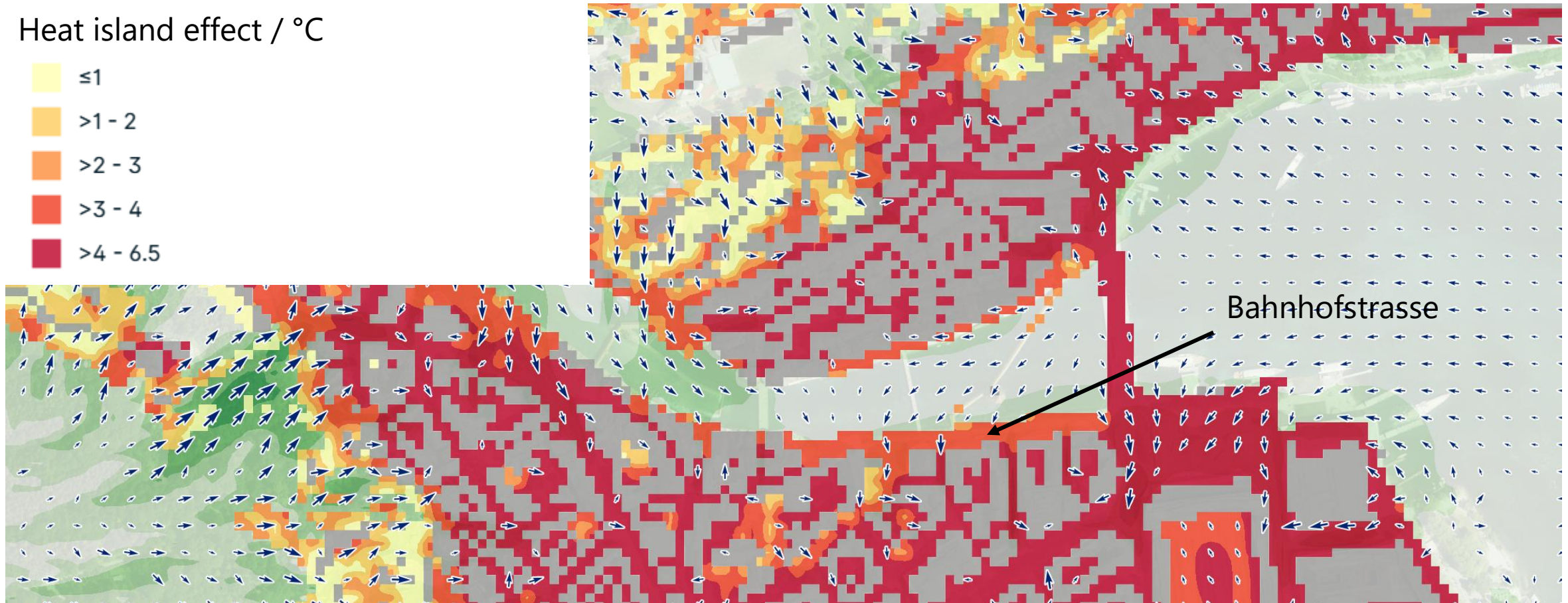
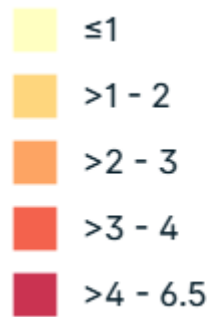


Image: Canton of Lucerne, GIS, [www.klima.lu.ch](http://www.klima.lu.ch)

## Bahnhofstrasse Before it's Renovation...



Image: Lucerne Tourism

## ... and Today



Image: City of Lucerne, Stadtmagazin

# Adaptation in Urban Areas

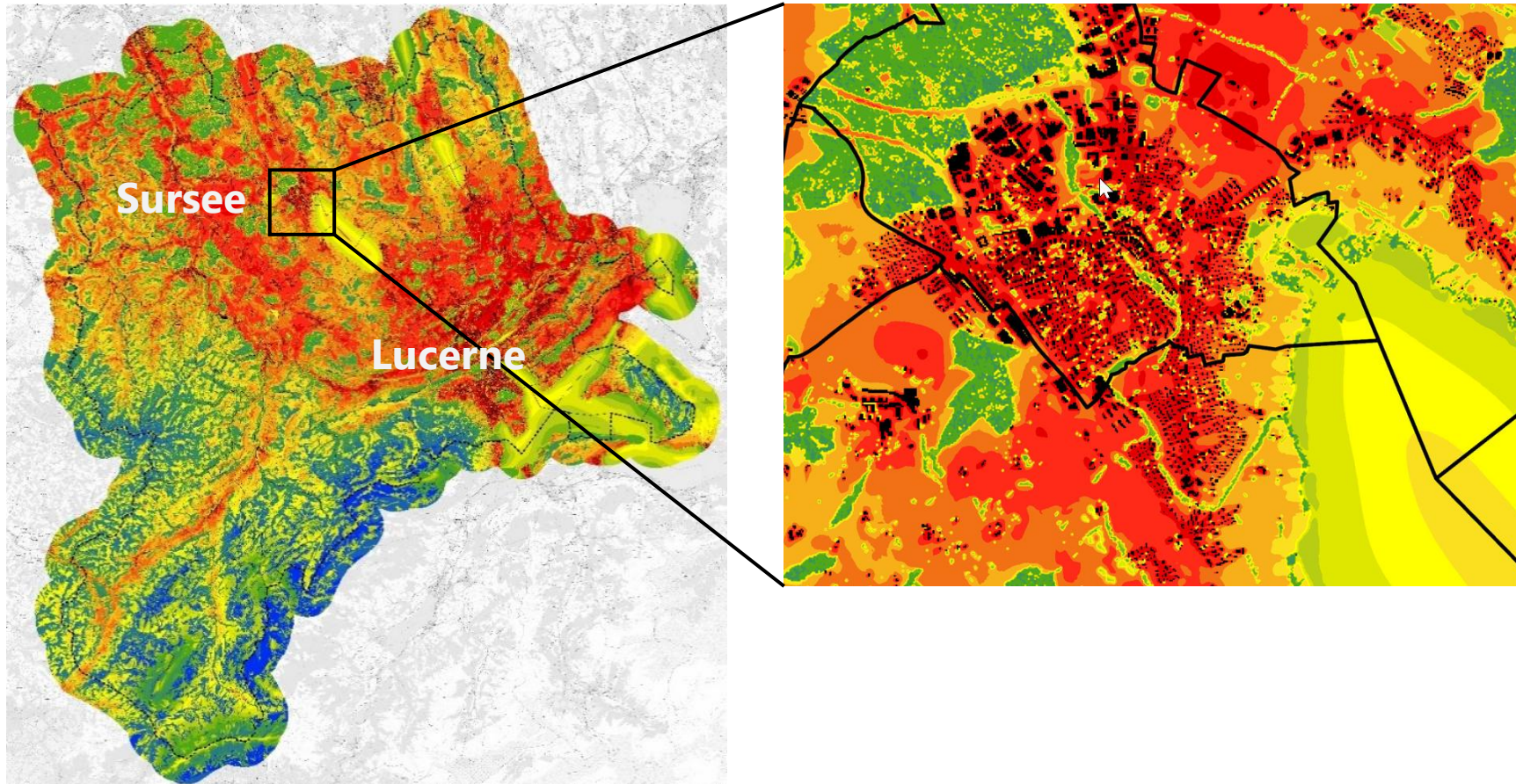
- **More green in all forms**  
(especially trees)
- **Concept of a sponge city**
- **Preservation of cold air flow**

Synergies to Mitigation, Energy  
and Mobility

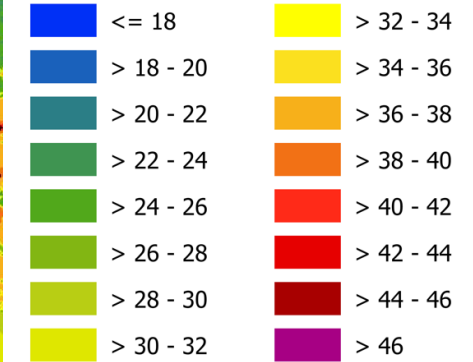


Image: Canton of Lucerne, [www.klima.lu.ch](http://www.klima.lu.ch)

# Heat Stress Can be Drastically Reduced



PET in 1,1 m ü. Gr. [°C]



PET:  
Human heat stress index

> 35: strong  
> 41: extreme

Image: [Climate Maps](#), Canton of Lucerne

# Lucerne From Space

**August 2025**

Image: Copernicus / Sentinel



# 2026: Extreme Drought

**August 2026**

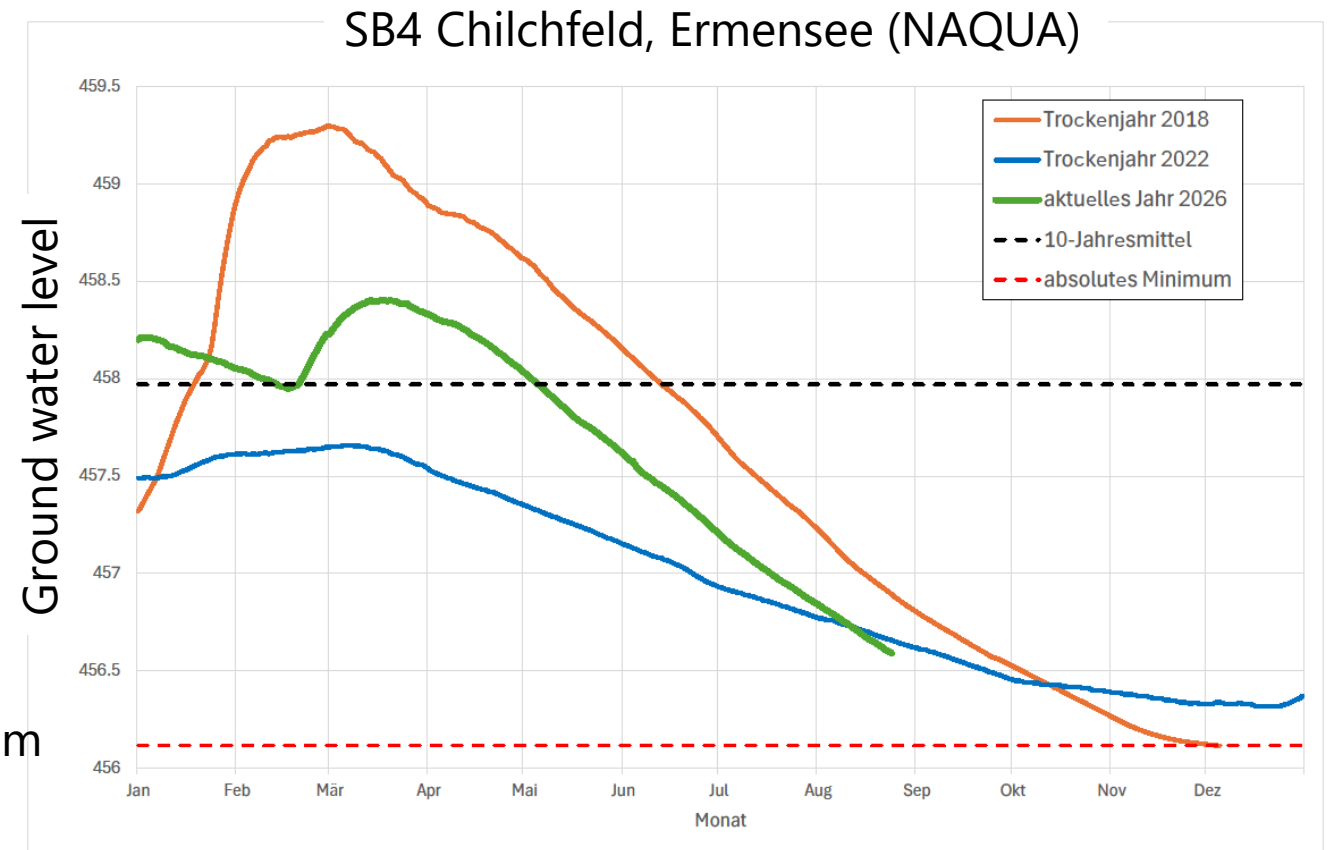
Image: Copernicus / Sentinel



# Drought Leads to Low Groundwater Level

- Drought 2018
- Drought 2022
- Drought 2026  
(on track to an all-time low)

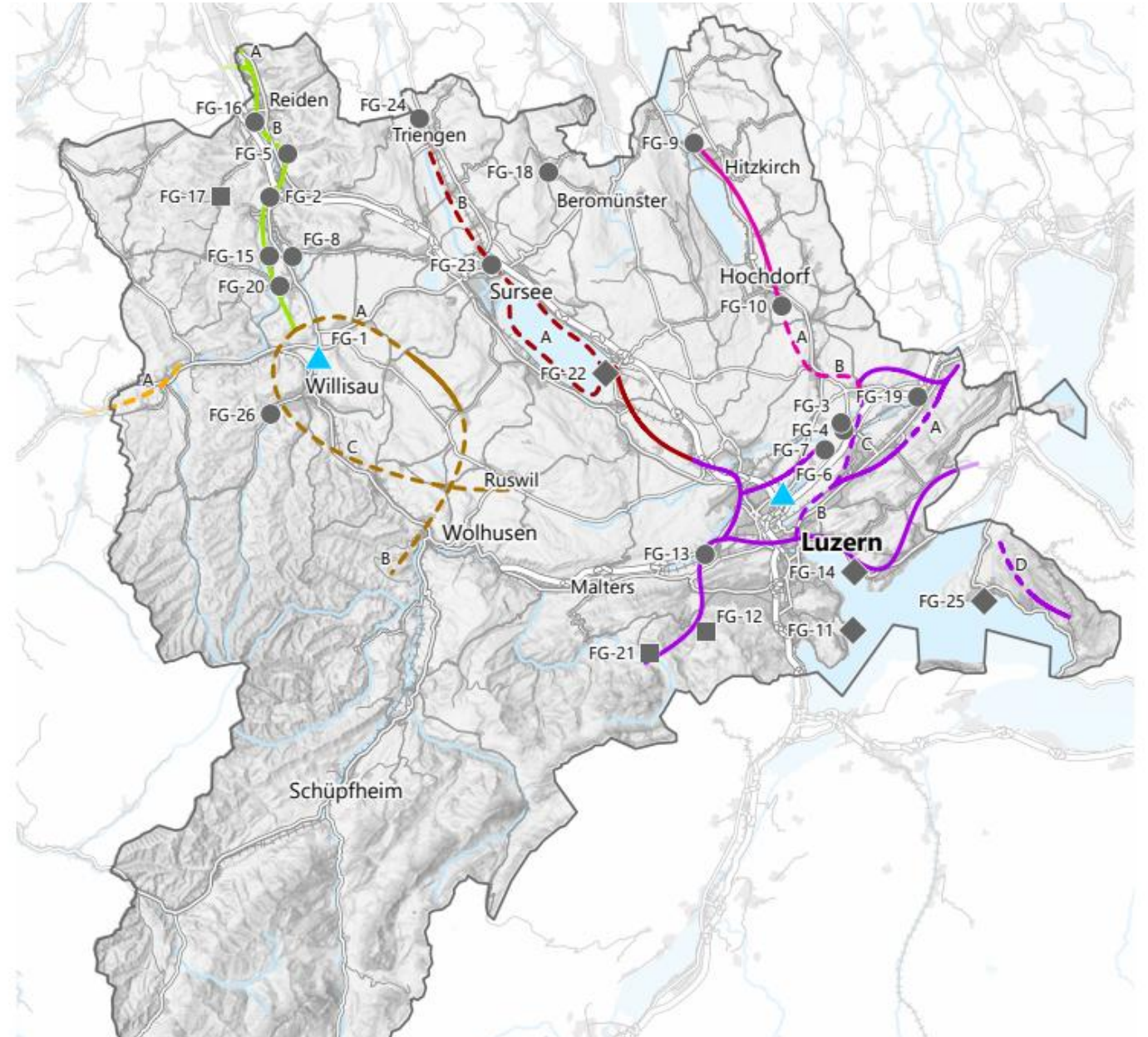
All-time minimum



# Securing Our Drinking Water

Building a more robust network by  
connecting local water supply  
stations (dotted lines = new pipes)

Image: future structural plan LU (Richtplan)



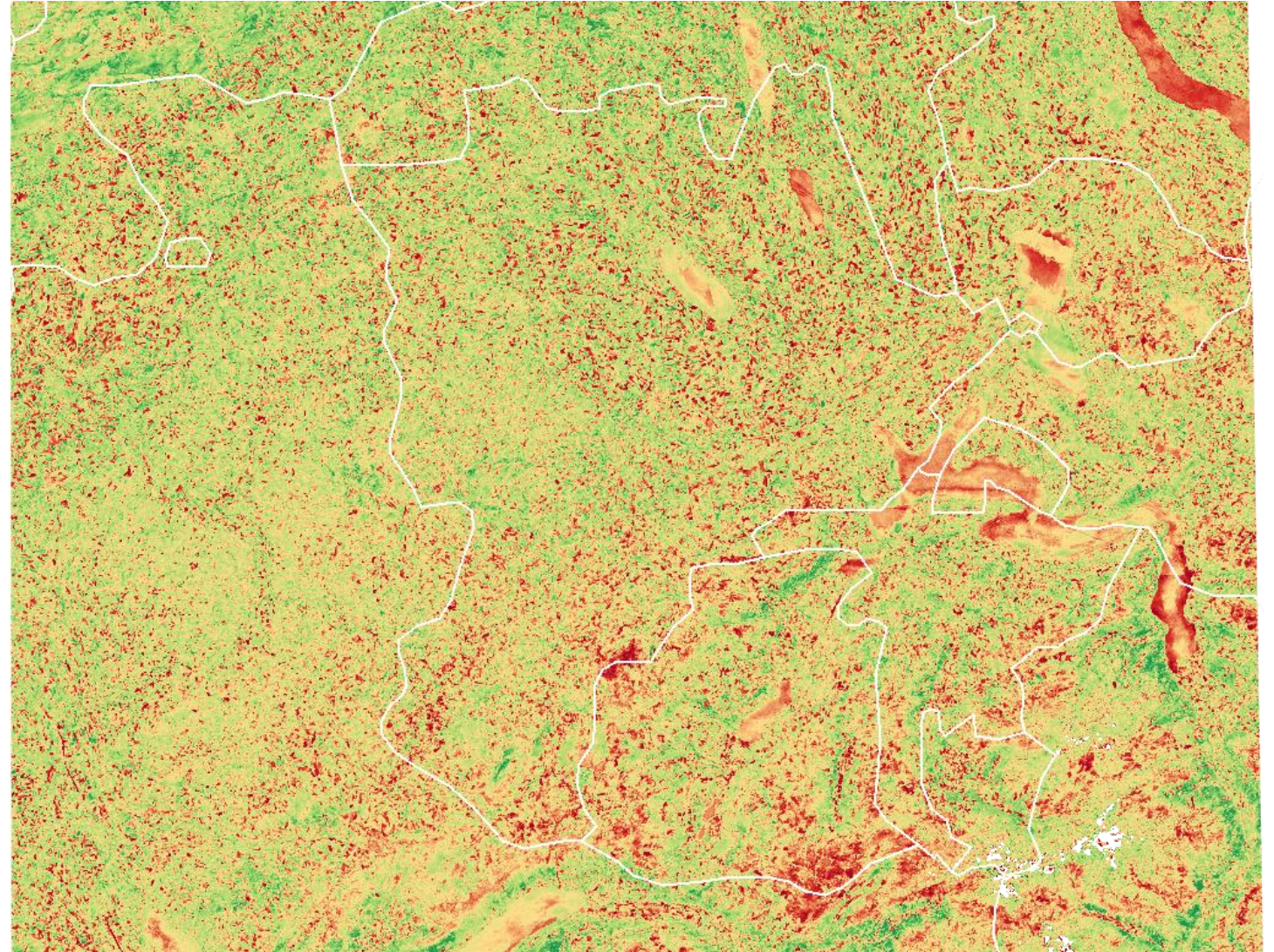
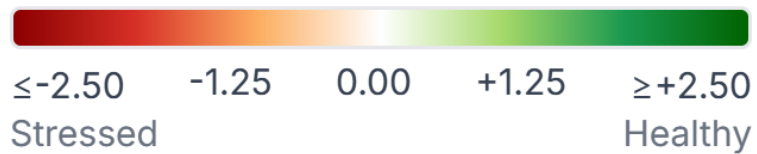
# Drought Affects Our Forests

August 2025

Image: treeai.earth

Vegetation condition

Hide



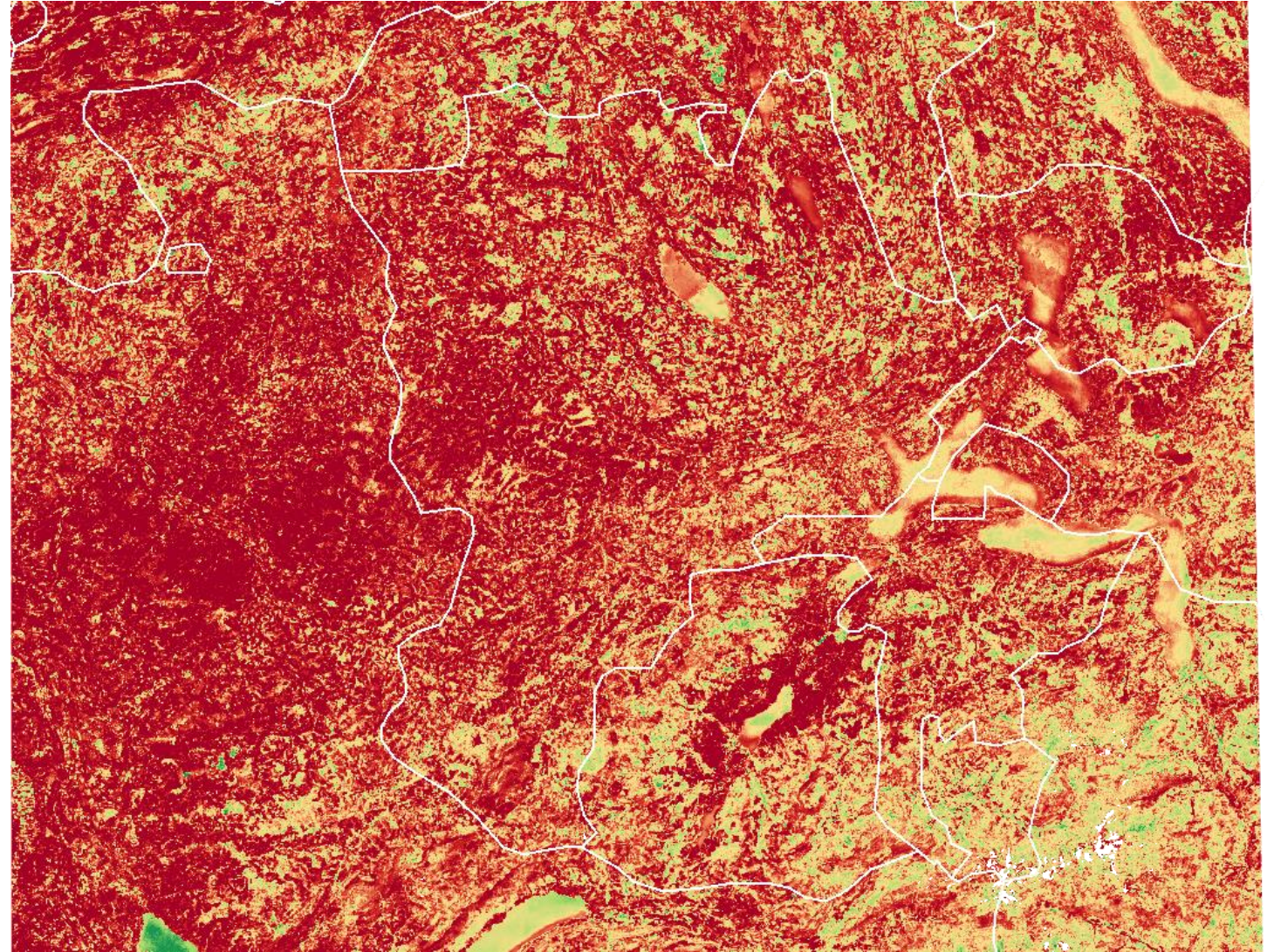
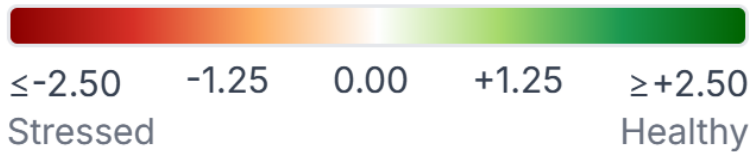
# Drought Affects Our Forests

August 2026

Image: treeai.earth

Vegetation condition

Hide



# Forests Are Changing

Cantonal forestry experts on a inspection to develop the guidelines on forest management in the context of climate change, May 2023



# Flooding Event of 2005



Image: Canton of Lucerne, Flooding of River kleine Emme



Image: Canton of Lucerne, Flooding City of Lucerne, 2005

# NATUR NAH

*Revitalisierung  
mit Hochwasserschutz*

# Reuss-Project

## **Flood protection, biodiversity and quality of life**

An illustration of part of the Reuss river's restoration. Pictured:  
Schiltwald-Grundwald / Grossmatt

Estimated costs of a 100-year  
flooding today without measures:  
600 Mio. CHF.

[More Information](#)



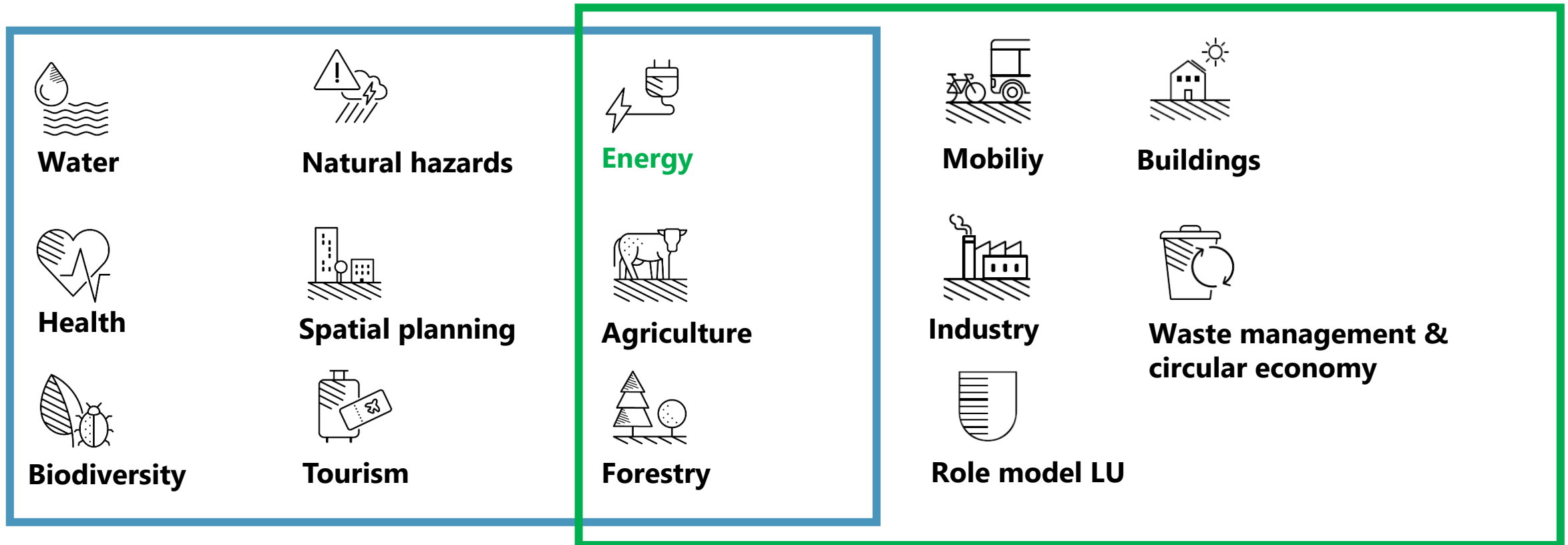
# SLOW WATER

*Wassermanagement in der Landwirtschaft*

# Climate and Energy Strategy, Canton of Lucerne

## Adaptation

## Mitigation



# Climate and Energy Strategy, Goals

## Adaptation

## Mitigation

Adaptation to a **3-deegre world**

A recommendation from the Swiss Network for Adaptation to Climate Change **for medium- and long-term planning**

**Net Zero 2050**

# Collaboration is Key!



## Climate Change Adaptation Network

Promotes the exchange of ideas on solutions and strategies for adapting to climate change between the federal government, the cantons, municipalities and cities, as well as the business sector, the scientific community and civil society.

## Cercle Climat

Climate experts from the cantons are working together to find solutions for **climate protection and adaptation**



# Climate Change Adaptation Network

## Publications 2026

<https://www.bafu.admin.ch/de/netzwerk-anpassung-neuigkeiten-publikationen>



[Water resource management in the context of drought, August 26](#)



[Consistent use of the 'KLIMA CH2025' climate scenarios in climate change adaptation, June 26](#)

**NCCR CLIM+ Kick-Off Event**

# Panel discussion

**Prof. em. Thomas Stocker, University of Bern**

**Prof. Eleonora Rohland, Bielefeld University**

**Jürgen Ragaller, Canton of Lucerne**

**Prof. David Bresch, ETH Zurich**

**Prof. Olivia Romppainen-Martius, University of Bern**



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**Questions for the panelists:**



Scan the  
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**menti.com**

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**5484 6912**

**NCCR CLIM+ Kick-Off Event**

# From the two leading houses: Closing words and outlook

**Prof. Virginia Richter, Rector of University of Bern**

**Prof. Günther Dissertori, Rector of ETH Zurich**

September 10, 2026



NCCR CLIM+ Kick-Off Event

# Thank you!

Follow our updates:

 Website: [www.nccr-climplus.ch](http://www.nccr-climplus.ch)

 LinkedIn: [www.linkedin.com/company/nccr-climplus](http://www.linkedin.com/company/nccr-climplus)

 Newsletter coming soon

