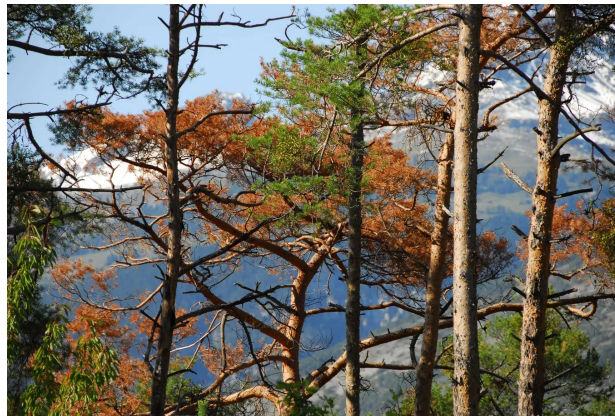


IMPACTS DES CHANGEMENTS CLIMATIQUES SUR LES FORÊTS EN SUISSE

AUSWIRKUNGEN DES KLIMAWANDELS AUF DIE WÄLDER IN DER SCHWEIZ



WSL (Marcus Schaub)

Léonard Schneider

Université de Neuchâtel, Institut de géographie / Universität Neuenburg, Geographisches Institut
Institut fédéral de recherches WSL / Eidg. Forschungsanstalt für Wald, Schnee und Landschaft WSL



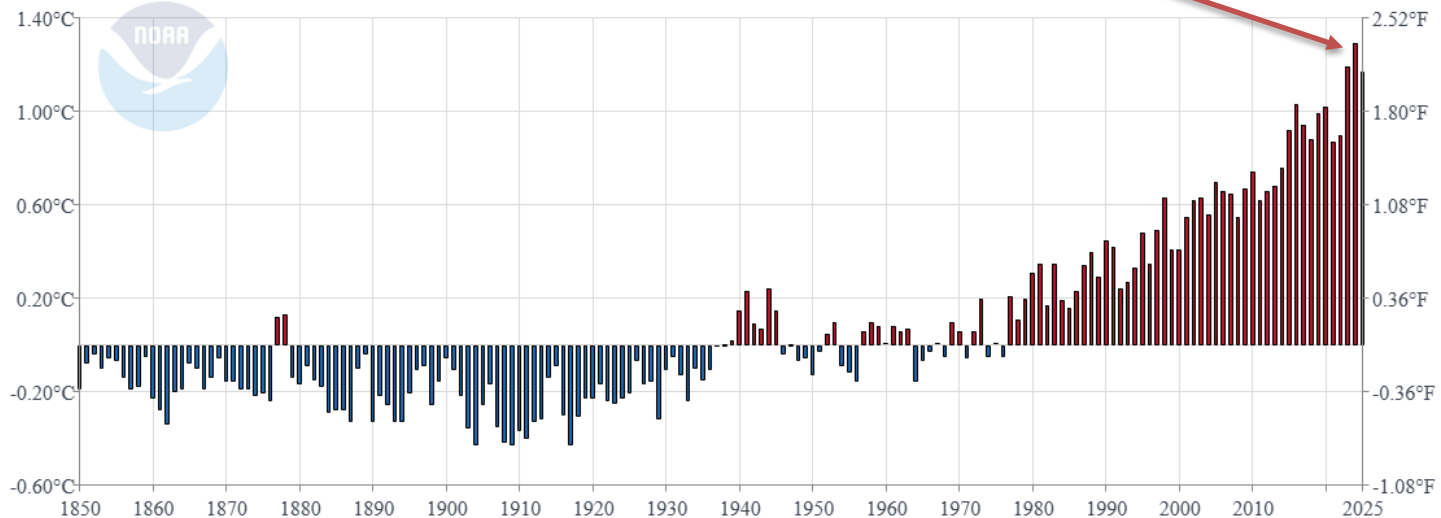
SITUATION CLIMATIQUE / KLIMATISCHE SITUATION

Échelle mondiale : environ + 1.3°C depuis le début du XXe siècle /
Weltweit: etwa +1.3°C seit Beginn des 20. Jahrhunderts

2024 : pour la 1^{ère} fois au-dessus de +1.5°C / 2024: Zum ersten Mal über +1.5 °C

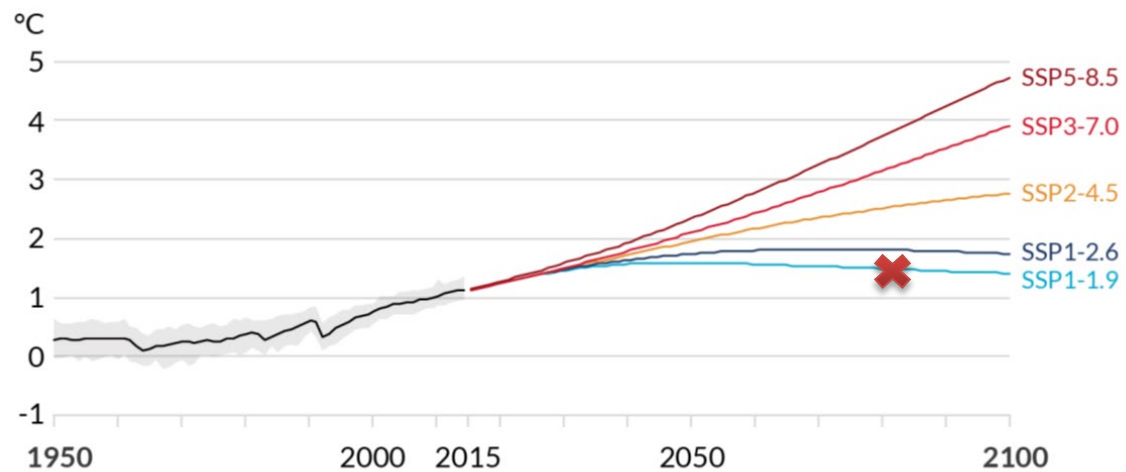
Global Land and Ocean Average Temperature Anomaly

janvier-décembre



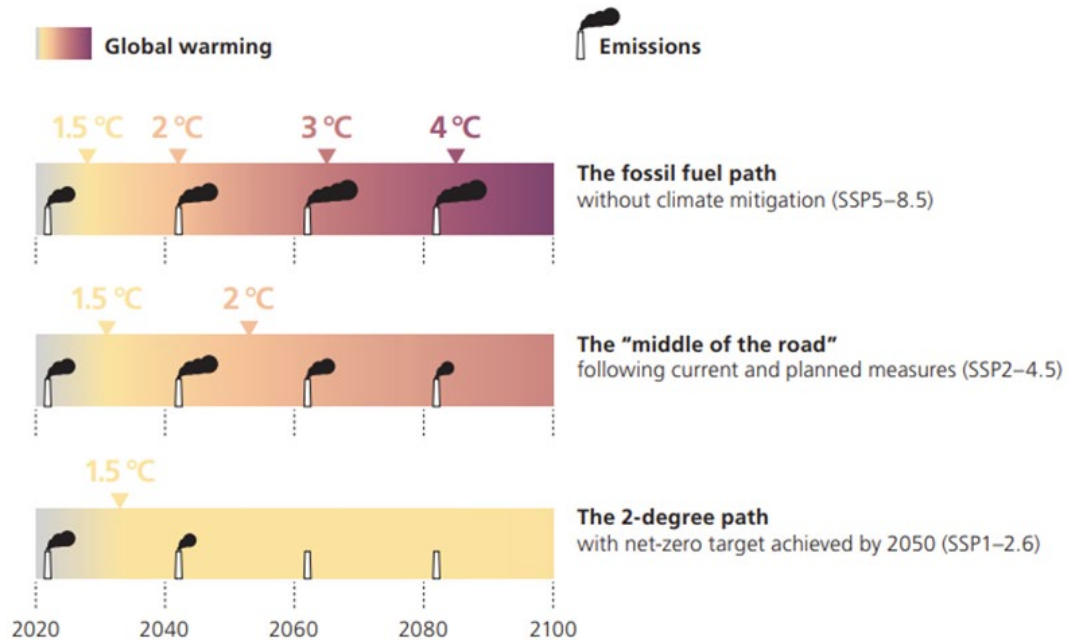
<https://www.ncdc.noaa.gov/cag/time-series/global/>

SCÉNARIOS CLIMATIQUES / KLIMATISCHE SZENARIEN



IPCC 2021

Time of reaching a global warming level



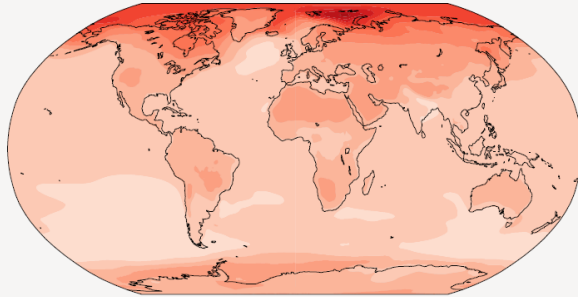
CH2025, EPFZ / MétéoSuisse

SPATIALISATION / TEMPERATURANSTIEG GLOBAL

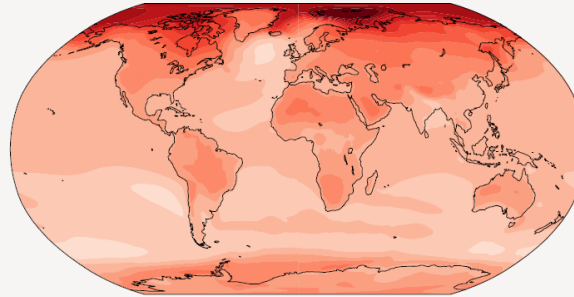
b) Annual mean temperature change (°C) relative to 1850-1900

Across warming levels, land areas warm more than oceans, and the Arctic and Antarctica warm more than the tropics.

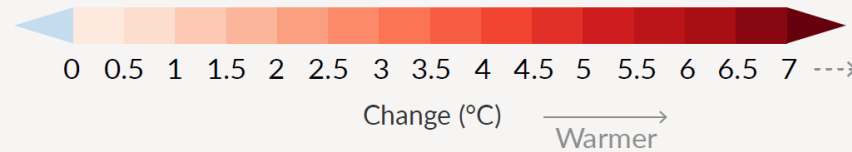
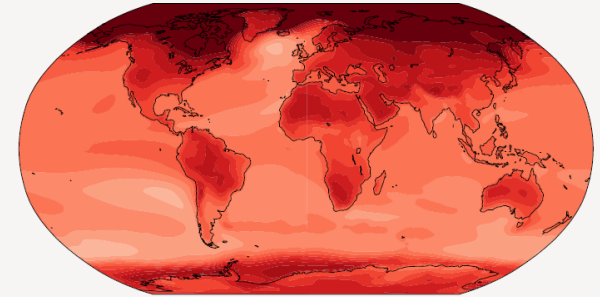
Simulated change at 1.5 °C global warming



Simulated change at 2 °C global warming

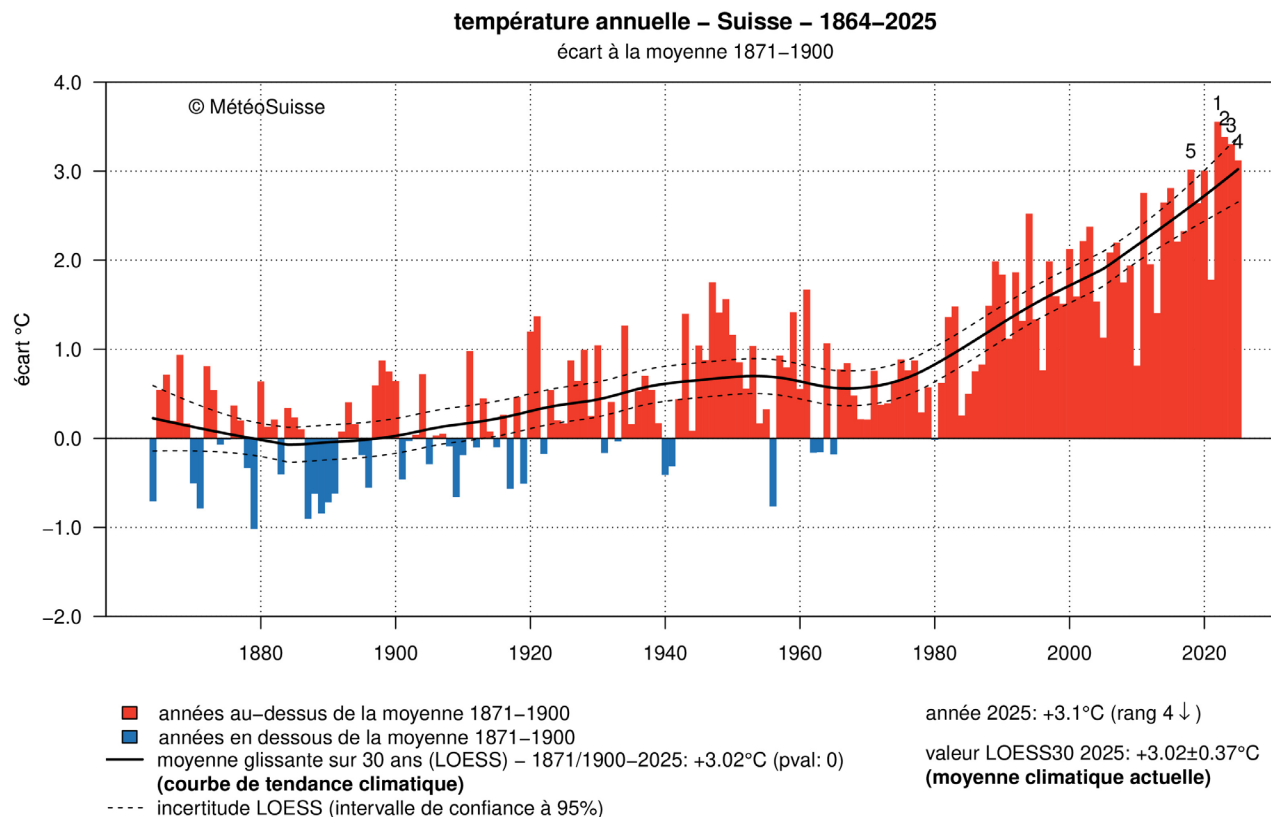


Simulated change at 4 °C global warming



IPCC 2021

ÉVOLUTION EN SUISSE / TREND IN DER SCHWEIZ

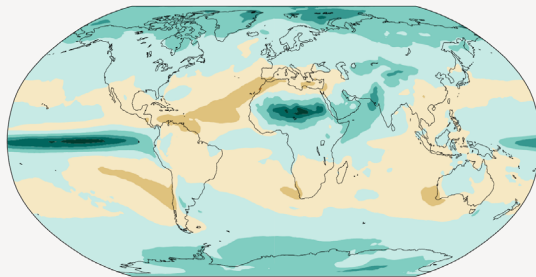


PRÉCIPITATIONS / NIEDERSCHLÄGE

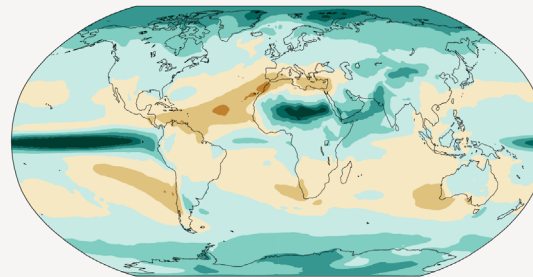
c) Annual mean precipitation change (%) relative to 1850-1900

Precipitation is projected to increase over high latitudes, the equatorial Pacific and parts of the monsoon regions, but decrease over parts of the subtropics and in limited areas of the tropics.

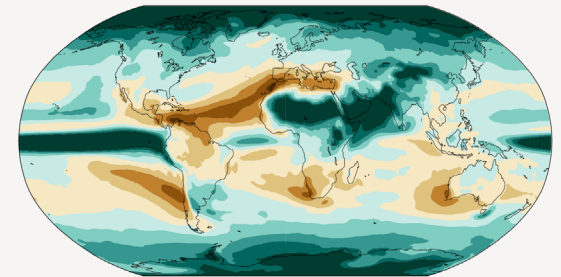
Simulated change at 1.5 °C global warming



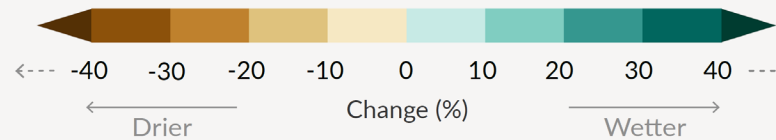
Simulated change at 2 °C global warming



Simulated change at 4 °C global warming



Relatively small absolute changes may appear as large % changes in regions with dry baseline conditions



IPCC 2021

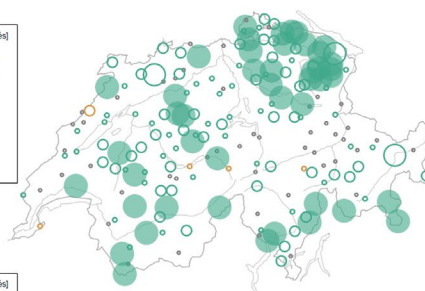
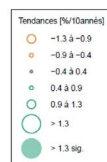
FORTES PRÉCIPITATIONS / HEFTIGE NIEDERSCHLÄGE



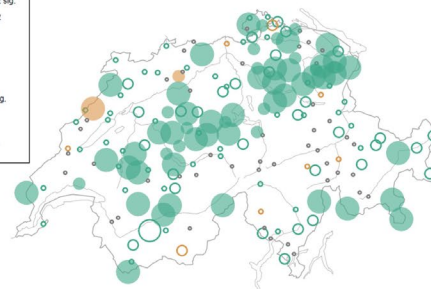
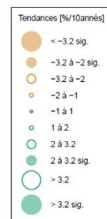
**Fortes
précipitations**

Scherrer et al, 2024

Observations 1901-2025

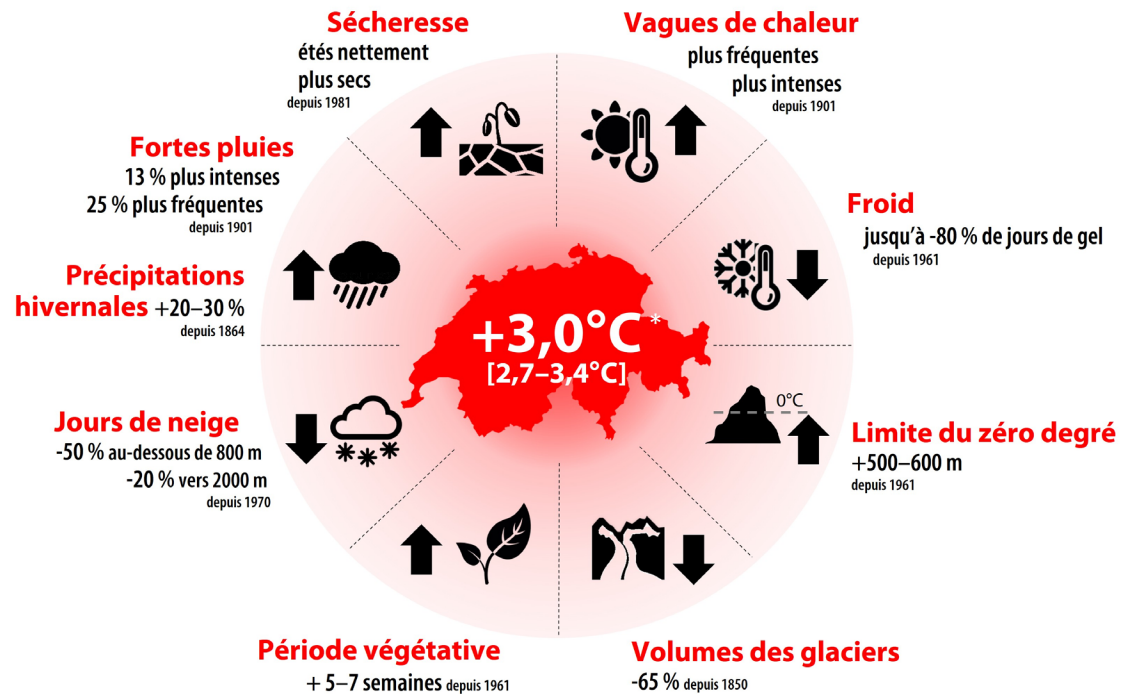


**+13%
plus
intenses**



**+25%
plus
fréquentes**

IMPACTS EN SUISSE / AUSWIRKUNGEN IN DER SCHWEIZ



© MétéoSuisse
état en janvier 2026

* moyenne climatique 2025 moins Ø 1871–1900

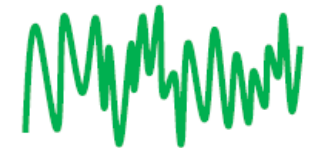


IMPACTS SUR LA VÉGÉTATION / AUSWIRKUNGEN AUF DIE PFLANZENWELT

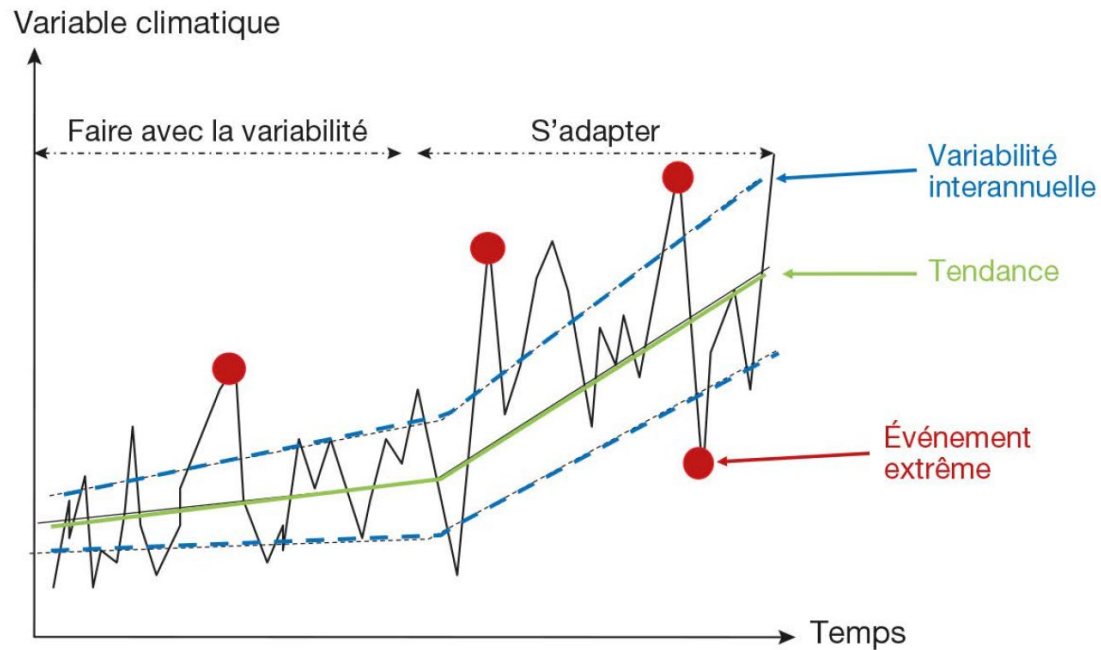
➤ Tendances à long-terme / langfristige Trends



➤ Intensification des extrêmes / Intensivierung der Extreme



INSTABILITÉ CLIMATIQUE / KLIMATISCHE INSTABILITÄT



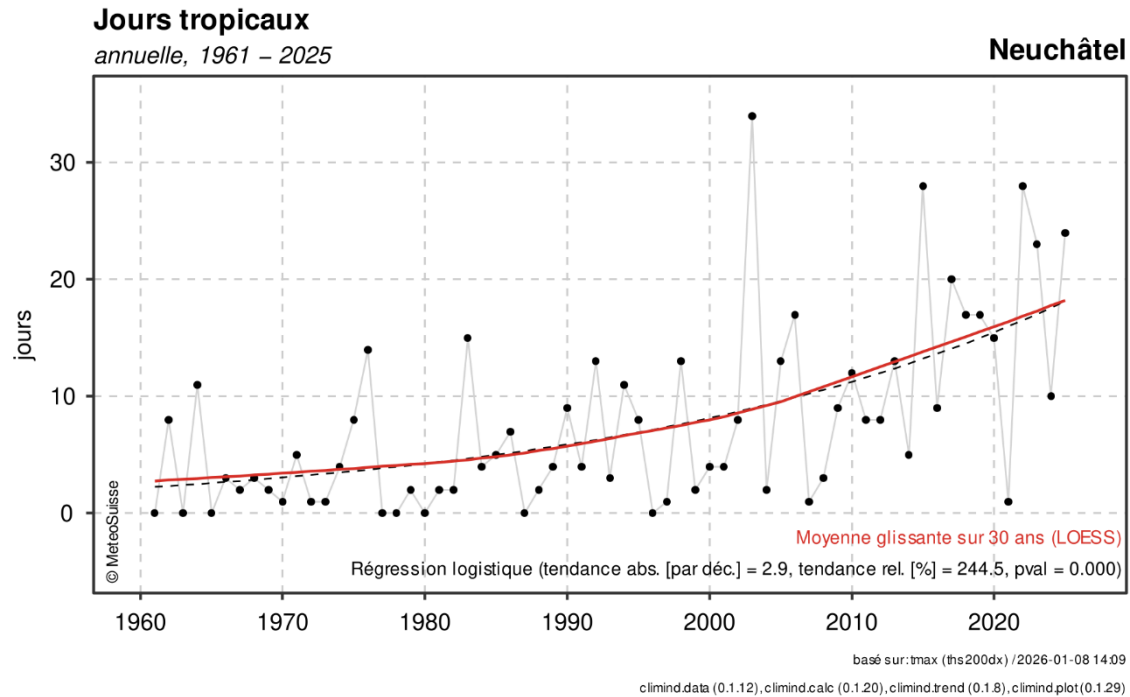
Debaeke et al, 2025

SÉCHERESSES & CANICULES / DÜRREN & HITZEWELLE



Ajoie, 2019. Valentin Queloz, WSL

CANICULES / HITZETAGE



MétéoSuisse



FEUX DE FORÊT / WALDBRÄNDE




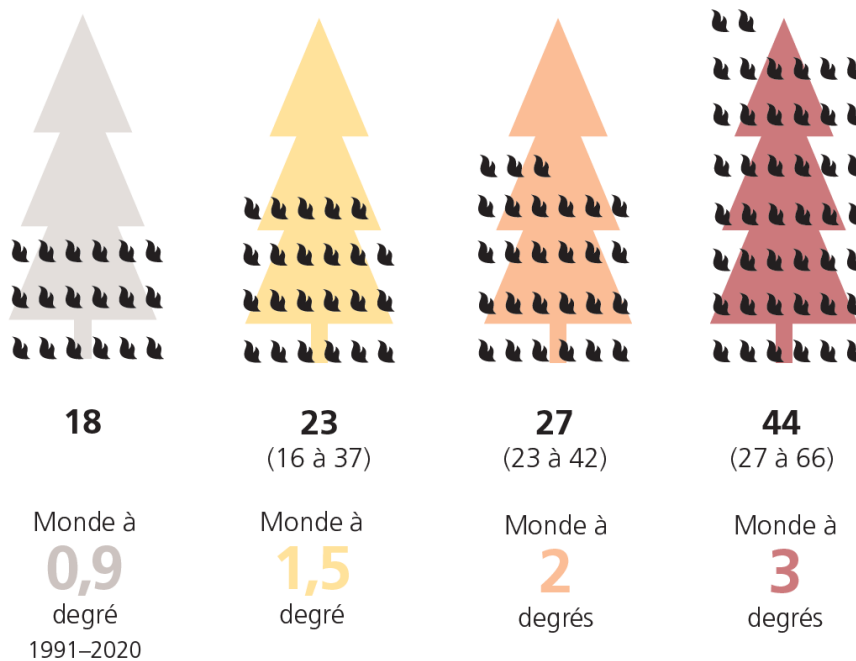
Bitsch, 2023. Jean-Christophe Bott



Leuk, 2003. Martine Rebetez

RISQUE DE FEU DE FORÊT / WALDBRANDGEFAHR

 Jours avec un risque élevé d'incendie de forêt dû aux conditions météorologiques



Sion - CH2025, EPFZ / MétéoSuisse

TEMPÊTES HIVERNALES / WINTERSTÜRME

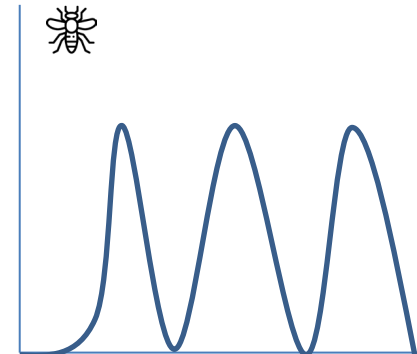
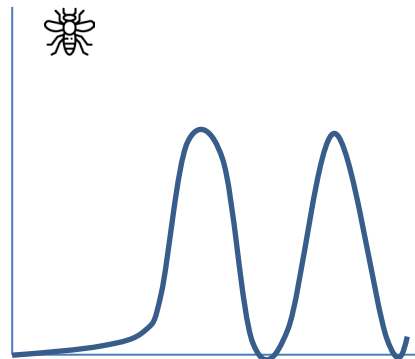


Obwald, 1999. Reinhard Lässig, WSL

INSECTES RAVAGEURS / SCHÄDLINGE



Beat Wermelinger



ESPÈCES INVASIVES / GEBIETSFREMDE ARTEN

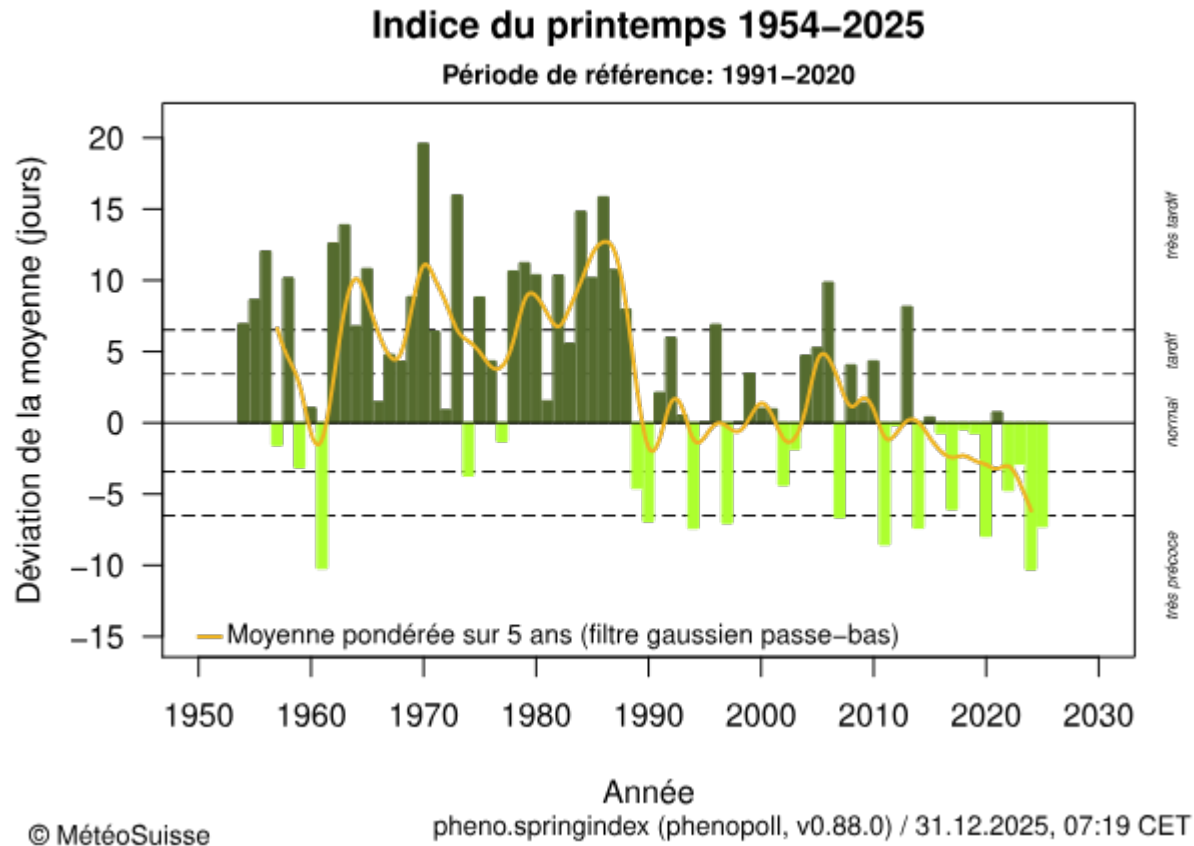


Didier Descouens



Tessin, Michael Reinhard

PHÉNOLOGIE / PHÄNOLOGIE



GEL PRINTANIER / FRÜHLINGSFROST

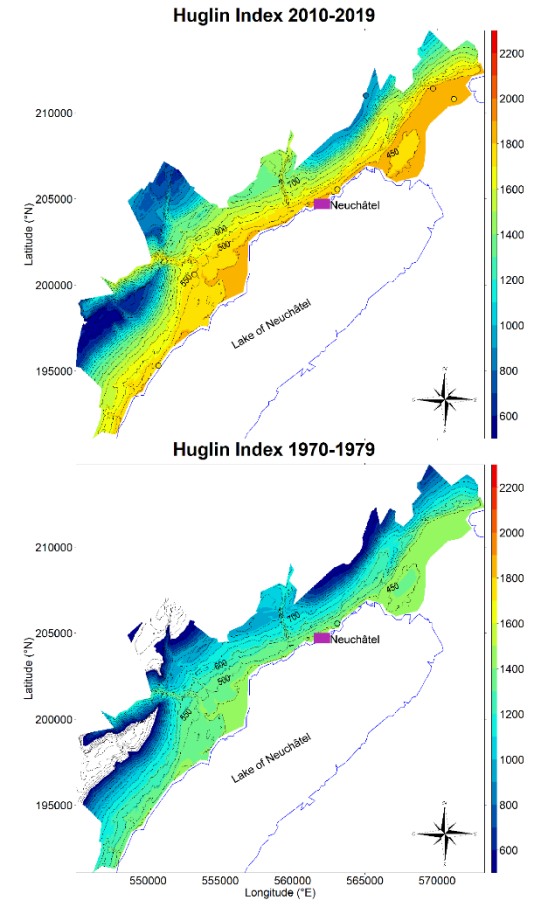


Valais, 2016. Carole Parodi

TENDANCES À LONG-TERME / LANGFRISTIGE TRENDS



Valentin Comte et al

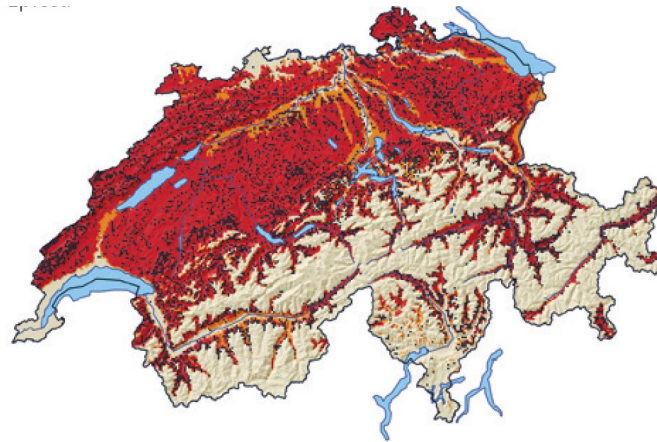


DISTRIBUTION POTENTIELLE / POTENZIELLE VERBREITUNG

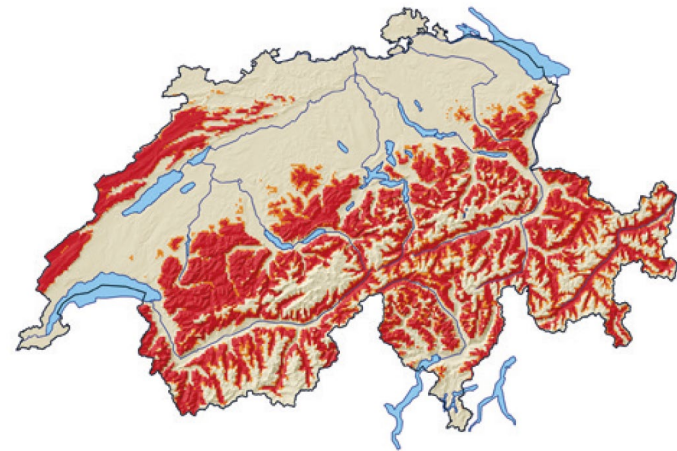
Épicéa / Fichte



1950-2000



2050-2080



PorTree, Niklaus Zimmermann, 2016

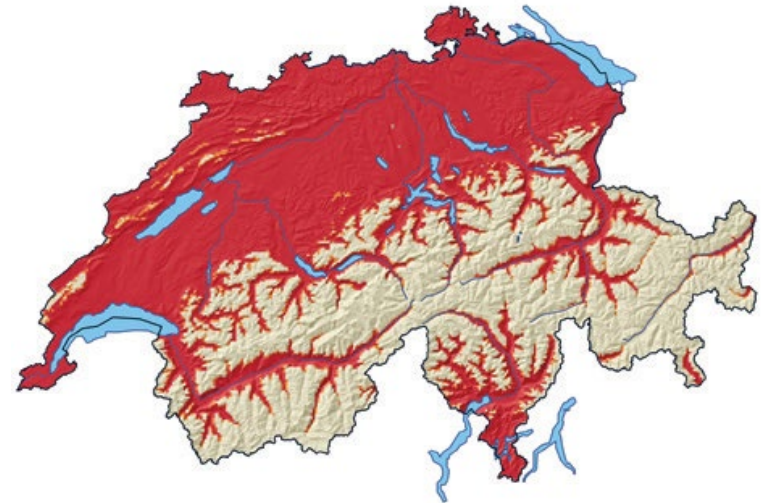
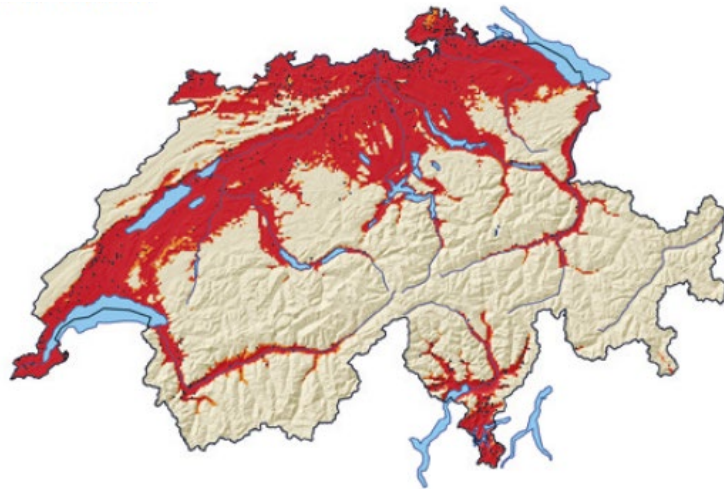
DISTRIBUTION POTENTIELLE / POTENZIELLE VERBREITUNG

Chêne sessile / Traubeneiche



1950-2000

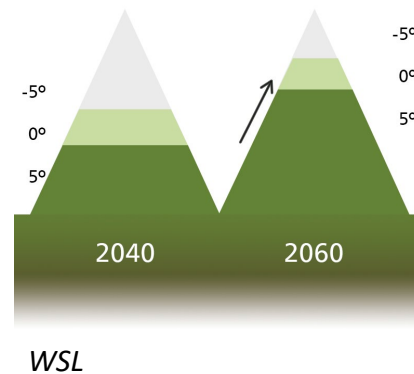
2050-2080



PorTree, Niklaus Zimmermann, 2016

SYNTHÈSE / ZUSAMMENFASSUNG

- Décalage des aires de répartition en altitude / Verschiebung der Verbreitungsgebiete in grössere Höhenlagen
- Combinaison de pressions directes et indirectes liées aux extrêmes climatiques / Kombination aus direkten und indirekten Druckfaktoren durch Wetterextreme



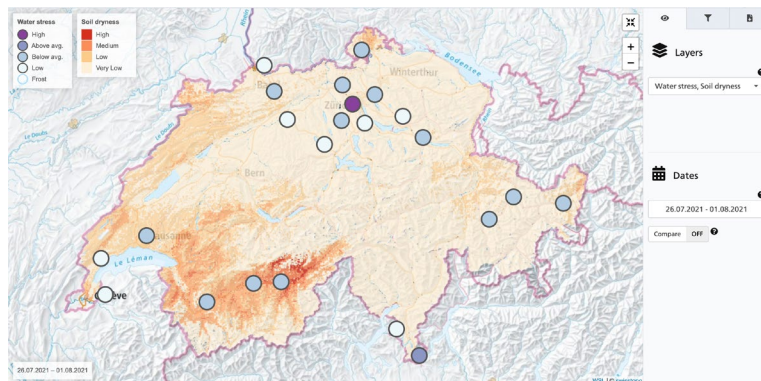
MOYENS D'ACTION / HANDLUNGSMITTEL

- Adaptation & atténuation / Anpassung & Abschwächung

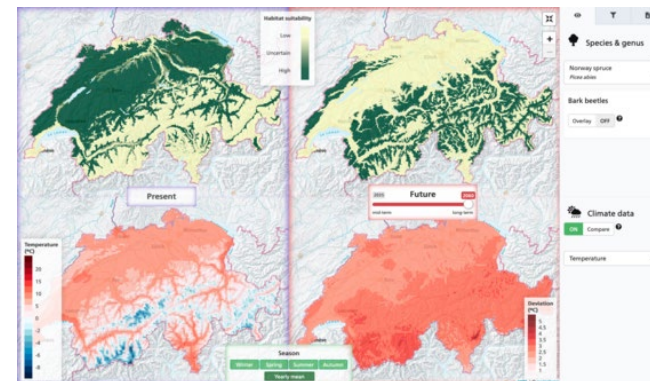


ADAPTATION / ANPASSUNG

- Favoriser la diversité des essences / Förderung der Vielfalt der Baumarten
- Favoriser des essences de basse altitude et de climats méridionaux / Bevorzugung von Baumarten aus niedrigeren Lagen und südlichem Klima
- Contrôle de l'expansion des ravageurs / Kontrolle der Ausbreitung von Schädlingen
- Recherche : observation, expérimentation & transferts des connaissances / Forschung: Beobachtung, Experimente & Wissenstransfer



Forte App



TreeApp



VITESSE / GESCHWINDIGKEIT



RÉGÉNÉRATION / REGENERATION



Val-de-Travers, Alix Mercier

MERCI POUR VOTRE ATTENTION / DANKE FÜR IHRE AUFMERKSAMKEIT !



Ken Billington