

Hydrological Yearbook of Switzerland 2021

Discharge, water level and water quality of Swiss waterbodies

Summary of the publication "Hydrologisches Jahrbuch der Schweiz 2021"
www.bafu.admin.ch/uz-2215-d

Summary

Weather

A mild and rainy winter in 2020/21 with large amounts of snow locally was followed by a cold spring and a rainy month of May. The summer north of the Alps was one of the wettest since records began. In contrast to the summer, the autumn was sunny and dry in many parts of the country.

Snow and glaciers

The winter of 2020/21 was marked by several exceptional periods of snowfall. Over the winter as a whole, snow depths were above average in Graubünden, below average in the west of the Swiss Plateau and average in the other regions. The volume of Swiss glaciers also decreased by almost one per cent in 2021, despite heavy snowfall in winter and a rather cool summer.

Discharge conditions, lake levels and water temperatures

Heavy flooding to the north of the Alps in July led to new highest levels in many river basins, which were reflected not only in the peak discharges at some measuring stations, but also in the monthly and annual mean discharges compared to the standard period 1981–2010. Lake levels were also higher in many places than in other years. Water temperatures, however, remained within the normal seasonal ranges throughout the year.

Stable isotopes

The δ -values of the heavy precipitation in January and July 2021 lay within the long-term average for these months. In 2021, the generally increasing δ -value trend was again interrupted.

Groundwater

In a long-term comparison, groundwater levels and spring discharges were high at around one in three monitoring sites in 2021. Following the high levels of precipitation at the beginning of the year and especially the heavy precipitation in July, temporarily high groundwater conditions were recorded at around two thirds of the monitoring sites. Around a third of monitoring sites showed high groundwater temperatures in 2021.

Further information

Detailed information on the topics covered in the Hydrological Yearbook and the FOEN hydrometric monitoring networks and current and historical data can be found online at:

www.bafu.admin.ch/hydrologicalyearbook

Current and historical data:

www.bafu.admin.ch/hydrologicalyearbook

Swiss Water Bodies in a Changing Climate – Hydro-CH2018 Hydrological Scenarios:

www.nccs.admin.ch/hydro

FOEN Hydrological Bulletin:

www.hydrodaten.admin.ch/de/hydro_bulletin.html

FOEN Groundwater Bulletin:

www.hydrodaten.admin.ch/de/grundwasserbulletin.html

Results of the National Groundwater Programme (NAQUA):

www.bafu.admin.ch/hydrologischesjahrbuch

Results of the National River Monitoring and Survey Programme (NADUF) – data download:

<https://opendata.eawag.ch/dataset/naduf-national-long-term-surveillance-of-swiss-rivers-2021-2>

National River Monitoring and Survey Programme (NADUF) – monitoring network:

www.bafu.admin.ch/naduf

Results of the National Surface Water Quality Monitoring Programme (NAWA) in maps:

<https://s.geo.admin.ch/7902c509b7>

National Surface Water Quality Monitoring Programme (NAWA) – monitoring network:

www.bafu.admin.ch/naduf

Monitoring networks for sediment transport in bodies of water:

www.bafu.admin.ch > *Topic Water* > *Data, maps and indicators* > *Monitoring networks* > *Sediment transport*

Water indicators and further information on water:

www.bafu.admin.ch/water