



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation



# National Centre for Climate Services NCCS

---

Consciously addressing the climate of today  
and tomorrow: promoting dialogue and jointly  
developing and coordinating solutions.





# NCCS: the network for climate services

**Climate services comprise scientific information and data on the climate of the past, present and future, as well as its consequences. These services serve as the basis for decision-making that takes account of climate issues. Climate services can help the government, political and business sectors and society to minimise climate-related risks, recognise opportunities and optimise benefits and costs.**

The NCCS coordinates the development and propagation of these climate services. Acting as an interface between producers and users, the NCCS encourages dialogue and fosters the collaborative development of climate services. In this way the Centre ensures that its work is focused on the needs of the users. Moreover, the NCCS provides its climate services in a userfriendly format.

The parties involved in the NCCS include the Federal Office of Meteorology and Climatology MeteoSwiss, the Federal Office for the Environment (FOEN), the Swiss Federal Office for Civil Protection (FOCP), the Federal Office for Agriculture (FOAG), the Swiss Federal Institute of Technology in Zurich (ETH Zurich) and the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL). The Centre has been in operation since autumn 2015.

The Federal Government established the NCCS in response to the recommendations of the Global Framework for Climate Services (GFCS) issued by the World Meteorological Organisation (WMO).

The NCCS prepares answers to these and other questions:

## ⚠️ Coping with natural hazards

- Will it rain more and will we therefore have bigger floods?
- What does this mean for my town?

## ❤️ Health sector

- How much worse will the heat waves get?
- What does this mean for the population?

## 🌿 Agricultural sector

- Will there be more pressure from pests in the fruit, wine and crop farming sectors?
- What does this mean for crop protection?

## ☀️ Energy sector

- Is the roof of my house suitable for solar panels?

## 🌲 Forestry sector

- Which tree species should we promote today?
- Which species have a good wood yield and provide a good habitat for animals and plants, even in times of higher temperatures and drought?

## 💧 Water resources

- How will water availability change?
- What measures will guarantee sufficient supply of drinking water for all of Switzerland in the future?







## Focus areas

---

**The NCCS develops climate services with several focal topics. Examples include:**

**Climate scenarios** – possible changes to the climate in Switzerland.

Climate scenarios provide a glimpse of the future. They serve as the basis for assessing the impact of climate change. For an area such as Switzerland, spatially highly resolved climate scenarios are needed. These are computed using the latest climate model simulations for Europe, thereby contributing to a joint national database. Climate scenarios are used, for example, as the basis for adjustments to the Federal Government's strategy for climate change. The new generation of climate scenarios CH2018 will be published in 2018 and will replace the current CH2011 climate scenarios.



**Hydrologic cycle** – the impact of climate change on water resources and natural hazards.

Climate change is affecting the entire hydrologic cycle. It changes the volume of water which is available at a specific place and time, both at the surface and underground. Water quality is also affected. These changes have consequences for hydropower generation, water supply, urban drainage, flood protection and the prevention of natural hazards.

If we are to formulate measures to facilitate Switzerland's adjustment to these changes, we need to improve our understanding of the processes of the hydrologic cycle and their development. This demands constant observation of changes to the hydrologic cycle as well as knowledge of the central physical and chemical processes and their interaction in order to develop comprehensive mathematical models of the water balance. These can be used in conjunction with the new climate scenarios to prepare hydrologic scenarios.

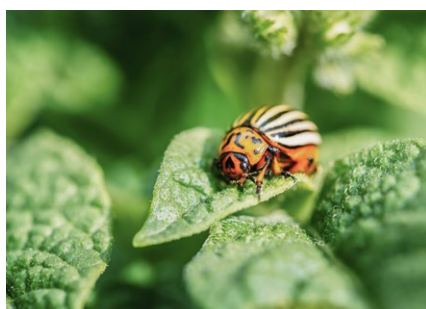




## Forest functions and climate change – the impact of climate change on forest health, the distribution of tree species and the forest as a carbon sink.

The forest has many functions and provides many services such as: soil formation, wood production, carbon capture, regulation of the local climate, protection against natural hazards, habitat for animals and plants, and recreational space for humans. Climate change is affecting the forests. Drought and high temperatures can harm indigenous tree species and increase their mortality. This leads to a change in the forest's composition of species, which also changes its functions and services.

Experts investigate the development of the forest, its functions and the services it provides to society in a changing climate. Building on this they also develop management tools such as early warning systems or proposals for silvicultural measures.



## Harmful organism scenarios – climate change and the possible future development and spread of pests and pathogenic agents in agricultural landscapes.

Climate often plays a decisive role in the proliferation and spread of pests and pathogenic agents. Both the number of generations and the size of an insect population depend primarily on the temperature. Mild winters make it easier for imported pests to establish themselves.

Experts combine climate scenarios with forecast models for individual pests. They simulate the possible future development and spread of pests among crops in Switzerland, thus establishing an important foundation for the development of sustainable crop protection strategies.



## Extreme climatic events and natural hazard processes – how representative scenarios for extreme climatic events can improve civil protection measures.

The interaction between climate change, natural hazard processes, impacts and mitigation of impacts are complex. Scenarios of extreme climatic events help to improve preventative and civil protection measures. These scenarios illustrate how natural hazard processes may play out and how these affect people, the environment, the economy and society. The focus is on extreme hail storms combined with heavy precipitation.





## User-interfaces

---

**The NCCS links the producers and users of climate services through various channels. These include the web portal of the NCCS ([www.nccs.ch](http://www.nccs.ch)), the Climate Services Forum, user group-specific workshops and other existing channels.**

Scientifically sound and comprehensible: the NCCS publishes climate services and background information on its web portal. The Climate Services Forum, a regular networking event, also provides information on climate services.

During these events, producers and users of climate services meet and discuss their ideas, needs and options. This dialogue serves as the foundation for the preparation and further development of the best possible climate services. When needed, the NCCS organises additional workshops for individual sectors such as the agricultural sector, or on specific topics such as climate scenarios.



## Organisation

### Contact

Office of the National Centre for Climate Services NCCS  
Federal Office for Meteorology and Climatology MeteoSwiss  
Operation Centre 1, P.O. Box 257  
CH-8058 Zurich-Airport

[www.nccs.ch](http://www.nccs.ch)

### Members of the NCCS

Federal Office for Meteorology and Climatology (MeteoSwiss)  
Federal Office for the Environment (FOEN)  
Federal Office for Agriculture (FOAG)  
Swiss Federal Office for Civil Protection (FOCP)  
ETH Zurich  
Swiss Federal Institute for Forest, Snow and Landscape Research (WSL)

The climate services are developed by teams of specialists focusing on specific topics. Collaborative work on these focal topics by other institutions is also welcome. Currently, Agroscope, the Research Institute of Organic Agriculture (FiBL), and the University of Berne contribute to these focal topics.



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation

**Federal Office for Meteorology and Climatology (MeteoSwiss)**  
**Federal Office for the Environment (FOEN)**  
**Federal Office for Agriculture (FOAG)**  
**Swiss Federal Office for Civil Protection (FOCP)**

**ETH** zürich

