How is it being a weather and climate researcher? What is weather and climate and why is this important for us?

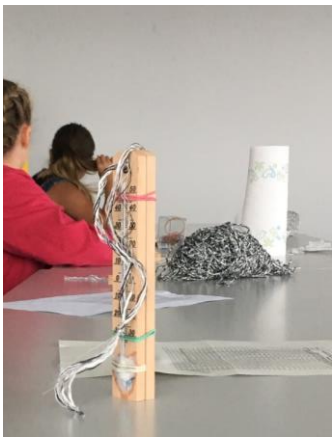
On 20 July 2017 a group of 18 girls between 10 and 13 years took part in an experiment day at the Institute for Atmospheric and Climate Science at ETH Zurich, Switzerland. The program was advertised at ProJuventute and supported by ETH gender equality office Equal! while organized by the BACCHUS Project Management Office.

The program contained multiple workshops as well as short interactive presentations with experts from the research field: After a welcome from ETH Equal! gender equality office, the girls listened carefully to the presentation by PhD student Larissa Lacher on “What is weather?”. The girls were introduced into the work of meteorologists and climatologists and learned why weather is important to us. During the interactive presentation, the children were able to ask questions and made their guesses in the weather and climate quiz, e.g., what the coldest/warmest temperatures measured on the Earth’s surface are.

Picture 1: Introductory presentation by PhD Student Larissa Lacher on «What is weather?»

The presentation was followed by the first block of experiments, which were conducted in three groups. These were:

- Radar: What is it and can we find out if it will rain later today? Analysing the real-time observations from the IACETH building roof top
- Measuring relative humidity with a self-built hygrometer
- What is air pressure? Measuring an air pressure difference with a self-built barometer in the IACETH building.



Picture 2: Building a hygrometer to measure the relative humidity of the air.

After a lunch break in the ETH Mensa and some climate games, Prof. Ulrike Lohmann started the afternoon with a presentation on "What is climate?". Three additional workshops followed thereafter:

- Globale zirkulation: Learn how the wind systems and climate zones develop
- What is the greenhouse effect? A CO_2 experiment.
- Aerosols and clouds: Visit our aerosol research lab and make a cloud in your bottle

Picture 3: How globale zirkulation develops. A group of girls makes an experiment on globale zirkulation, learns about the wind systems and finds out why there are different climate zone on the Earth.

Picture 4: What is the greenhouse effect? Producing CO_2 and experiencing the change of temperature in conditions with enhanced CO_2 in a simple experimental setup

At the end of the day, each participant launched his or her balloon. The girls forecasted the landing coordinates of their balloon based on model calculations from IACETH. Out of all launched balloons a total of two coordinate cards were returned – one balloon landed north-east of Zurich, the other one reached as far as the north-east of Austria in the region of Linz!

Picture 5: Balloon Launch on the roof of IACETH building in Zurich.