Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

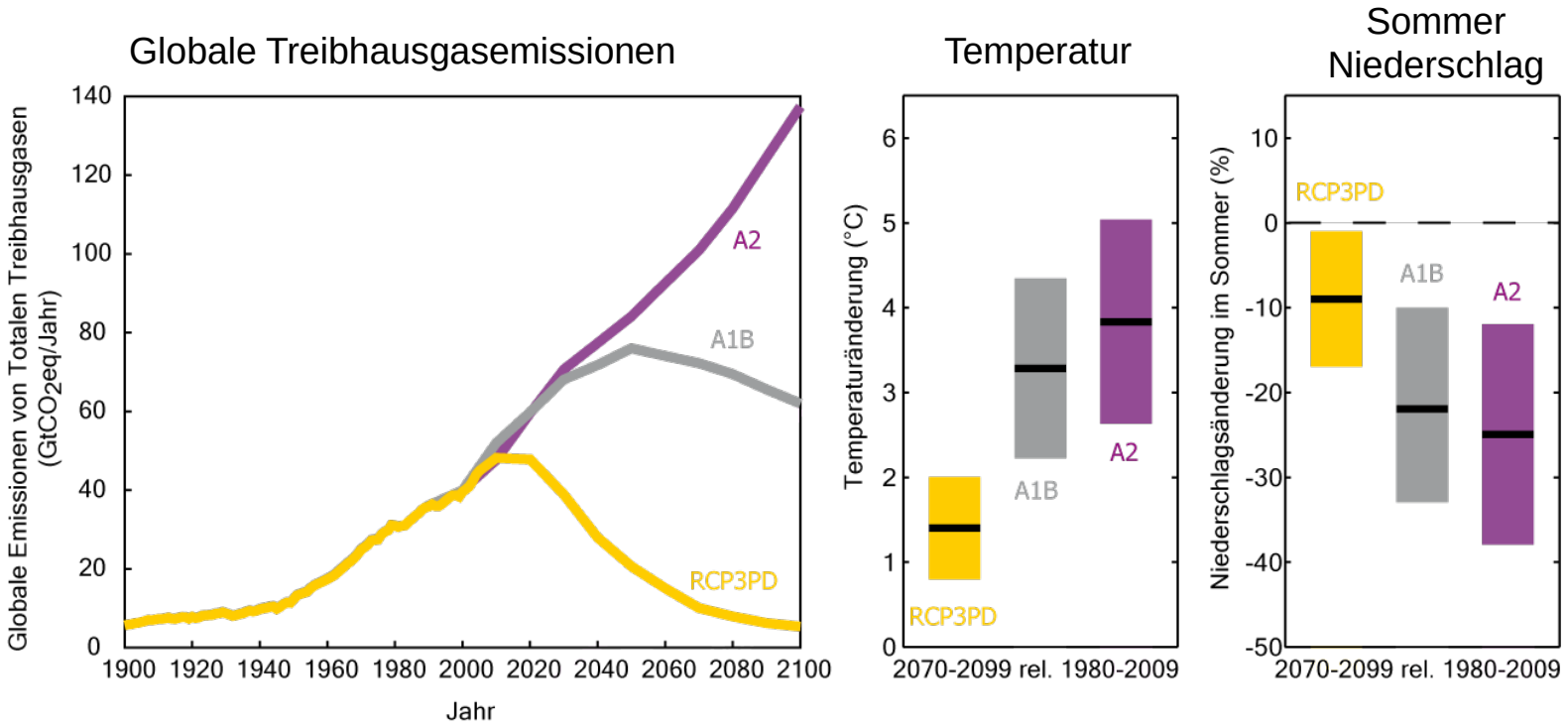
Eidgenössisches Departement des Innern EDI
Bundesamt für Meteorologie und Klimatologie MeteoSchweiz

Klimaänderung in der Südschweiz, Tigermücke

Mark Liniger
Leitung Klimavorhersagen, MeteoSchweiz
mark.liniger@meteoswiss.ch

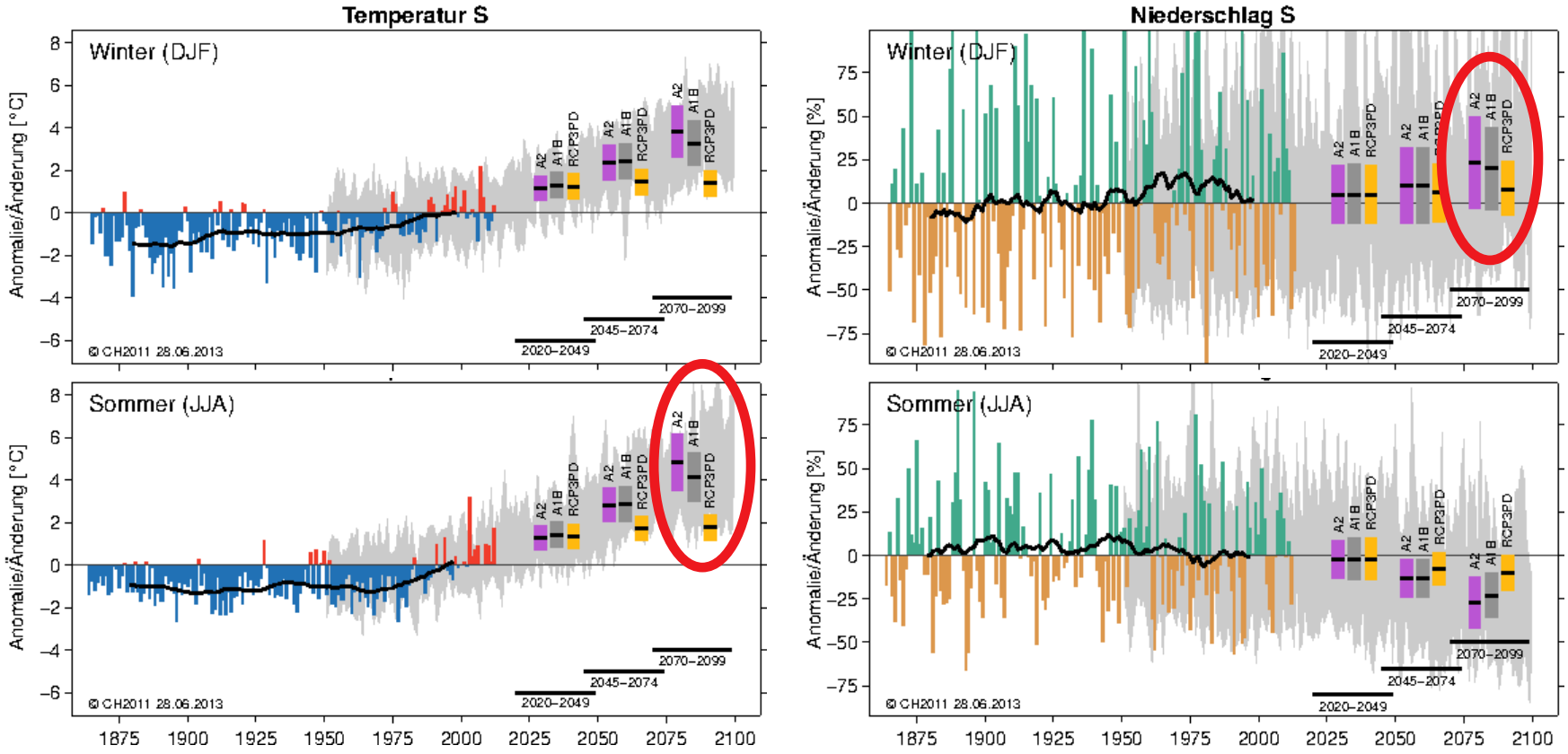
Elias Zubler, Andreas Fischer

Klimaszenarien Schweiz CH2011



Die CH2011 Szenarien zeigen, dass sich im 21. Jh. das Schweizer Klima signifikant ändern wird. Die Änderungen hängen insb. von den zukünftigen Treibhausgasemissionen ab.

CH2011 Südschweiz
Beobachtung und Szenarien

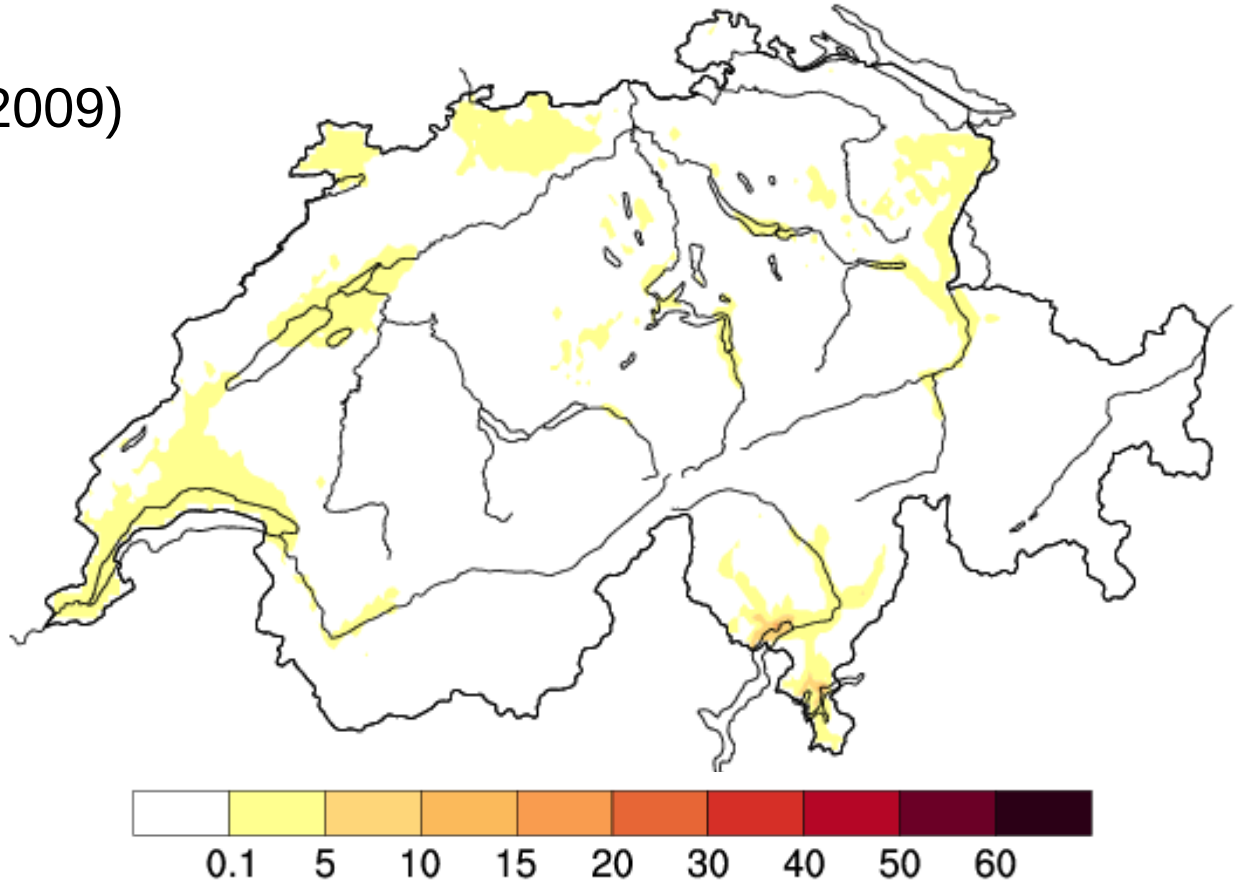


(CH2011, updated)

Regionalisierte Szenarien: Tropennächte

($T_{min} \geq 20°C$)

Heute
(1980-2009)



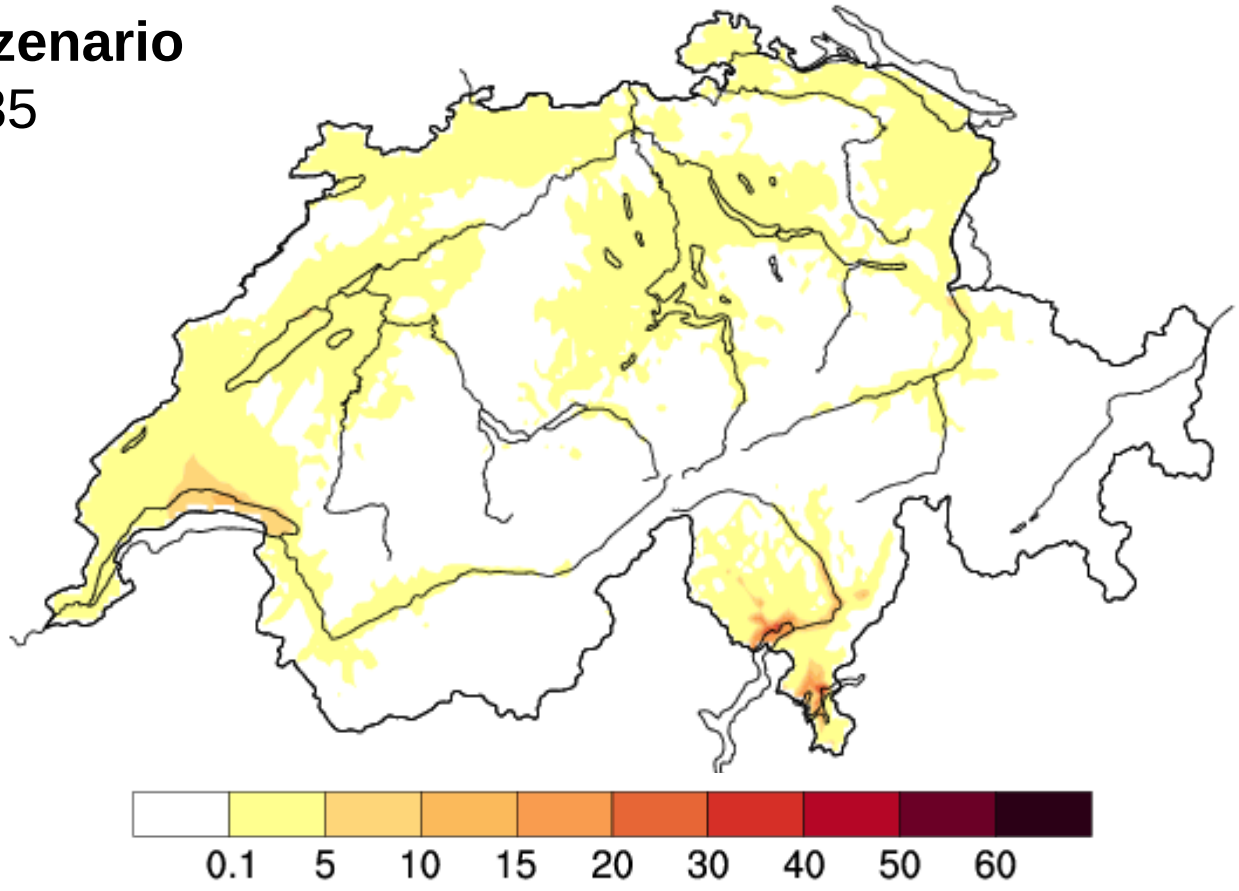
Mittlere Anzahl Tropennächte pro Jahr

Zubler et al., submitted

Regionalisierte Szenarien: Tropennächte

($T_{min} \geq 20°C$)

A1B-Szenario
um 2035



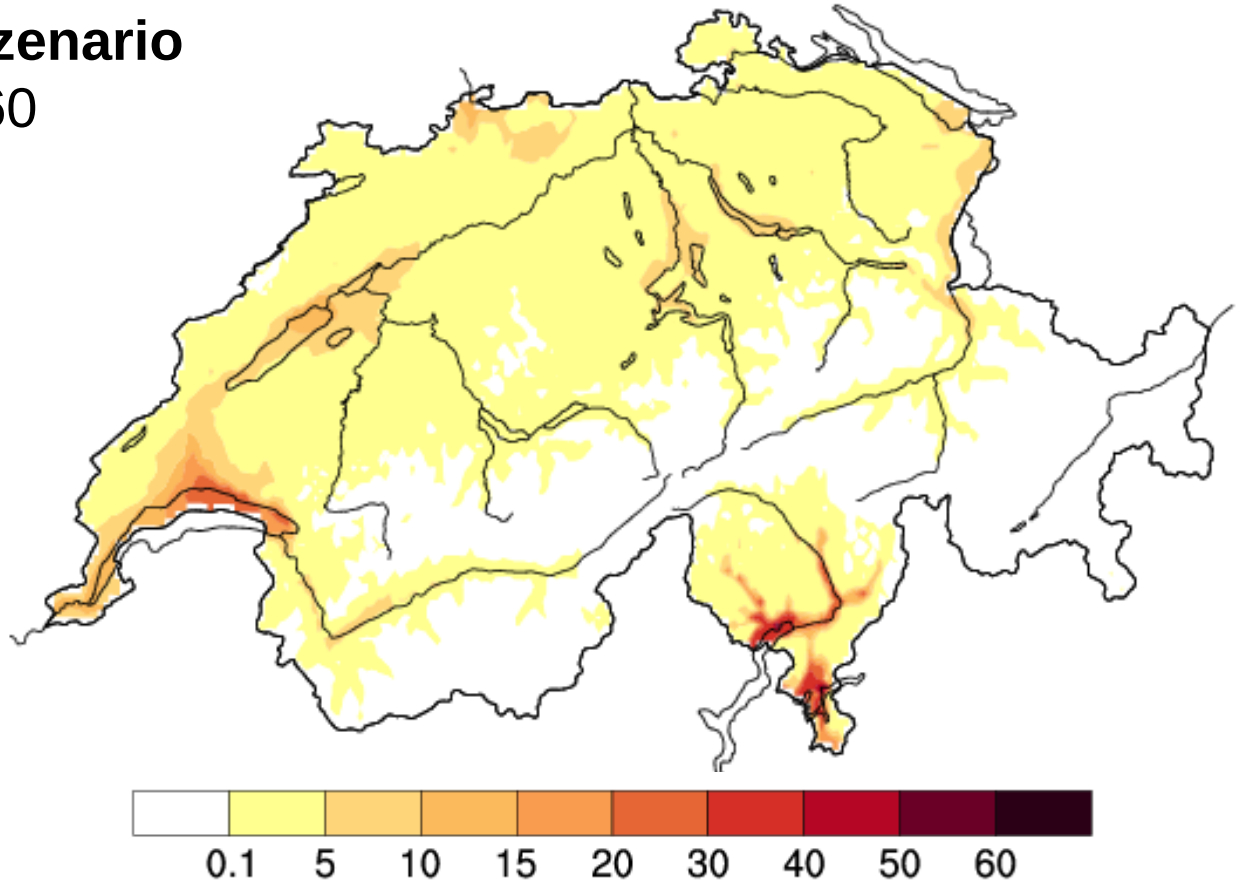
Mittlere Anzahl Tropennächte pro Jahr

Zubler et al., submitted

Regionalisierte Szenarien: Tropennächte

($T_{min} \geq 20°C$)

A1B-Szenario
um 2060



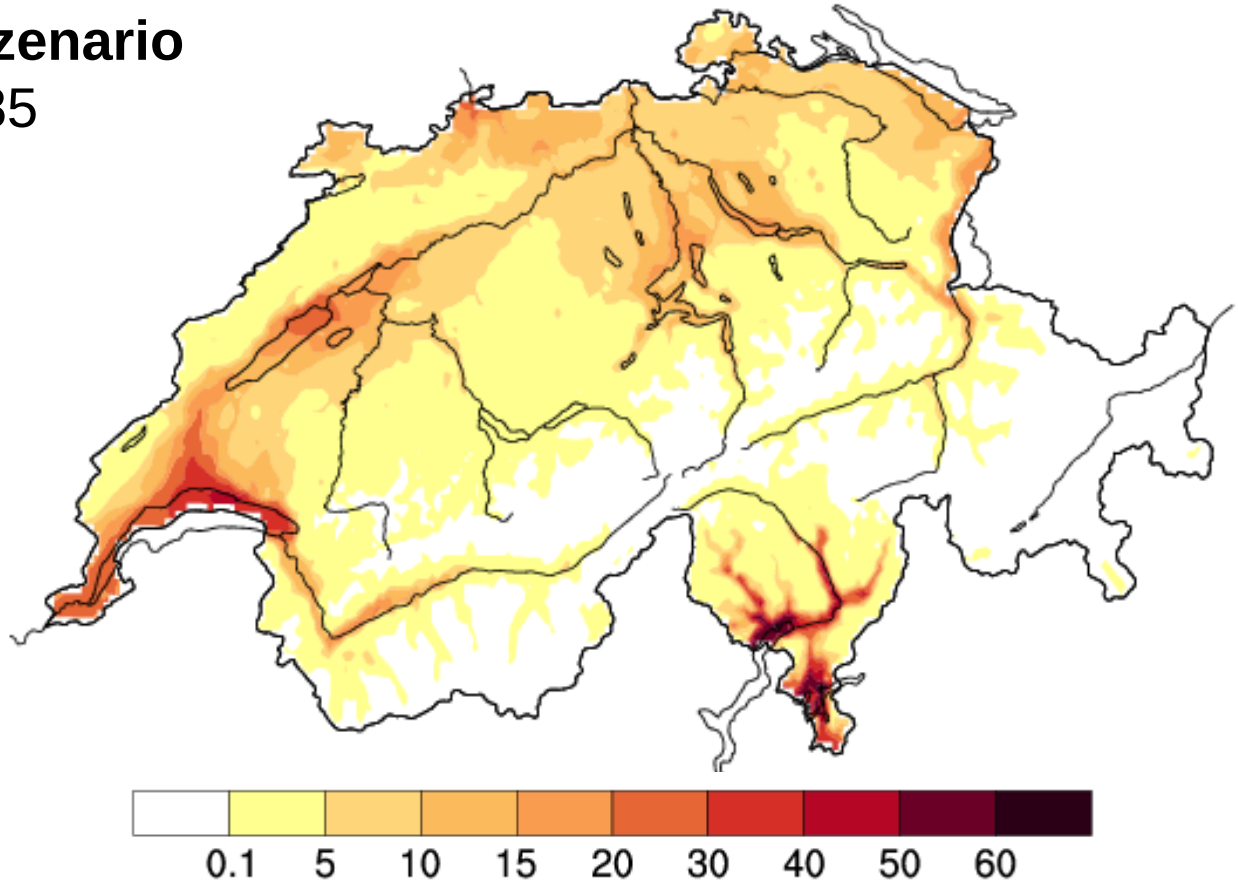
Mittlere Anzahl Tropennächte pro Jahr

Zubler et al., submitted

Regionalisierte Szenarien: Tropennächte

($T_{min} \geq 20°C$)

A1B-Szenario
um 2085



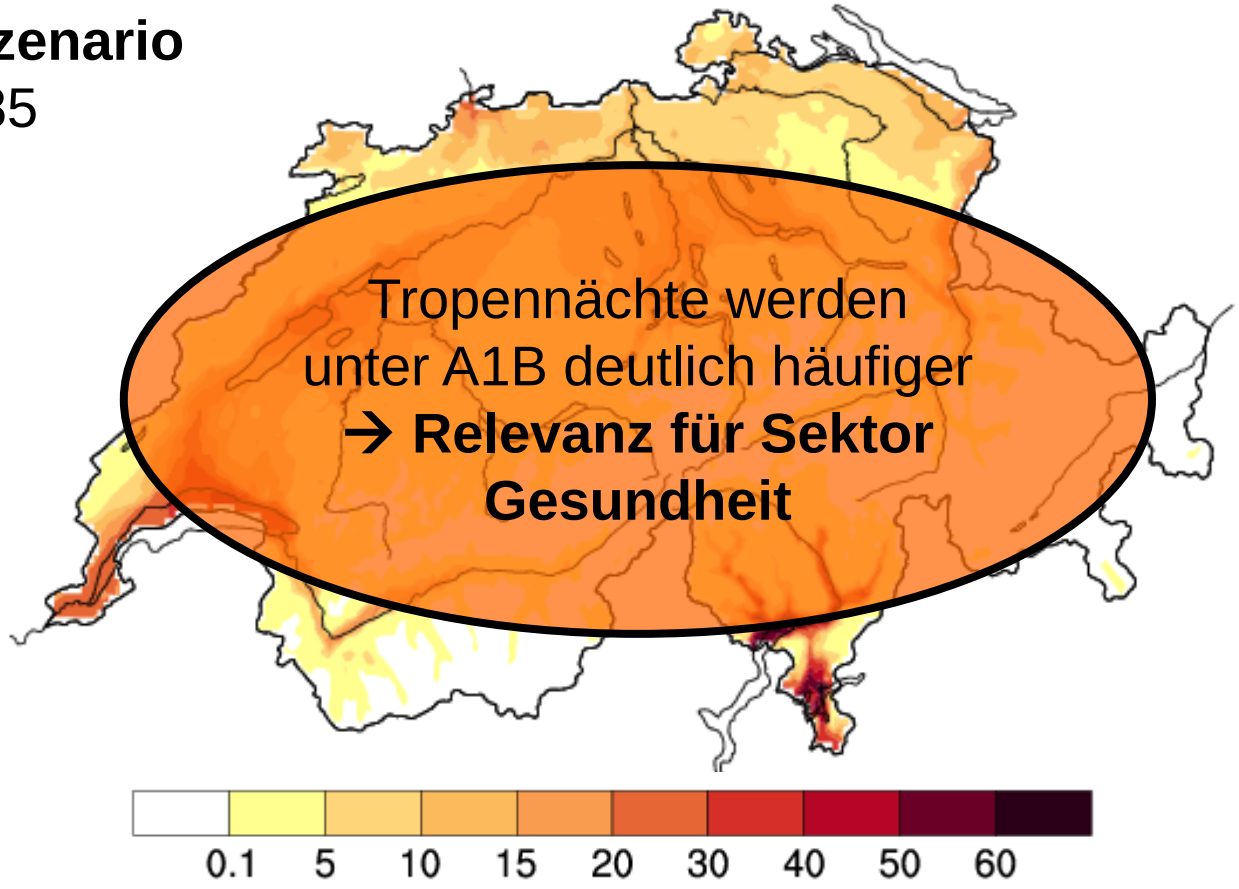
Mittlere Anzahl Tropennächte pro Jahr

Zubler et al., submitted

Regionalisierte Szenarien: Tropennächte

($T_{min} \geq 20°C$)

A1B-Szenario
um 2085

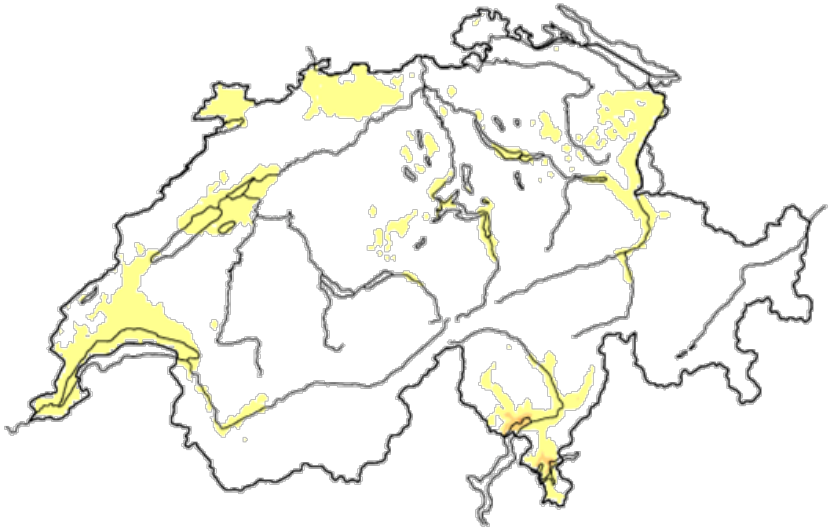


Mittlere Anzahl Tropennächte pro Jahr

Zubler et al., submitted

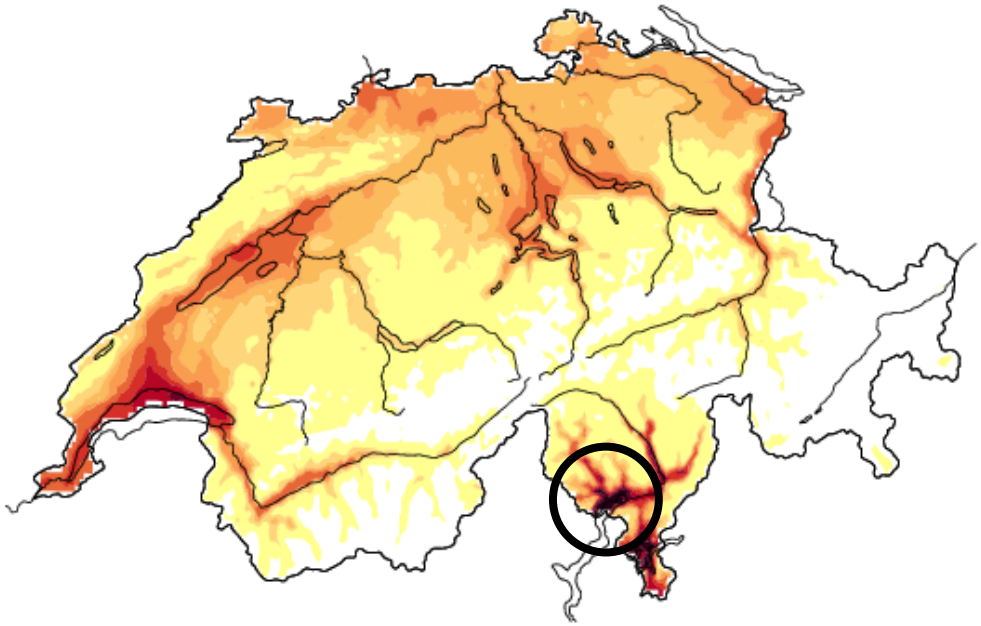
Aber…

das Emissionsszenario ist entscheidend



Situation heute

A2
«Keine Intervention»



<u>Beispiel Lago Maggiore:</u>

→ **A2:** > 60 Tropennächte

→ **RCP3PD:** 20-30 Tropennächte

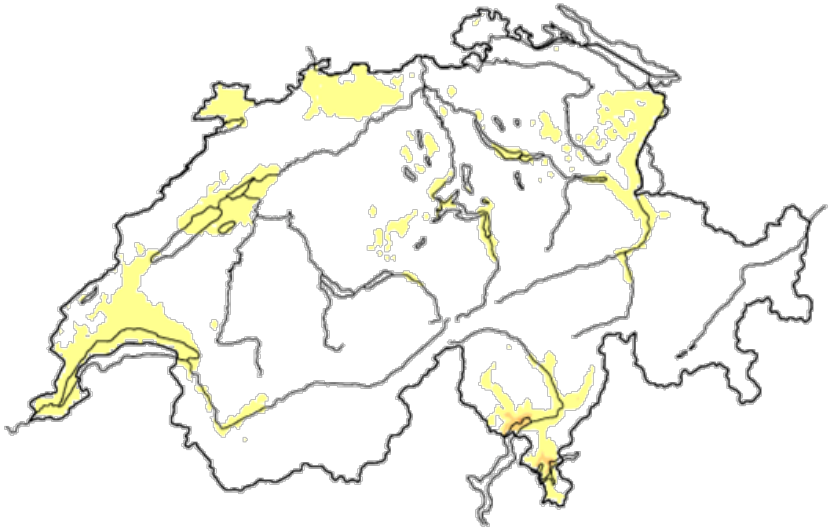
Anzahl Tropennächte



Zubler et al., submitted

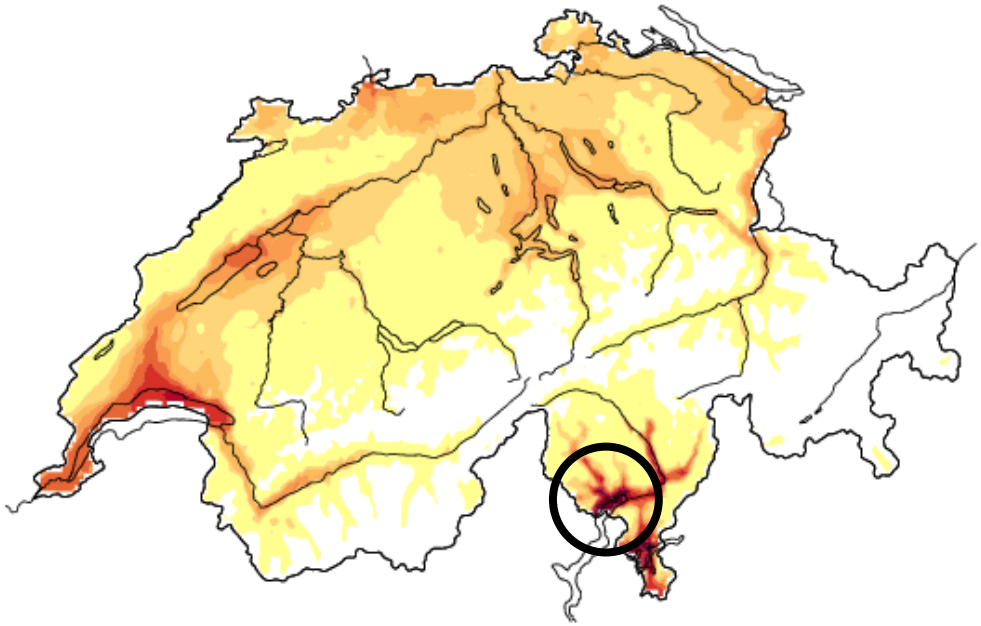
Aber…

das Emissionsszenario ist entscheidend



Situation heute

A1B
«Keine Intervention, aber technologischer Fortschritt»



<u>Beispiel Lago Maggiore:</u>

→ **A2:** > 60 Tropennächte

→ **RCP3PD:** 20-30 Tropennächte

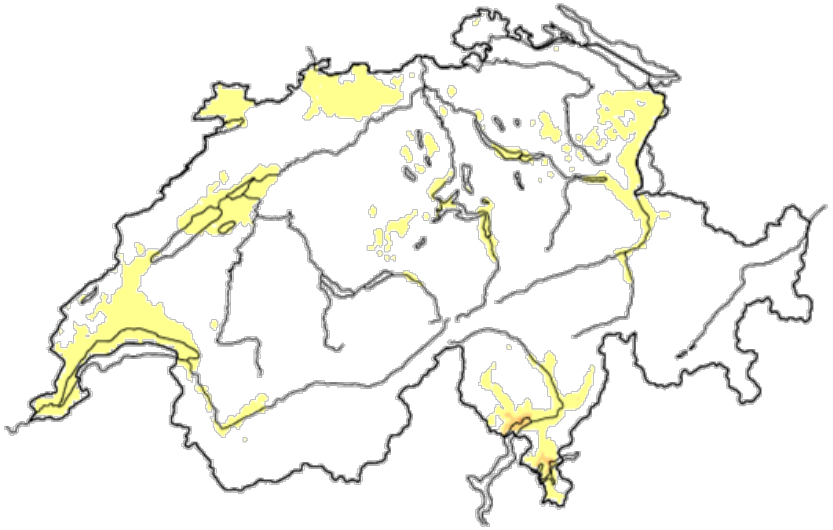
Anzahl Tropennächte



Zubler et al., submitted

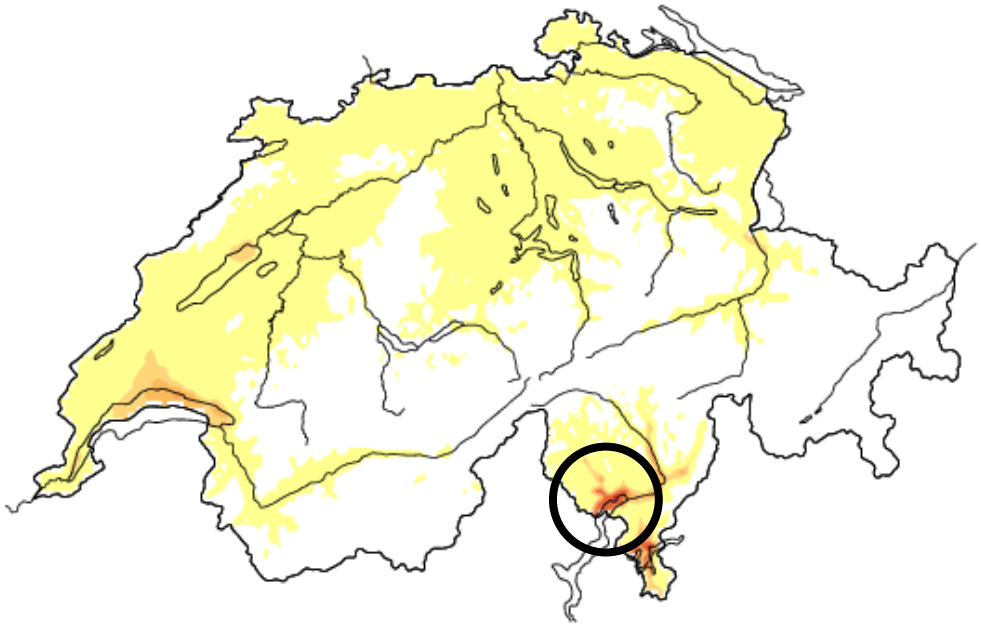
Aber…

das Emissionsszenario ist entscheidend



Situation heute

RCP3PD
«Massnahmen gegen Klimaänderung»

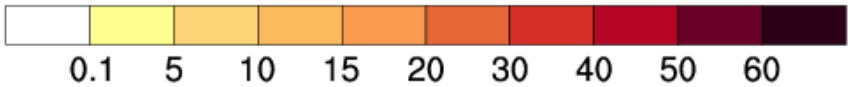


<u>Beispiel Lago Maggiore:</u>

→ **A2:** > 60 Tropennächte

→ **RCP3PD:** 20-30 Tropennächte

Anzahl Tropennächte



Zubler et al., submitted

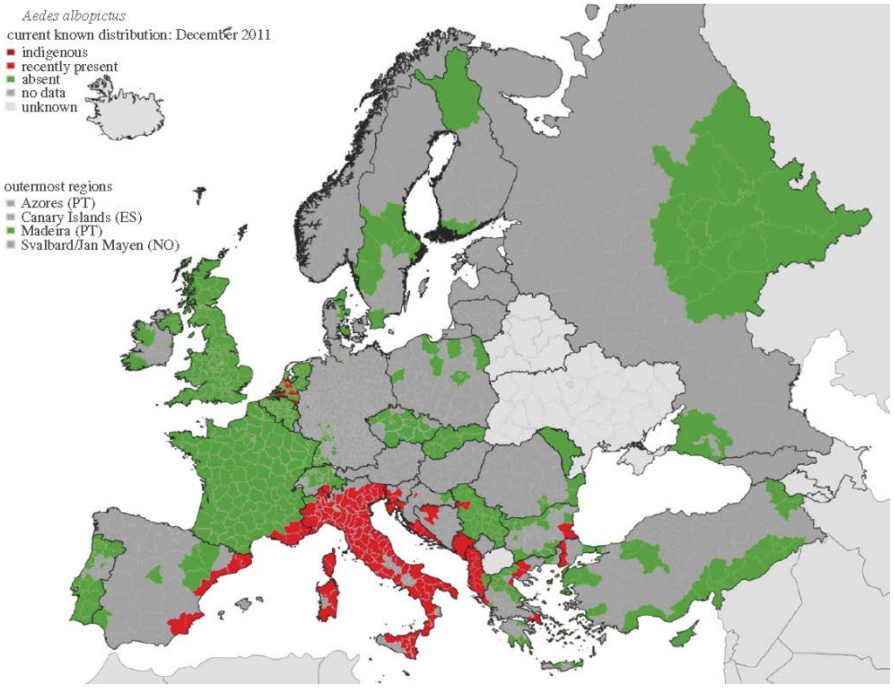
Overwintering of Asian Tiger Mosquito *(Aedes albopictus)*



- Vector (carrier) for infectuous diseases such as dengue fever, West Nile fever, et al.
- Brought to Europe by transportation of their highly resistant eggs, mostly found in used tyres and plants
- Suitability of habitate of A. albopictus is a function of temperature, humidity and radiation; overwintering is parameterized by January temperatures and annual rainfall (Caminade et al. 2012, Medlock et al. 2012)

- High suitability: T>2°C, AR>700mm, value: 4
- Unsuitable: T<0°C, AR<500mm, value: 1



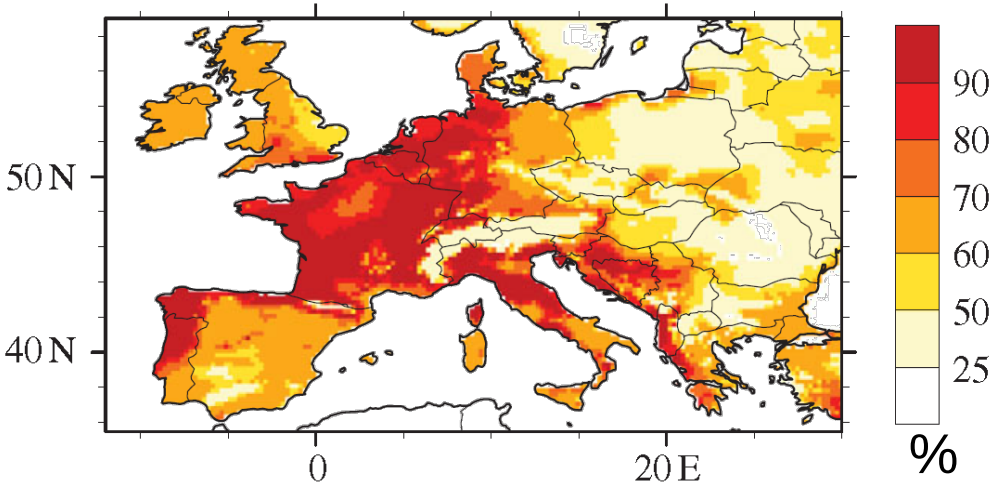


ENSEMBLES multi-model mean suitability (90%) of habitate for A. albopictus (taking survival in summer and overwintering into account)

→ High suitability (%) in parts of Europe

- Red areas: A. albopictus is indigenous or was recently detected
- Green: Absent
- Gray: no data

Scenario A1B, 2030-2050



Source: Caminade et al. (2012)

Overwintering of Asian Tiger Mosquito *(Aedes albopictus)*



- A. albopictus may survive most winters in the Swiss lowlands and the Ticino at the end of the 21st century, at least in A2 and A1B!

Today
(1980-2009)

A1B scenario
(around 2085)

