

ETH Zurich → The Swiss Federal Institute of Technology, ETH Zurich, forms a community of 18,000 people from 80 nations who study, do research or are employed there. About 360 professors in 15 departments teach mainly in the technical, mathematical and natural sciences areas and carry out research that is highly valued worldwide.

ETH Zurich has the important task of maintaining and developing its top standing in the international competition among top universities. They fulfil this forward-looking task in service to the Swiss nation as a nationally grounded but internationally oriented institution of higher learning. Twenty-one Nobel Prize winners are connected with ETH Zurich.

Living in Zurich → According to surveys by the consulting firm Mercer, Zurich is the city with the highest quality of living in the world. Switzerland's largest city is considered to be particularly safe and it has a good health care system. Zurich also offers an extensive range of leisure opportunities. The lake appeals to swimmers in summer, the hills around the city to walkers, and winter sports locations are within convenient distances for day trips. For those interested in culture, there are numerous theatres, museums and cinemas. There are restaurants, bars and clubs if you're out and about.

Zurich is an extremely attractive study location. Besides ETH Zurich, the University of Zurich is based here. Zurich also offers other universities and institutions of education.



MASTER

Atmospheric and Climate Science

Master in Atmospheric and Climate Science



Who can apply → The Master programme in Atmospheric and Climate Science at ETH is based on the ETH Earth Science Bachelor programme. Graduates from other programmes at ETH or from other universities in Switzerland or abroad are invited to apply. Further information:

→ www.iac.ethz.ch/education/master

How to apply → The Admissions office of ETH Zurich informs and advises prospective students (graduates of universities in Switzerland other than ETH and from abroad) concerning the admission procedure and the enrolment requirements.

→ www.admission.ethz.ch/master

When to apply → ETH offers two application windows every year. The international application period in late fall is for students requiring a visa for their stay in Switzerland or who wish to apply for an excellence scholarship. The Bologna application period in spring is for students who do not need a visa.

Please check the following website to find detailed schedules:

→ http://www.rektorat.ethz.ch/students/admission/master/how_to_apply/timetable_EN

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ETH
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Swiss Federal Institute of Technology Zurich

Master in Atmospheric and Climate Science

Overall aims → The Master in Atmospheric and Climate Science is designed to provide an in-depth understanding of atmospheric processes and their interactions – ranging in scale from the molecular to the global and from short-lived phenomena to changes over millions of years. You acquire quantitative knowledge on atmospheric dynamics and physicochemical processes and cycles, on the interpretation and prediction of weather and climate and on paleoclimatology (last 10^6 to 10^9 years).

IACETH → The Institute for Atmospheric and Climate Science (IACETH) pursues leading-edge research on atmospheric physics, chemistry and dynamics, and on global and regional climate, and it pioneers activities at the interfaces of these sub-component fields and the interfaces to other disciplines.

→ www.iac.ethz.ch/aboutus



Atmospheric and Climate Science

As a successful candidate in our Master programme you will:

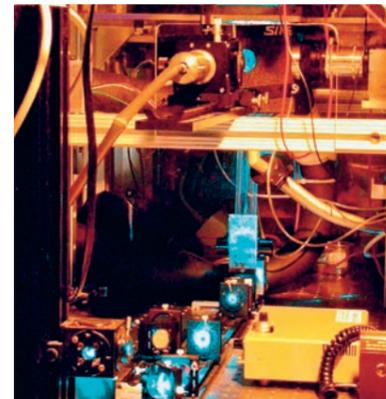
- achieve an in-depth understanding of the past, present and future atmospheric and climate system, as well as of interactions of the atmosphere with the hydrosphere, cryosphere, pedosphere, biosphere and anthroposphere;
- comprehend the fundamental physical, chemical and biological background and be able to apply theoretical concepts that allow a quantification of atmospheric and climatic processes and phenomena;
- be able to design and analyze (statistically and deterministically) field and laboratory experiments;
- learn how to numerically model the observed systems including the essence of prediction, and to exploit and reanalysis data sets.

Successful candidates will be qualified to undertake doctoral studies or apply for positions in public service (in organisations related to weather, climate, air quality, hydrology etc.) or for high-level positions in companies or industry.

→ www.iac.ethz.ch/education/master



Challenging field work in Greenland



Laboratory work: an aerosol particle in a trap

How we run the programme

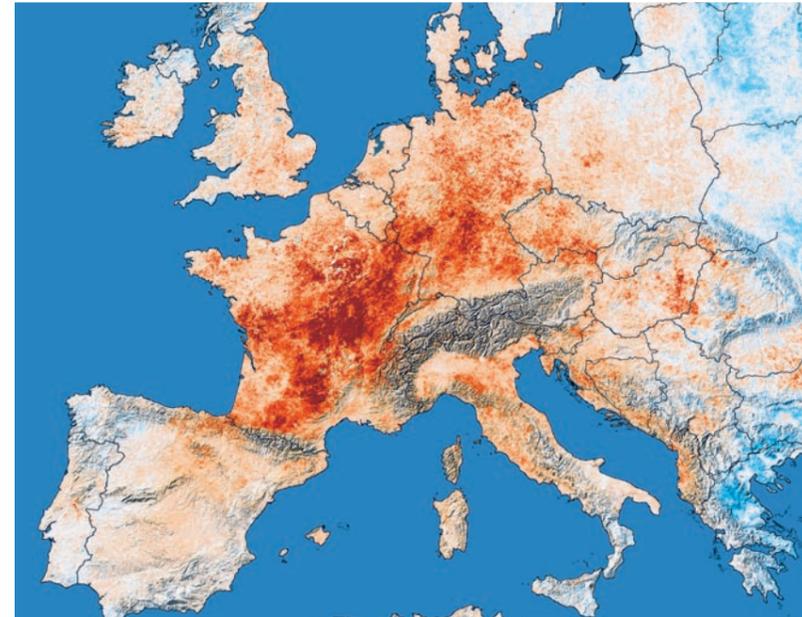
Trem	Intro course	Colloq.	Module courses	Optional courses
1 st trem	1	2	3-15	16-30
2 nd trem	16-18	19	20-27	28-30
3 rd trem	16-18	19	20-27	28-30

The Master programme starts with an introduction course that involves interaction with lecturers and staff of the Institute for Atmospheric and Climate Science (IACETH), with your fellow students and with the master students of the University of Bern. During the first two terms you attend module courses (24 credits) and optional courses (20 credits). Five modules are offered:

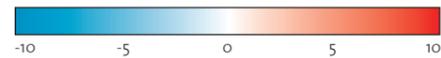
- Weather systems and atmospheric dynamics,
- Climate processes and feedbacks,
- Atmospheric composition and cycles,
- Climate history and paleoclimatology,
- Hydrology and water cycle.

You select three of these five modules and collect a minimum of six credit points in each module by selecting from a list of courses. Via the optional courses you may extend the contents of a module, catch up with missing Bachelor lectures or broaden your education (e.g. through a Minor). During the third term you work on a Master thesis covering 30 credit points. While working on your thesis you will be fully integrated into one of the Institute's research groups. Preparation for this activity will already take place in the second term in specialised courses and training in the use of scientific tools, writing skills, presentation techniques and team work. You conclude the Master thesis by writing a report and by presenting the results to your colleagues in a scientific presentation.

Optional courses → In the Optional courses you take part in several courses or a group of subject pertaining courses, so-called Minors (minor subjects).



Land Surface Temperature difference (K)



The heat wave in summer 2003 as seen from space. Colours indicate temperature anomalies relative to a five-year average (image by Reto Stöckli, IACETH, Robert Simmon and David Herring, NASA Earth Observatory, based on data from the MODIS land team).



«IACETH graduates have been able to integrate seamlessly in our organisation. Their **analytical skills combined with a comprehensive approach to tackling complex problems** give them definite assets in research and industry.»

David N. Bresch, Sustainability and Emerging Risk Management, Swiss Re



«Our students will have an **excellent knowledge in Atmospheric Science** ranging from numerical weather prediction to climate change and air pollution.»

Ulrike Lohmann, Professor for Atmospheric Physics, ETH Zürich.

Admission

Based on your transcript the admission commission of «Atmosphere and Climate» gives recommendations as to which necessary qualifications you have to catch up with. For our Master programme we would like to attract students with solid mathematical, physical, chemical and earth system's basics. At the same time it is important to our research to employ and educate people with different educational backgrounds. In addition to the basic education in mathematics, physics and chemistry of the ETH earth science bachelor programme we would like you to have a good background in the field of «Atmosphere and Climate science» as defined on our website. In case you have to catch up with some of these credits, you can do this within the scope of the optional courses of the Master programme, i.e. you can take credit for these courses as part of your Master studies.

As preparation for the Master thesis you become involved with the research groups from the second term of the programme onwards. In addition, the Master in Atmospheric and Climate Science offers an optional exchange programme with the University of Bern (one day a week) focussing on long-term climate dynamics (10^2 to 10^6 years).