Congress Report

EGEA Annual Congress 2025

08.-13.09.2025

Melchtal (Switzerland)

Contents

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Introduction

The EGEA Annual Congress 2025 was guided by the topic **Geographies of Celebration**. The motivation behind this topic were multiple large events happening in Switzerland especially in 2025 and in previous years. In 2025 alone Switzerland hosted the Eurovision Song Contest and the UEFA Woman Championship. These events bring with them social, ecological and infrastructural challenges which are all part of geography. When else would therefore be a better moment to discuss those topics from a geographical perspective in Switzerland?

The geographies of celebration as the leading topic led **workshops** to rethink the infrastructure needed for large events and how it can be re-used afterwards. The social and cultural impact of tourism and international exchange following such events were discussed and its benefits but also challenges were shown. The economic impact and how a hosting city benefits from events on this scale despite major expenses was also key in analysing what Geographies of Celebration mean. In a broader context, workshops also analysed how the large demand of energy for such events can be supplied by renewables, as well as the impact of land use for winter sports (e.g. artificial snow) on stream properties.

During **excursions** the participants explored the economic, environmental, social, and cultural impact and role of infrastructure for large sporting events (Stadium Lucerne, Ski-Jump slope in Engelberg, soil under ski slopes, and a lake used for rowing). Further field trips explored how biodiversity, electricity production and tourism can co-exist in an alpine environment and how the glacial mountain landscape enables or constrains tourism and infrastructure.

In a **lecture** from Prof. Daniel Sven Wolfe (University of Neuchatel) we learned about the social impacts and challenges for spatial planning from large events. The examples discussed were the Paris Olympic Summer Games 2025 and the Olympic Winter Games in Sochi 2014.

During the **Science Fair** participants could present their research, leading to a wide range of topics and scientific inputs which contributed to a diverse learning experience.

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Workshops

Title	Authors
Energy for the event - Energy Supply for Mega-Events through GIS, Ecology, and Negotiation	Johannes Czernik & Moritz Helmecke
Explosive Entertainment: how fireworks affect humans, animals and the planet?	Klaudia Kurpios & Jacek Gładysiak
Festival Futures: Imagining Circular Mega-Events	Heini Huovinen & Melissa Klimenko
Goal! But at what cost? Mega-events social impact, place-making and the afterlife of infrastructure	Kinga Mateja & Mateusz Szkopiarek
Helping your community: Volunteerism in- and outside of EGEA	Matthew Becker & Nataliia Filimonchuk
Let's Make a Celebration – and Map What It Means	Stefan Graf (Esri), Johann Neugebauer (Esri), Marcel Felix (EGEA)
More than Games: Urban change and the planning of Paris 2024	Remigiusz Kałczuga & Mateusz Rosiak
Spying out megastructures	Pola Mickiewicz & Zofia Sułkowska
The (economic) cycle of water	Igor Dmowski & Jan Jurkiewicz

Scientific Lectures

Title	Authors
The Challenges of Mega Events	Prof. Dr. Daniel Sven Wolfe

Excursions

Title	Authors
Lucerne: Stadium and City Tour	Zoe Gyr & Tom Spinke
Lake Rotsee: Lake Conservation and Rowing Sports	Anna Czerniejewska, Laurent Christen, Paul Rütter & Konstantin Leonhardi
Engelberg: History and Development of Winter Sports and Tourism	Lynn Bolliger, Anna Stöckli, Franzi Tarnow
Glacial Landscape: The Gäntel Valley glacial imprints and developement	Mirjam Iselin & David Hacke
Biodiversity: Re-wilding efforts and nature conservation in touristic areas	Elia Schmitter, Selin Göksu

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Hydropower: Historical development and impact of hydropower on the Melchsee-Frutt	Caspar Jahn, Paul Fürll, Jared Young, Luisa Bierig
Alpine soils under pressure: how ski-slopes and climate change alter alpine soils.	Maurus N. Villiger & Annika Spaar
Remote sensing of Alpine Forests	Dr. Isabelle Helfenstein & Jeremiah Huggel

Science Fair Presentations

Title	Authors
Zooming In: Sediment Textures Under the Lens	Ada Kamińska & Gabriela Szylar
Why we need cycling data & how we're going to get it' so you can choose long or short	Emma Bekaert
A County Fires in January 2025	Gabrijel Kučko
Economic Impacts of Large Scale Events - A case study of the FIFA World Cup 2006 in Germany	Henrik Stein
Spatial and temporal reconstruction of an abandoned Vltava valley	Marie Brozova
Capacity and Autonomy: The Impact of the EU Cohesion Policy's Territorial Development Tools on Post-Industrial Local Governance across Divergent Legacies	Matthew Federico Becker
Multiyear snow patches and Past marginal glaciation in the Polish Tatra Mountains	Michal Kaminski

1 Expert Input - “The simple solution of scale”

At the start of the congress, Dr. Sven Daniel Wolfe (University of Neuchâtel) introduced us to mega-events from a scientific point of view. As a human geographer and researcher, he got the chance to experience the planning and implementation of events around the world. During his input, he spoke about the social and spatial planning implications of major events. His research draws on micro-perspectives and minor theories to make sense of the spectacular transformations of cities and societies. Furthermore, his work engages with everyday geopolitics, urban sustainable development, soft power, and cultures of protest and resistance. While introducing the topic of having sustainable mega-events (three pillars: economical, environmental, social), the issues surrounding them quickly become clear.

Based on his research on the Olympic Games in Paris and Sochi and the Football World Cup in Qatar, he discussed key questions: What makes an event a “mega-event”, and what are the advantages and disadvantages for the hosting cities? How are approaches for greater sustainability in organisation developing? Can less actually be more?

Underlined with a good dose of humour and impressive examples, positively as well as negatively, he made us curious to learn more about this multi-dimensional topic throughout the week. At this point we would like to thank Dr. Sven Daniel Wolfe again for this successful start of the week!

2. Workshops

2.1 More than Games- Urban Change and the Planning of Paris 2024”

Authors: Remigiusz Kałczuga & Mateusz Rosiak

The workshop *“More Than Games - Urban Change and the Planning of Paris 2024”* focused on exploring the role of mega events in shaping contemporary cities and their development strategies. The main goal was to investigate how large-scale events such as the Olympic Games, music festivals, and international sporting events influence the physical, social, and economic structures of urban environments. The key research questions addressed during the workshop were:

- How do mega events affect cities in terms of their spatial organization, infrastructure, and social dynamics?
- What kind of urban transformation has taken place in Paris in preparation for the 2024 Olympic Games?
- How can planners and designers ensure that the legacy of such events is sustainable and beneficial for local communities?

The workshop was developed from the participants’ shared academic and professional experiences in the fields of architecture, urban planning, and social sciences. Many of the attendees had previously engaged in research or design work related to urban regeneration, sustainability, and cultural events, which provided a strong foundation for meaningful interdisciplinary discussion.

Methodology

The workshop was structured as a four-session educational program designed to explore the social, spatial, and environmental dimensions of mega events through a combination of theoretical and practical approaches. The methodology integrated

elements of theoretical discussion, case study analysis, and design-based learning, enabling participants to engage critically with the topic from multiple perspectives.

A mixed-method pedagogical framework was employed, combining group discussions, collaborative problem-solving, and project-based learning. This structure allowed participants to connect academic theories with real-world examples, encouraging both analytical and creative thinking. The sessions were designed to move from conceptual exploration toward applied synthesis, facilitating a progressive understanding of how large-scale events interact with urban environments and communities.

Throughout the workshop, participants examined selected case studies, drawing on academic literature, official reports, and media sources to evaluate the multifaceted impacts of mega events such as the Olympic Games. Special attention was given to issues of urban transformation, sustainability, governance, and legacy planning. Collaborative reflection and guided debate helped participants identify both the opportunities and challenges essential to hosting global-scale events.

In the final stage, participants engaged in a design-oriented task, applying insights gained from previous discussions to propose conceptual strategies for sustainable event planning. The process emphasized principles of environmental responsibility, social inclusivity, and long-term adaptability.

Results and Interpretation

The workshop produced a rich set of reflections, conceptual models, and insights into the role of mega events as agents of urban change. Participants concluded that the organization of such events should not be viewed exclusively as a temporary celebration, but as an opportunity to implement long-term strategies for sustainable development.

One of the key results was the recognition that legacy planning: ensuring that new infrastructure and public spaces remain functional and beneficial after the event- is the most critical component of a successful mega event. The design of the Olympic Village projects reflected this understanding: participants envisioned mixed-use neighborhoods integrating housing, green spaces, and sustainable transport systems that would continue to serve local communities after the Games. The discussions also revealed the

dual nature of mega events: while they can bring innovation, investment, and global attention, they can also generate inequalities, social tensions, and ecological burdens if not carefully managed. The workshop emphasized the importance of transparent governance, inclusive planning, and a clear vision for post-event urban life.

Figure 1. Model illustrating sustainable design concept of an Olympic Village in Brisbane, created by participants

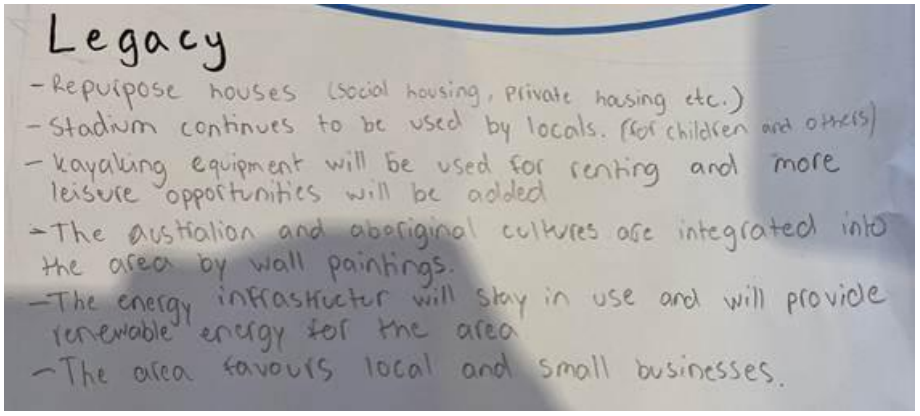

Figure 2. Proposals for post-Games use of the Olympic Village in Brisbane.

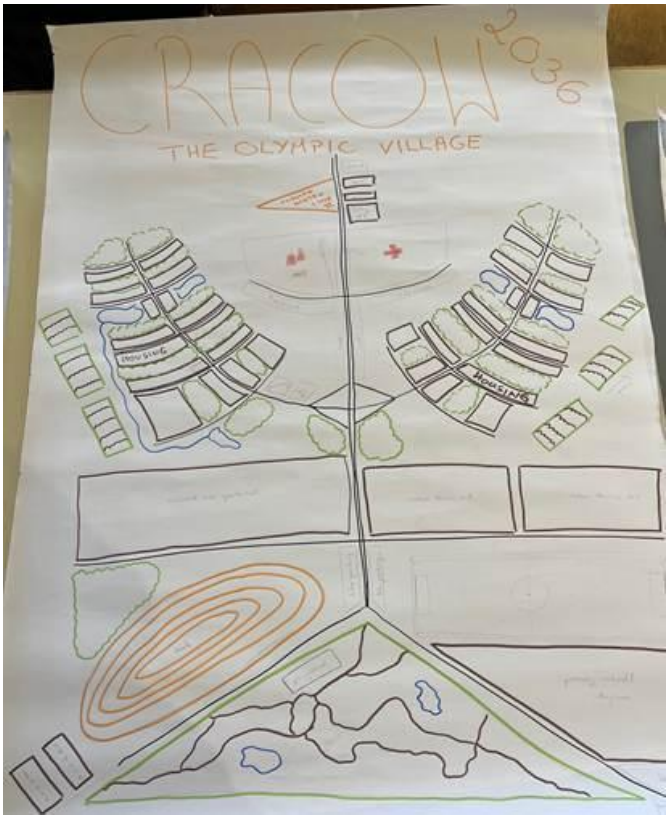

Figure 3. Model illustrating sustainable design concept of an Olympic Village in Cracow, created by participants

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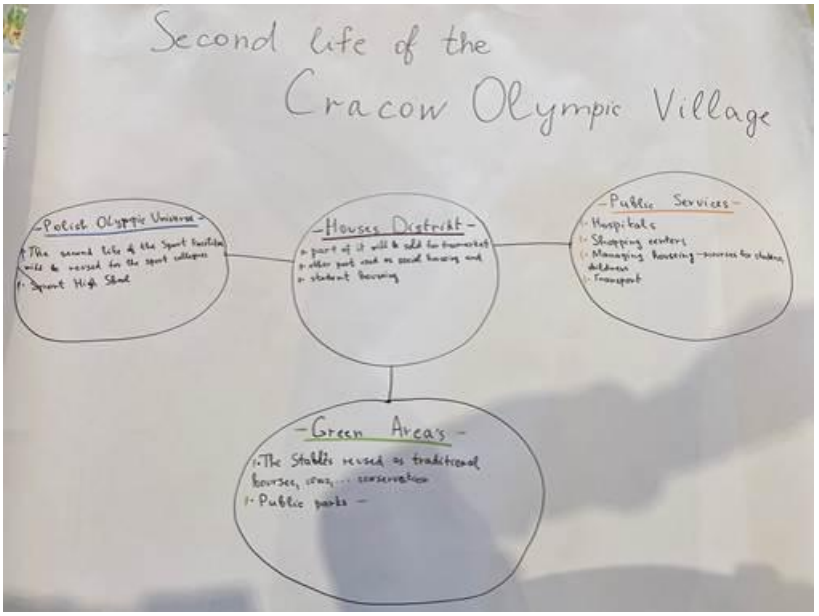

Figure 4. Proposals for post-Games use of the Olympic Village in Cracow.

In terms of expectations, the outcomes largely matched the workshop's goals. Participants managed to combine theoretical knowledge with practical creativity, demonstrating how urban design can integrate environmental and social sustainability principles. However, some challenges were identified particularly the difficulty of balancing idealized design concepts with real-world political and economic constraints. The *"More Than Games - Urban Change and the Planning of Paris 2024"* workshop highlighted that mega events are not just moments of celebration, but catalysts for deep structural change within cities. Their success depends not on the scale of the event itself, but on the quality of its legacy: the infrastructures, communities, and values it leaves behind.

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(2) Gold J.R., Gold M.M. (2024): Olympic Cities: City Agendas, Planning and the World's Games 1896-2032, London

(3) Wolfe S.D. (2023): Building a better host city? Reforming and contesting the Olympics in Paris 2024, SAGE Journals, 41, 257-273, Lausanne

(4) Müller M., (2015) The Mega-Event Syndrome: Why So Much Goes Wrong in Mega-Event Planning and What to Do About It, Journal of the American Planning Association, 81, 6-17

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2.2 Festival Futures: Imagining Circular Mega-Events

Authors: Heini Huovinen & Melissa Klimenko

Large festivals have major direct and indirect effects on the surrounding environment and the community. Events are designed to be temporary, but their impacts often last long after. The most significant impacts are related to mobility, waste, energy consumption, water and land use and biodiversity (Larasti, 2022; Toscani et al., 2022). The current linear economic model leads to massive waste generation, overconsumption and climate impacts (Ellen MacArthur Foundation, 2024). In the context of large events, for example audience travel, disposable products, packaging waste and abandoned tents and other belongings increase the environmental footprint. Therefore, organizing more sustainable events requires circular economy principles that extend the life cycle of products, promote reuse and reduce the consumption of natural resources (European Parliament, 2023).

In our workshop we studied event sustainability through the lens of circular economy. The goal of the workshop was to introduce the participants to circular economy solutions through the EU Circular Economy Action Plan as well as case examples from real events. The concrete goal of the workshop was to create two manuals, one for event organizers and one for festivalgoers. Our research questions are:

- How to organize a circular festival?
- How to attend a festival sustainably?

As environmental policy students who have both focused on circular economy in our studies and worked in the event industry we wanted to take a closer look at event sustainability. It was natural for us to bring both personal experiences and research knowledge to the topic.

Methodology

The sessions had both lecture-style theory and groupwork. Topics introduced included sustainability, circular economy, social theory and event management, and each group assignment touched on the theory topic and built on the previous discussions. In the first session we presented general information on event sustainability and circular economy. The first session was more theory-focused with preliminary group discussion.

For the second session we presented the EU CEAP sectors and had compiled information packages of four music festivals across Europe. The participants identified the issues, circularity practices and relevant CEAP sectors and proposed new circular ideas for the festivals. We were often reliant on the festivals' own reporting for information, so the participants were told to be critical and find their own sources if possible.

In the third session the theory touched on different types of social movements and connected them to circularity. To illustrate the difference in realistic changes to existing systems and revolutionary change, the groupwork was designing a circular festival. Afterwards we discussed as a group which aspects of the designs would be the easiest and most challenging to implement in today's world.

In the final session we presented a theory of who bears the responsibility of circularity, the event organizers or attendees, highlighting the power imbalance but also all our shared responsibility for our planet and its resources. Practical manuals were then compiled for better practices for event organizers and festival attendees drawing on all the previous sessions and discussions.

Results and Interpretation

Both event organizers and festivalgoers can do a lot better when talking about circularity. It is the organizers' responsibility to promote better practices by either mandating, enabling or encouraging the visitors, but it is on the festivalgoers to follow the rules and suggestions.

The participants designed two manuals with circularity tips for both event organizers and attendees. The participants chose to format the manuals into before, during and after - sections for real-life readability and applicability.

	Event organizers	Festivalgoers

Before	• Involve local food producers
	• Involve the local community
	• Use green energy
	• Promote sustainable transport
	  ◦ By including it in the ticket
	  ◦ By prociding extra buses & trains
	  ◦ By choosing the location wisely
	• Implement a good reusable dish system
	• Provide recycling systems
		• Choose local festivals
		• Go by bus, train or carpool
		  ◦ Make a trip out of it
		• Pack reusable cup & plate
		• Use outfits you already have
		• Get to know the rules of the event
		• Look at the merch & decide what you want

During	• Manage the amount & impact of stage effects • Promote recycling systems	• Follow the rules • Don't litter & pick up trash • Volunteer at the festival
After	• Reverse the effects of the festival on the land	• Don't leave your belongings • Upcycle things that broke • Provide feedback to organizers

Figure 1: Digital version of the workshop presentation.

During the sessions, it became apparent that the organizers' perspective was more prominently present in discussions. This may be an indication that attendee solutions are more challenging to come up with, or that organizers are seen as more responsible for circularity practices. We countered this trend by adding theory on shared responsibility for the last session before starting on the output. For the manuals, we included solutions touching on other sustainability aspects too, because we didn't see it beneficial or justified to stifle or leave unpresented useful results just because they do not strictly fall into the circular economy category.

The results were mostly in line with our expectations. The group discussions were lively, and the participants came up with a lot of practical ideas. However, some of the "wilder" and more ambitious ideas that emerged during the earlier discussions were left out of the final manuals as the participants focused more on realistically implementable actions.

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2.3 Goal! But at what cost? Mega-events social impact, place-making and the afterlife of infrastructure

Authors: Kinga Mateja & Mateusz Szkopiarek

This workshop explores how mega-events like the Olympic Games or the Football World Cup affects the image, infrastructure and identity of host cities. The main goal was to familiarize participants with various aspects of organizing major sporting events. During the workshops, participants were introduced to basic definitions related to regional marketing. Thanks to carefully selected examples of such events, participants were able to familiarize themselves with issues related to image and organization. Participants could explore issues of a social or image-related nature. Another important element of our workshop was the introduction of the term "white elephants," referring to facilities that are abandoned and left to their own devices after an event. Therefore, our workshops addressed the crucial issues of sustainable development and infrastructure construction planning.

Methodology

The workshops were divided into four parts. Various methods were used to best convey knowledge to participants and highlight the characteristics of the topic being discussed. A presentation was developed specifically for the workshops and accompanied participants throughout the entire workshop.

In the first part, participants had the opportunity to participate in a charade based on sports disciplines. The substantive element was an explanation of the definition of territorial marketing, place branding and place making based on selected examples from European countries. Furthermore, the definition of a mega-event was presented, along with Muller's classification of event size. This part concluded with a task involving adding the host city/country to the event date.

In the second part, participants were introduced to selected mega sporting events, such as the 1996 Barcelona Olympics. The presentation and selection of events were

designed to highlight, as events unfolded, key aspects of organizing a global sporting event, such as infrastructure, city promotion and social issues. This part included discussions on whether the Euro 2021 format, without a designated host country, was effective in attracting potential visitors.

During the third part, participants were tasked with developing a SWOT analysis of sports mega-events based on information from the presentation and their own knowledge. This was the most important part of the workshop, intended to provide a comprehensive summary of the knowledge acquired during the workshop.

The final part of the workshop addressed the topic of infrastructure built for major sport events and their post-event functions. One example was the Velodrome from the 1976 Montreal Olympics, which was later converted into the Biodome. After the lecture, participants were tasked with designing a sports facility and its post-event functions. It was crucial that the project incorporate the fundamentals of sustainable development.

Results and Interpretation

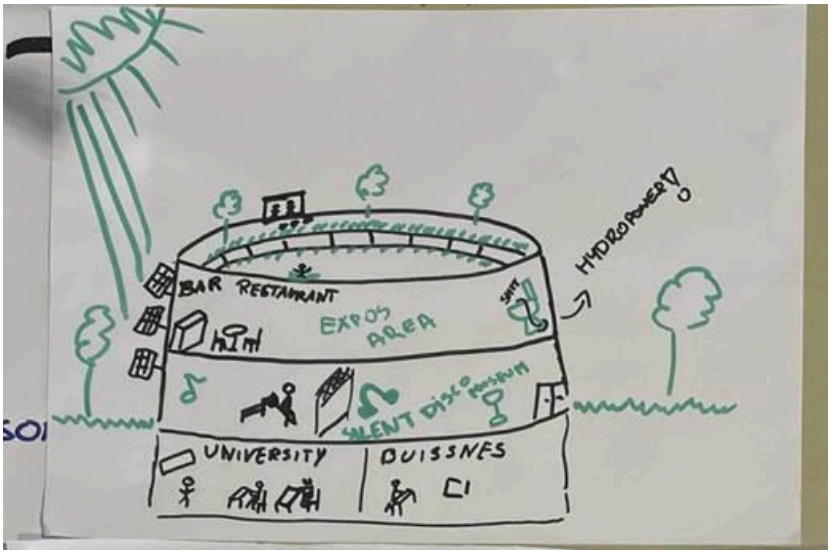
The goal of the task, which involved adding the location of a major sport event to a specific date, was to draw participants attention to the issue of recognizability of a given event. This allows us to point out, for example, that the 2012 Olympic Games were held in London. There are many reasons. Two are worth mentioning: media exposure and connections with victories of the country's representatives. Since the last decade of the 20th century, broadcasting major events has become commonplace. With each event, the number of buyers of broadcasting rights, as well as their price, increases. In an era of rapid globalization and technological advances related to the development of transportation and the internet, this phenomenon is accelerating. The second issue is the recognizability of a given location and the events associated with it thanks to athletes from Poland. We remember the Olympic Games in which a representative of our country achieved success more vividly.

The most important output of our workshop was a SWOT analysis. It was based on information from the presentation and the participants' own knowledge. The gathered results indicate that organizing a major sporting event carries both opportunities and potential threats. These threats relate to numerous areas, including social, infrastructure, and image. Above all, organizing an event allows the host to transform its

image and increase international interest. On the other hand, organizing an event can lead to dissatisfaction among the local community.

The final task for the participants was to design a facility for a sporting event. While the task stimulated creativity, accompanied by laughter and abstraction, it's worth noting that the discussion of the results highlighted important aspects related to the future management of such facilities. These primarily concern self-sufficiency. The challenge isn't building the facility, but maintaining and maintaining it cost-effectively.

We evaluate the workshop we conducted very positively. It provided us with valuable experience for the future. It's crucial for workshop leaders to be prepared for various situations that could change the way workshops are conducted, such as internet problems.



Afterlife of the stadium

TYPE OF STADIUM: VOLLEY BALL STADIUM
IT IS IN THE CITY PRIZE: 1BILLION EURO
IT WAS CREATED FOR VOLLEY BALL WORLD CUP
AFTER THE EVENT IT IS USED FOR:
- SILENT DISCO, PARTY, CONCERTS, FESTIVALS
EXPOS, DOG and CATS EXPOS ♡
- BUISSNES SPACE
- BAR, RESTAURANT
- HOBBY HORSING CHAMPIONSHIP
- PUZZLING CHAMPIONSHIP
- CHESS CHAMPIONSHIP
- RENT FOR UNIVERSITY
- MUSEUM OF VOLLEYBALL WORLD CUP
- Quidich CHAMPIONSHIP
-

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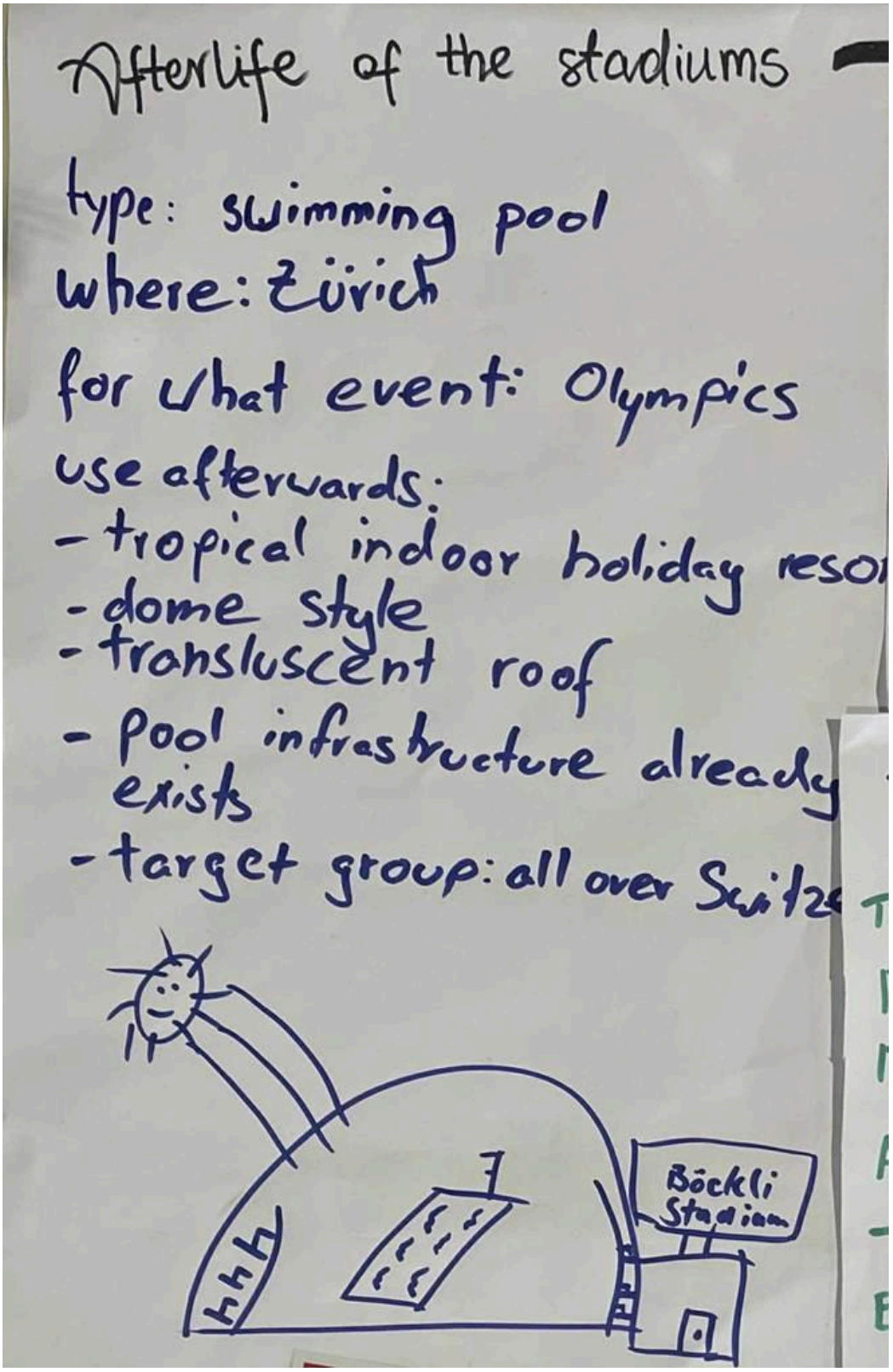
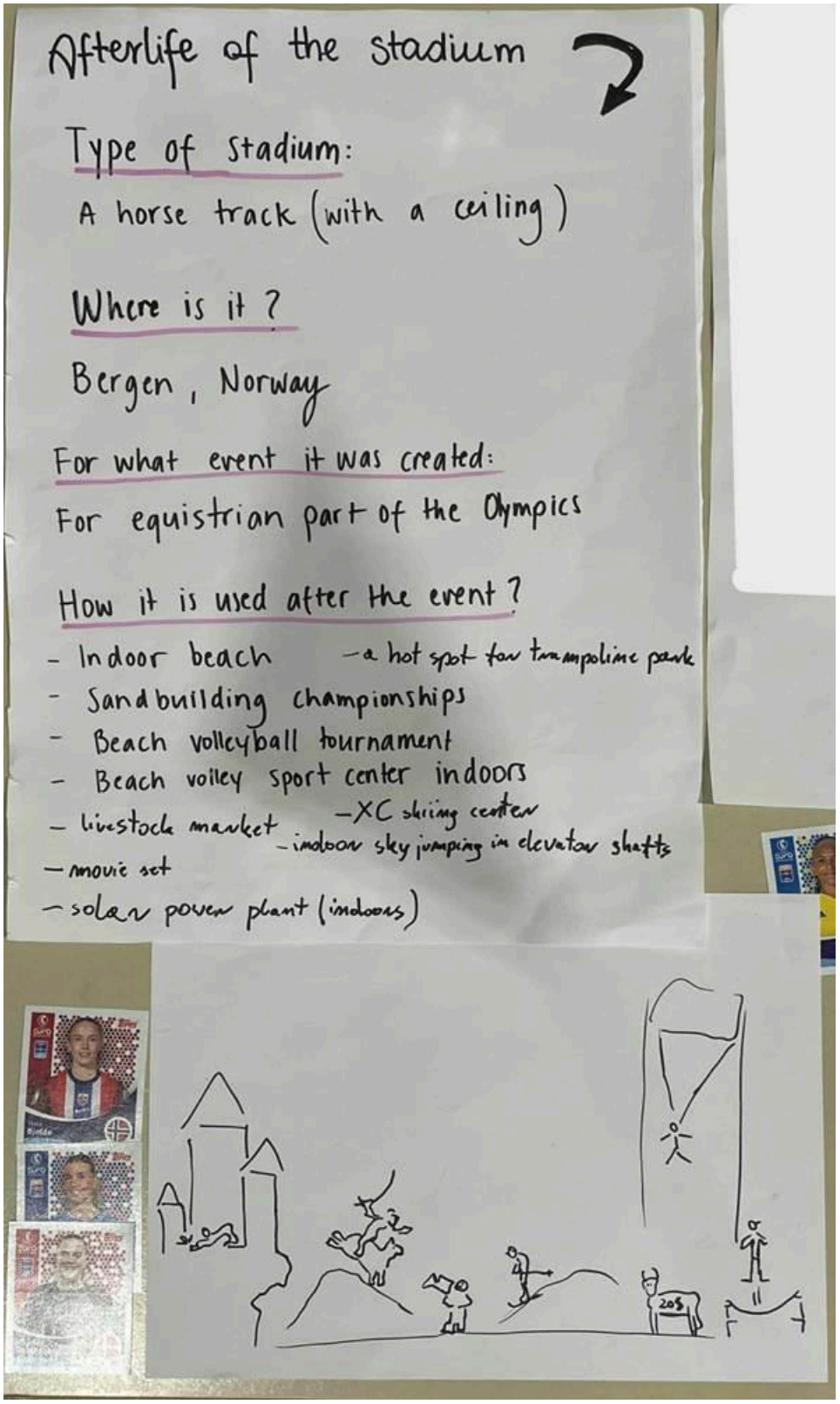

Afterlife of the stadiums
type: swimming pool
where: Zürich
for what event: Olympics
use afterwards:
- tropical indoor holiday reso
- dome style
- transluscent roof
- pool infrastructure already exists
- target group: all over Switze
Böckli Stadion



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2.4 The (economic) cycle of water

Authors: Igor Dmowski & Jan Jurkiewicz

During the workshop, efforts were undertaken to identify potential patterns of water utilization within mountain catchments. A site-specific approach was employed, focusing on the Grosse Melchaa River catchment and one of its tributaries situated next to the accommodation site. Furthermore, field investigations were conducted to obtain preliminary data concerning the quality and quantity of the available water resources.

Research questions:

- Is the water in Grosse Melchaa drinkable and good for everyday use?
- Is there enough water to accommodate the needs of a sports centre?
- How much information can we gather and process with relatively simple and accessible methods?

Previous knowledge and experience with the subject:

A significant part of the workshop leaders' university education in hydrology was heavily focused on researching chemical and physical properties of water. They studied these topics thoroughly through extracurricular projects on their faculty, as well as through writing their bachelor theses.

Methodology

The workshop was divided into four sessions, each focusing on a distinct set of activities:

During the first session, participants were provided with a theoretical background through a lecture. The lecture addressed topics such as the physical and chemical properties of water, water pollution, hydroenergetics, and water use in high-mountain regions.

The second session was devoted to the analysis of the chemical properties of water collected from the Innenbach stream, a tributary of the Grosse Melchaa River. The concentrations of selected ions were determined using a photometric method with the

Exaqua Pro 3 photometer. The analysed ions included nitrates (NO_3^-), ammonium (NH_4^+), phosphates (PO_4^{3-}), potassium (K^+), and sulphates (SO_4^{2-}).

The third session focused on discharge measurements of the Innenbach stream. The stream discharge was determined using the float method, which involved measuring the streambed depth and recording the time required for wooden disks (floats) to travel along a 10-meter section of the stream. The average travel time and cross-sectional area were subsequently used to calculate the stream discharge.

During the final session, participants prepared scientific posters based on the data collected during the second and third sessions.

The workshop was organized in cooperation with the Department of Hydrology, Faculty of Geography and Regional Studies, University of Warsaw, and was conducted with reference to relevant scientific literature on hydrological field measurements.

Results and Interpretation

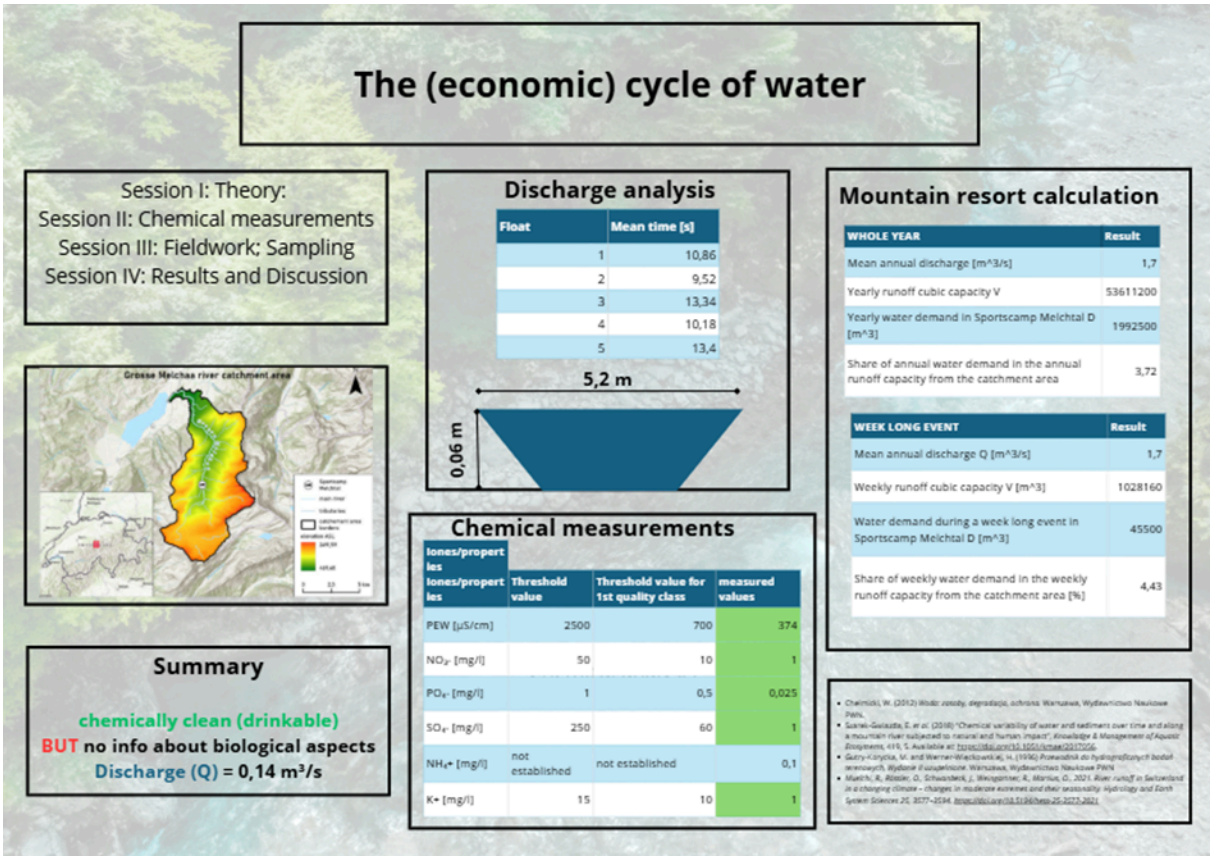
The results of the workshop were consistent with expectations. The chemical analysis of the water samples indicated that the surface waters in the study area are not polluted. Moreover, no potential sources of contamination were identified within the investigated region.

Field observations, however, revealed challenges associated with reduced accuracy of discharge measurements in high-mountain environments. These limitations are primarily attributed to environmental factors such as irregular, steep, and rocky streambeds.

The findings also highlighted the crucial role of rivers and streams in high-mountain regions, particularly in relation to energy production and water supply management.

During the planning phase of the workshop, several issues were encountered but were ultimately resolved. The first challenge concerned equipment limitations, as it was not possible to obtain an Acoustic Doppler Current (ADC) device for flow measurements. This issue was addressed by applying the float method, which in practice proved to be more engaging for the participants than the initially preferred approach.

The second challenge involved the lack of accessible information regarding Swiss standards for the concentrations of individual ions in surface waters. To provide participants with a reference point for the photometric analysis results, the standards established in Polish legislation were used. Although this approach limited the degree to which the results could be adapted to local conditions, it nevertheless enabled the determination of indicative concentration ranges for the analysed ions in the absence of the required data.



The fieldwork component proved to be the most engaging and memorable aspect of the workshop. Numerous participants indicated that this part was the most interesting element of its entire program. Although some participants had prior experience with such measurements, for a considerable portion of the group it represented their first direct exposure to this type of research activity.

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2.5 Explosive Entertainment: How fireworks affect humans, animals and the planet?

Authors: Klaudia Kurpios & Jacek Gładysiak

The workshop, "Explosive Entertainment: How Fireworks Affect Humans, Animals, and the Planet", explored the environmental, psychological, and ecological impacts of fireworks. The goal was to raise awareness about the consequences of these celebrations and to discuss more sustainable and ethical alternatives. During the workshop, we talked about how fireworks influence human health and behaviour, their effects on wildlife and domestic animals, and their environmental footprint. Through an engaging debate, participants exchanged ideas and perspectives, aiming to identify practical and creative solutions to the problems caused by fireworks. Together, we explored ways to balance celebration with care for human health, animal wellbeing, and environmental sustainability.

Methodology

The workshop was split into four phases. The first one was a lecture-style theoretical introduction to the topic, merging a review of the basic knowledge with a couple fun facts. The rest of the workshop was discussion-based and centred around participation. In Session 2, the participants were assigned roles and split into teams to reflect on various stakeholders' needs and prepare their strategy for the third part, in which the teams were mixed to hold debates between members of the previous groups. The fourth session was focused on the preparation of a poster to summarize the outcomes of the participants' work on the Workshop Fair.

The first, introductory session was focused on making everything clear about the topic of fireworks and their use. A quick summary of the history of the Chinese invention (1) was given, combined with a couple fun facts (2) for the people who were already familiar with the history's basics and a discussion on various countries' traditions relating to the use of fireworks. The next section discussed the impact of using fireworks – on humans (3) and animals (4). Examples were given of a summary of a typical Polish New Year's Eve (5) and the Enschede firework storage disaster as cases of dangerous events that might come with the use of the workshop's topical invention.

The economics behind the trade of fireworks were explained as well (6), to give the participants a view on how business and the markets react to their still increasing usage.

The second session was centred on group discussion. A fictional scenario was described where a festivity (which was left unspecified as different European countries have different occasions to use fireworks) was organised in a town, and a public discussion was to be held whether the city should organise a firework show, and if the use of fireworks on that day should be otherwise allowed. The four groups were:

- The Firework Producers and Retailers, in whose interest it was to make sure the most fireworks are sold and used
- The Event Organisers, whose task it was to ensure that the event participants have the most fun and that the budget checks out
- The City Council, who were there to take care of every citizen's needs, whether they are actually interested in the event or not
- The Environmentalists, who wanted to keep animal rights respected and the town's environment clean.

The groups' task was to make lists of arguments, which will be presented in the next section of this report, to be used in the next session of the workshop.

Its focus was to run three manageably sized debates, each held between members of all the teams from the previous session, simulating a public debate about the topic.

Results and Interpretation

There are three types of physical output made by the participants: groups' lists of arguments from Session 2, written-down solutions from the debates in Session 3, and the poster prepared by the end of the last session.

The argument lists show the participants' creativity, as well as a variety of approaches to the topic. The Firework Producers immediately started looking at innovations they could propose to make the use of their products more acceptable, while also appealing to the childhood memories of the city councillors and offering sponsorship deals to the Event Organisers. This group was not, however, entirely cost-focused, as they acknowledged the impact of firework use and considered organising many other

attractions, some of those cheaper, and some – reusable. The City Council prepared a comprehensive table of the pros and cons to organising a firework show, ready to discuss with all the other groups, and the Environmentalists made a three-part list of all the negative effects the show would have on the people, the animals and the environment in general.

The three solutions worked out via debates (or their outcomes otherwise) are as follows:

- A slow transition – the negative effects of the use of fireworks were acknowledged, but there was no will in the decisionmakers to put the fireworks producers and retailers out of business. A transition period of 5 to 10 years was proposed before banning the use of fireworks altogether to let the businesses change their directions of development while encouraging the use of alternatives, like drone or laser shows.
- Direct democracy – a decision was made to extend the debate to the public, which the participants of this debate group said would both let the stakeholders verify their priorities and raise public awareness of the topic
- The third group did not work out a solution, as their discussion came to a stalemate – the Firework Producers, though their arguments were very creative, could not come to an agreement, especially with the representatives of teams City Council and The Environmentalists.

Of course, there are things we like about how the workshop turned out, and ones we think could have gone better. Firstly, the introductory part was said to be a bit trite by some of the participants – however we still think a review of information was necessary.

The second session's formula did work out pretty well – the arranged role-play let the participants not only reflect on the various stakeholders' needs and priorities but also served as a good way of recalling the information from earlier and making the topic a part of their reflections on the mechanisms that run the modern world, such as trade and lawmaking. We are not entirely happy with the results of the debates, probably we would need more time to come to more decisive conclusions, however how the debates went taught us a lot about the organisation of such meetings. A big part of how the discussions unfolded was the participants' personalities – for example, if a very talkative

person and a very shy person had to debate against each other, coming to conclusions was harder for both of them. Interestingly, a big part was played by the participants' nationalities and their approaches to the use of fireworks – for example, Croatian participants were taken aback by an idea of a public celebration not involving fireworks, while the German ones were used to the nightly quiet.

Literature

Most sources we used were online popular science articles, as the level of knowledge required didn't always call for peer-reviewed research, however, more professional articles and analyses were used where necessary. As the United States of America is the country that consumes most of the fireworks, many of the sources were indeed American, but we tried to make sure a fair share of European and other sources were used as well.

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2.6 Energy for the Event

Authors: Johannes Czernik & Moritz Helmecke

The workshop “Energy for the Event” explored how the energy demand of large public events can be analysed, reduced, and supplied through renewable sources. It combined theory, GIS-based planning, and ecological fieldwork. Participants learned how the organization of festivals, congresses, and sports events can become testbeds for sustainable energy transitions.

In recent years, mega-events have become both symbols of cultural connection and major consumers of energy (1). From music festivals to international sports tournaments, their power demand can rival that of small municipalities. The workshop began with an overview of planetary boundaries and the European energy transition, discussing instruments such as the REPowerEU Plan, the Renewable Energy Directive III, and the European Green Deal (2,3,4).

Using examples such as the Oktoberfest or large concert tours, participants quantified the energy demand of events and linked it to carbon emissions. This theoretical framework led to the guiding question: How can events be powered locally and renewably while respecting ecological and spatial constraints?

Methodology

The workshop was divided into two main parts:

Classroom Session – The theoretical block introduced the interaction between renewable energy systems, biodiversity protection, and spatial planning. Using real development and construction drawings from existing wind and PV projects, participants discussed practical challenges such as minimising forest clearance during turbine installation near woodland edges or balancing technical layouts with environmental and legal requirements.

Field Session – In the afternoon, the group conducted a biotope-type mapping around the Sportcamp Melchtal (Canton of Obwalden, Switzerland). The exercise used the open-source software QGIS for spatial recording, classification, and evaluation of habitats (5, 6). Each team mapped slope, land use, vegetation type, and solar exposure. The data were directly digitised and symbolised in QGIS, providing a hands-on introduction to professional GIS workflows used in ecological planning and energy assessment.

The mapping offered participants a practical insight into the career field of geography, showing how spatial analysis, cartography, and environmental evaluation are applied in real renewable-energy development.

Results and Interpretation

The site assessment revealed significant constraints for renewable energy projects in the Melchtal valley. Although theoretical frameworks suggested potential synergies between event infrastructure and local energy production, the valley's geography and infrastructure imposed strict limits:

Topographical and Climatic Constraints

The steep-sided valley creates turbulent wind patterns and only brief calm periods. For wind energy, this results in reduced efficiency and increased mechanical stress (7, 8). The installation process itself would be challenging: turbines must be erected during almost wind-still conditions to ensure stability when lifting the rotor.

Heavy transport logistics pose another major barrier. The self-propelled modular transporters (SPMTs) used for nacelles and tower segments can officially handle maximum gradients of 8 %, a limit exceeded on several access routes within the Melchtal. Road upgrades or temporary reinforcements would be required, adding cost and environmental disturbance.

Grid Connection Challenges

The nearest medium-voltage grid node is roughly 4 km away, with uncertain capacity. Projects exceeding single-digit megawatt scales would likely face grid refusal or require major reinforcement. In mountainous terrain, such network extensions are technically difficult and environmentally sensitive.

PV Potential and Land-Use Limitations

Around the Sportcamp, only small, fragmented plots are technically usable. Shallow soils and rocky moraine substrate complicate the anchoring of PV structures (9). Moreover, solar irradiation is reduced by shading from surrounding ridges (10). A west-facing slope could allow limited pilot installations, but profitability (< 850 kWh/kWp a^{-1}) and maintenance feasibility remain poor.

Environmental and Regulatory Factors

The region includes protected alpine habitats and drinking-water protection zones, which restrict soil sealing and visual impacts (11). Any development would require detailed ecological

assessments and lengthy permitting. Snow load and avalanche risk further reduce operational reliability.

Construction and Logistics

Transporting large turbine or transformer components would necessitate temporary road closures, escort vehicles, and engineering works. Steep gradients, narrow turning radii, and limited crane space make construction risky and expensive. For PV systems, snow cover and maintenance access are additional limiting factors..

Workshop Difficulties

Beyond site limitations, the group also faced challenges in time management and varying skill levels. The participants ranged from complete beginners to advanced GIS users, making it difficult to maintain a consistent pace. As a result, most teams focused on the fields directly adjacent to the accommodation.

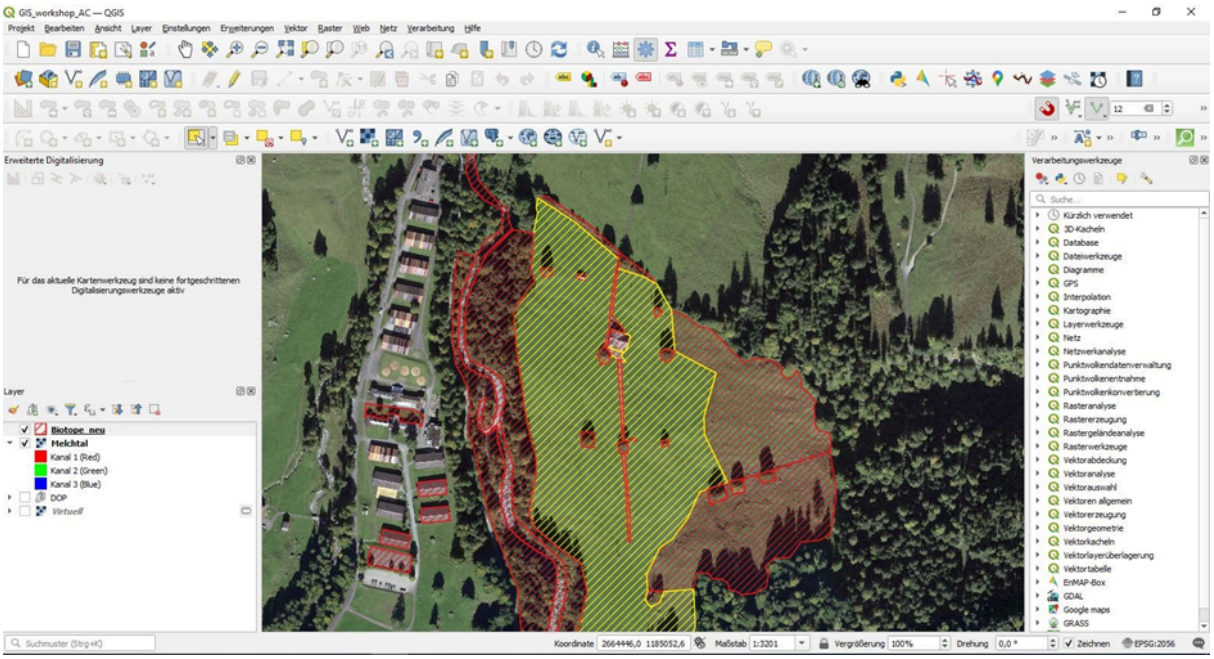

Figure 1: Biotope-type mapping at Melchtal Sportcamp with the help of QGIS (2025)

Although the resulting dataset patterns was not a complete usable map, the main goal was achieved: participants learned the fundamentals of biotope classification, gained a trained eye for environmental patterns, and experienced how field data become spatial information within QGIS.

Overall Findings

The workshop highlighted that energy transition requires not only technical innovation but also a deep understanding of geography and ecology. In Melchtal, participants experienced how local terrain, wind dynamics, soil structure, and regulatory frameworks determine what is feasible in practice. From a professional planning perspective, the Melchtal valley offers only marginal potential for large-scale renewable projects. Micro-PV and hybrid storage systems could support small facilities or temporary events, but utility-scale wind or solar development remains technically and economically unfeasible.

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2.7 Let's Make a Celebration – and Map What It Means

Authors: Marcel Felix (EGEA), Stefan Graf (Esri) & Johann Neugebauer (Esri)

The workshop was held as part of EGEA's Annual Congress 2025. Its primary aim was to introduce participants to ArcGIS Online as a platform for web mapping and to explore how it could be used creatively within the context of EGEA activities.

The thematic framing of the congress *Geographies of Celebration* provided the conceptual backdrop. Participants were invited to "celebrate" geography by creating playful, informative, and interactive GIS applications, with a suggested baseline project being a "geoquiz" web app. However, we encouraged flexibility. Participants could also develop their own event-related web mapping ideas. The overarching objective was to familiarize participants with the ArcGIS Online ecosystem and inspire future applications within EGEA, such as interactive mapping for congresses, travel, and any kind of community engagement.

Methodology

The workshop followed a hands-on learning approach. After a short introduction to the features and apps of ArcGIS Online and StoryMaps, participants were divided into small groups and encouraged to design and develop their own web mapping applications related to EGEA's activities or to the congress theme. Each group chose a topic, collected or created small datasets (through online surveys or public data sources), and used ArcGIS Online tools to visualize, analyze, and present their findings. Emphasis was placed on experimentation. Throughout the session, participants received technical guidance and thematic support when needed. The final outcomes were compiled into a *StoryMap Collection*, serving as a showcase of EGEA's potential for using the ArcGIS Online platform.

Results and Interpretation

At the conclusion of the workshop, four functional project prototypes were developed:

1. **AC 2026 Map:** A pilot concept for future congress organization. The map allows users to click on buildings of a congress venue to see which workshops or trainings take place there and includes a linked list view for quick navigation. This demonstrates how ArcGIS

Online can be used as an interactive guide in event logistics and communication with the participants.

2. **My Journey with EGEA:** Based on survey data collected from AC-participants about their past attendance at EGEA events, this project visualized travel histories, satisfaction levels, and roles within the network. The results were presented in a StoryMap combining a map and dashboard with summary charts.
3. **Journeys to the AC:** This project focused on the current congress participants, mapping their origins and travel modes to the event. The output included interactive bar and pie charts as well as a transport mode map, providing a first example of data storytelling with community-generated content.
4. **How to Reach an EGEA Congress:** This team explored accessibility and travel times to future EGEA events. Using ArcGIS Online's spatial analysis tools, they calculated and visualized isochrones (travel-time areas) for car travel to the 2025 congress venue. The resulting map could be seen as an illustration of the potential of GIS for analyzing connectivity and sustainability aspects of event planning.

Together, these projects illustrate both the creative potential and practical applicability of ArcGIS Online within EGEA. The workshop successfully introduced EGEA members to the ArcGIS Online environment and fostered an atmosphere of collaborative exploration. Despite limited prior experience among participants, all groups produced tangible outputs that can serve as templates for future projects.

The resulting StoryMap Collection functions as a *proof of concept* for integrating GIS and web mapping tools into EGEA's everyday practices, ranging from congress organization and mobility analysis to community engagement and data visualization. EGEA and future event organizers

could build on this foundation by focusing on the creation of data collection standards, enhancing spatial storytelling techniques, and further enable sustainability assessments.

Literature

No external literature was used in the preparation or execution of this workshop.

Contacts

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2.8 “Spying out megastructures”

Authors: Pola Mickiewicz & Zofia Sułkowska

The workshop was focused on megastructures constructed for different types of mass events. The aim was to gain knowledge about megastructures, their sustainable planning, and the impact that such investments may have on local communities and the natural environment. An important element of the workshops was also the analysis of changes in the NDVI (Normalized Difference Vegetation Index) values, carried out with the use of Google Earth Engine (GEE), before and after two mass events – the Pol’and Rock Festival and the Sziget Festival.

Research Questions:

- What is a megastructure, and how can it be planned to avoid becoming a “white elephant”?
- What impact do mass events and the construction of new megastructures have on the environment?
- Can GEE be used to assess the environmental impact of music festivals through the NDVI index?

The workshop leaders dedicated much of their university education to geoinformatics, cartography, and remote sensing. At the University of Warsaw, they attended courses on the use of GEE as well as several classes related to remote sensing. They are also interested in socio-economic geography, tourism, and world geography, where mass events such as music festivals or major sporting competitions are an integral part. In their bachelor’s and master’s theses, they addressed topics connected with cartography, mass events, and remote sensing.

Methodology

The workshops consisted of two main modules – theoretical and practical. In the first part, participants attended a lecture presenting key concepts and theoretical knowledge necessary to understand the topic of mass events. They also became familiar with case studies of megastructures constructed for international events. At the end of the first module participants had the opportunity to check their knowledge about existing megastructures during a Kahoot quiz and try to recognise them based on satellite pictures.

In the second part, participants had the opportunity to apply the acquired knowledge in practice. Using Google Earth Engine, they analysed how mass events influence the natural environment. The analyses were based on two case studies: the Sziget Festival and the Pol’and Rock Festival.

With the help of JavaScript code and formulas calculating vegetation indices such as NDVI, participants compared the state of the environment before and after these events. In the final session, a discussion on the theory of designing an “ideal megastructure” was held, resulting in a poster and futuristic building visualizations created with the support of AI tools.

Results and Interpretation

The interpretations and results of the analyses carried out in GEE were presented by the participants in the form of multimedia presentations (Appendix 1). In addition, during the concluding discussion, participants prepared a poster describing the “ideal megastructure,” designed in such a way as to allow for reuse after the event and to prevent it from becoming another “white elephant.”

Due to the varied level of knowledge and experience with GEE among participants, it was challenging to adjust the content and teaching methods to fully meet everyone’s expectations. Dividing the participants into two groups and conducting analyses simultaneously, adapted to different levels of expertise, would have been a useful solution. Furthermore, the use of commercial data (e.g., under an educational license) would significantly improve the precision of the analyses. Higher temporal and spatial resolution would make it easier to confirm whether the festival was indeed the decisive factor influencing the deterioration of vegetation condition.

However, thanks to the knowledge gained about JavaScript and GEE, participants are now able to modify and implement the code distributed during the workshop to analyse the environmental

impact of other mass events. This skill can be particularly valuable in their future scientific research, as it provides them with practical tools for independent analysis and supports the development of new research questions and approaches.

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2.9 “Helping your community. Volunteerism in- and outside of EGEA”

Authors: Matthew Becker & Nataliia Filimonchuk

The 21st century is not an easy reality to wake up to in the morning. The world is ridden by natural catastrophes, war, pandemics, injustice, rising populism, loneliness, and a general feeling that the world is going to end within the next 20 years. But let us be honest: This is not the first time humanity is going through a rough patch. Marxists will tell you that there has always been some form of institutionalised suffering, centrists and neoliberals will say that we only need “one last push” and get up earlier in the morning to get to a new age of prosperity, and right-wing extremists - well, maybe let us not get into that.

Whatever your political opinion may be, you will probably agree with the statement that just talking about opinions never actually got us anywhere. Yes, discussion and exchange of ideas is important and has always been fundamental to progress, but there has always been the need for action from time to time. There has always been the need for someone to implement the ideas and initiate real impact on the streets.

Often, the people who actually have done so have been those that have had the foresight, the will, and the resilience to go beyond the call of duty. This is what volunteering is about: It is about acting on one’s intrinsic motivation in an attempt to contribute to a cause that is worth it. And unlike a lot of people in the past, EGEAns have the major advantage of having been given a platform to spread the call for action across the whole of Europe.

In this workshop, we wanted to explore the theories behind volunteering together with the participants, in order for them to be able to acquire a box of tools to organise their own volunteering event or group of volunteers, both within and outside of EGEA. How do you operationalise a cause you want to work for? How do you translate this into realistic initiatives? How do you motivate a group of volunteers - and keep them motivated? How do you budget for all this properly? How can you use EGEA as a starting point for your initiative? And finally, how do you measure the initiative’s impact?

Nataliia wrote her master’s thesis about volunteerism, to then start a job as a project manager in the Ukrainian Volunteer Service. She has been involved in multiple professionally organised volunteering initiatives, both as a participant and as a manager.

While Matthew has had no professional or theoretical experience in volunteering, he has organised and participated in some volunteering initiatives, both within and outside of EGEA.

Methodology

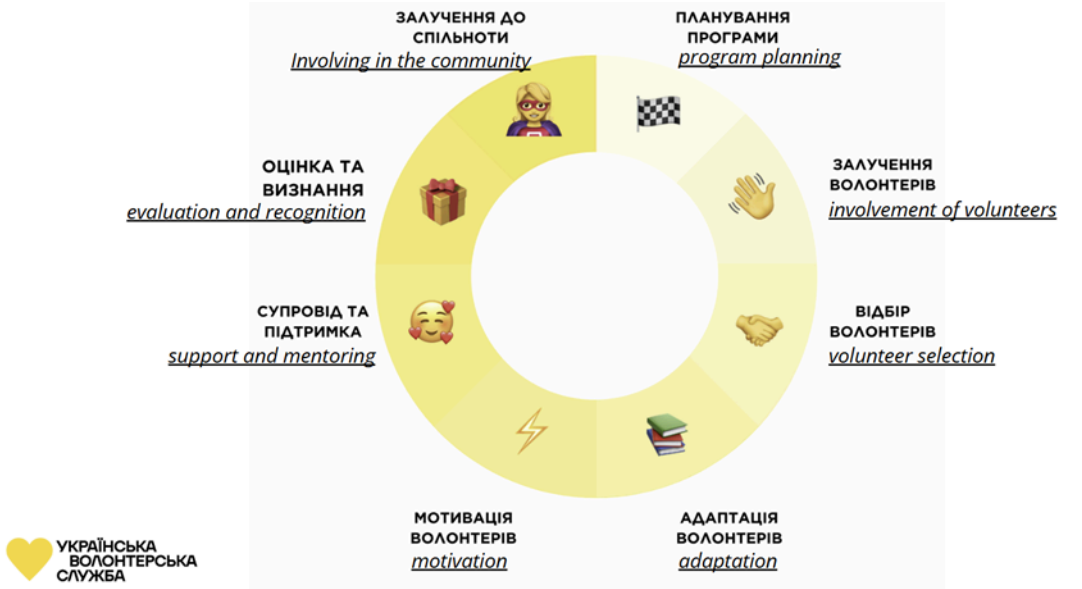
Our workshop consisted of 4 logically interconnected parts. The most important aspects of the program focused on what the role of EGEA is in developing volunteering communities and on engaging people (both individually and as groups) in local and supralocal communities in their city/country. We presented the volunteer management cycle and focused more on motivation and other issues that are valuable specifically for EGEA.

Session 1: Volunteerism - State of the Art. In this session, we presented the history of the development of volunteering in the world, presented the basic aspects of volunteering, and also conducted a brainstorming of volunteering ideas that we can implement together in our entities, in our cities, with our friends, etc.

Session 2: What do you want to do? In the next session, we talked about how and where to look for volunteering opportunities in small communities, in big cities or far from home, how to look for online volunteering opportunities, etc. We also mentioned the triangle of needs, which aims to explain how the local community, the organisation involved in volunteering, and the volunteers themselves benefit from volunteering. After that, we divided the participants into several groups within which they began to plan the first ideas for their volunteer projects.

Session 3: The Volunteer Management Cycle. In the third part, we examined our main tool - **The Volunteer Management Cycle** which was kindly shared with us by the public organization "Ukrainian Volunteer Service". We also examined the three types of motivation identified by American researcher David McClelland. Finally, we summed up with a general discussion in the team.

Session 4: How can you get involved? The final part of our workshop was aimed at offering the participants more motivation and inspiration, so we shared a little bit of our motivation - in particular, we talked about our volunteering experiences. After this short part of the program, the participants had time to finalise their volunteer programs, by using the volunteer management cycle, and all the information they received previously.



Scheme of the Volunteer management cycle, developed by the NGO "Ukrainian Volunteer Service"

	RECOGNITION	RESULT	BELONGING
SLOGAN	• I can do what I believe is right!	• I change the world and myself for the better!	• I am part of an incredible community!
NEED	• To be better than others	• To be better than before	• To be "one of us"
HOW DO THEY WORK?	• Independently and hierarchically	• Independently or in small teams	• Only in teams
WHAT IS IMPORTANT TO THEM?	• Being the center of attention • Having authority • Special role in the team • Social capital • Public recognition • Recognition from the leader	• Seeing concrete results • Future prospects • Transparent rules • Considering opinions • Recognition from experts	• Emotions and impressions • New connections • Drive and optimism • Project scale • Quick wins • Time with the team
HOW CAN WE MOTIVATE THEM?	• Prestigious job title • Their own team • Personal distinction • Media interviews • Quote on the website • Public awards • Photo with a thought leader • Exclusive meetings • Public speaking	• Volunteer certificate • "Smart" discussions • Strategic sessions • Internal training • Expert feedback • Meetings with authorities • Progress reports • Communication with beneficiaries	• Badges and t-shirts • Team chats • Team communication • Shared rest activities • Certificates for all • "Secret friend" initiative • Group photos and videos • Music and drive • Group reflections

David McClelland's Motivation System

Results and Interpretation

The results of our workshop were 4 planned volunteer events that participants can hold in their own entity or together with other entities. Participants brainstormed volunteer ideas and created events that they can implement in their local communities.

1. One project was aimed at helping to restore forests. ECOSIA is a search engine (company) that dedicates all its profits to fighting climate change. Students are a large part of the population that very often uses various search engines in their work. The goal of this volunteer project was to tell the world, and particularly the European student community, about ECOSIA, and to involve people in the fight against rapid climate change, by inspiring them to use it in their studies. Additionally, the participants want to inspire student communities to advocate for ECOSIA's use at the university level.
2. The second team developed a project that aimed to help the local community map the area to monitor and engage with local development. This project involves working with volunteers who are willing to help map infrastructure and buildings in a given area. Through this project, volunteers will gain practical mapping skills. The project can be regular and repeated several times.
3. The third team came up with an idea that could be implemented at the university or entity, potentially even on a regular basis: To organize joint blood donations. In addition to the significant benefits for the local community, the organizers also took care of developing ideas for benefits for the project participants (blood donors).
4. The fourth team developed an "Educational tour about city green spaces". The aim of this project was to talk about how green spaces affect people and cities, air quality, microclimate and biodiversity. This project can be carried out for students of local universities, members of public associations and all interested parties. Spreading knowledge about greening the city and bringing like-minded people together around a common interest is a very necessary and useful action for the development of modern cities.

You can view these 4 volunteer projects by following this link:

https://drive.google.com/drive/u/1/folders/154NcuRy8XTdtJI0w2Zxl5gIqHUXiy1aw

Based on the results of the workshop, there is the possibility to write manuals on small volunteering events that can be organised short-term with one or two entities.

We also created a **Google form** and distributed it not only to our workshop participants but also to other EGEA members. In this form, we asked people about their volunteering experiences, what types of volunteering they were most interested in, and what ideas they would like to

implement. We received 9 responses, but all of them were meaningful, interesting and with lively ideas.

We found that the areas of volunteering that our respondents were most interested in were environmental protection and climate change adaptation. Respondents were also interested in topics such as community building, addressing social injustice, humanitarian aid, political activism, and education and sports. Some of our survey participants have strong volunteer experience, including assisting with medical patient transportation, coaching, environmental initiatives, and informal education projects. And these people also have good ideas for future volunteer projects.

In general, we really liked the workshop: The process of preparing and searching for information; the workshop itself and communicating with participants on various topics of volunteering and assistance; the results of the workshop itself, which are very inspiring. One detail that we did not take into account (or ignored), however, is ensuring high-quality communication between workshop participants. This can be done quite simply - by creating a joint chat in WhatsApp. A common space for communication helps to maintain contact with the group during and after the workshop itself, it helps to share common ideas and initiatives and, possibly, create something new.

So, volunteering inspires. Volunteering provides resources. It gives you the opportunity to meet wonderful people and communicate with like-minded individuals, improve your skills and develop new ones, be involved in changes and feel your help to others. Volunteering is an integral part of our lives. It did not arise today and will definitely not end tomorrow. There will always be those who will be ready to help others and make this world a better place. And it is thanks to volunteerism and voluntary actions of caring about people that we are staying afloat. Remember: "A good action has great power"!

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3. Excursions

3.1 Lucerne: Stadium and City Tour

Zoe Gyr & Tom Spinke

As part of the Annual Congress 2025 in Melchtal (Switzerland), we took an excursion to Lucerne. The city is undoubtedly one of the most beautiful cities in Switzerland, impressing visitors with its location on the shores of Lake Lucerne, surrounded by striking mountain landscapes. Beyond its natural setting, it is above all the historic architecture that defines the cityscape and makes a visit such a unique experience.

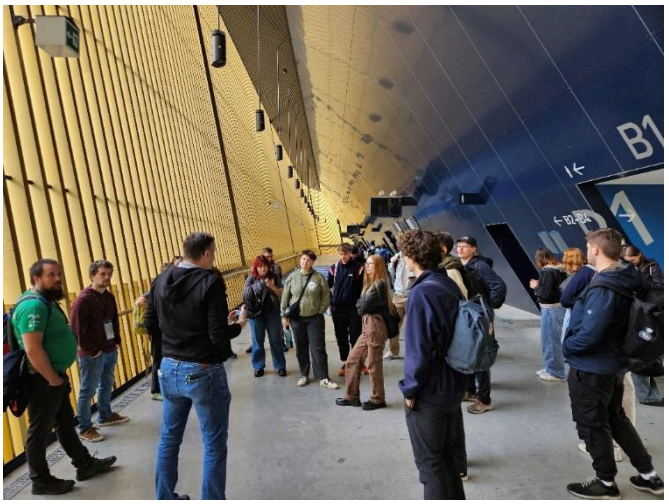
In the morning, we enjoyed some free time and visited the Swissporarena, home of FC Lucerne. Beyond its sporting relevance, the stadium is remarkable for its sustainable design features:

- Constructed with a strong focus on energy efficiency and insulation;
- Excellent public transport access, reducing dependence on cars;
- Roof areas equipped with photovoltaic panels that generate renewable electricity;
- Situated in the Allmend Lucerne area, a diverse green and recreational area with sports facilities, walking paths, as well as living and working spaces.

A particular highlight was the visit to the world-famous Chapel Bridge with its adjacent Water Tower. Widely considered the most photographed landmark in Lucerne, the bridge impressively connects the two banks of the Reuss River. Its history is especially fascinating: After a devastating fire in 1993, it was rebuilt in record time and ceremoniously reopened the following year. That a structure with a history of more than 650 years remains so present in the cityscape today gives its special charm. Under the roof of the bridge, numerous triangular wooden panels display paintings of historical scenes. Many of these are dedicated to themes of death and transience, adding a contemplative, almost meditative dimension to the experience.

No less striking was our walk along the Musegg Wall, a medieval fortification with nine towers. The climb up the Zytturm Tower rewarded us with breathtaking views over the city's rooftops and the lake beyond. Beyond its rich historical value, the wall also holds ecological importance. Its niches serve as a habitat for jackdaws, alpine swifts, bats, lizards, and a variety of insects, offering a vivid example of how cultural and natural heritage intersect in Lucerne.

The excursion vividly illustrated how historic architecture, natural environments, and modern infrastructure blend together in Lucerne. In the context of the congress, it was particularly inspiring to see how the city preserves its traditions while at the same time embracing future-oriented and sustainable practices.



3.2 Rotsee: Lake Conservation and Rowing Sports

Anna Czerniejewska, Laurent Christen, Paul Rüter & Konstantin Leonhardi

As part of the congress programme, participants joined an excursion to the Rotsee near Lucerne, guided by Anna Czerniejewska from the Division of Water Bodies and Soil of the Canton of Lucerne.

The day began with a short walk through the city of Lucerne, passing along the lakeside to the famous Lion Monument. There, Laurent from EGEA Zürich introduced the monument's historical background and explained its connection to Lucerne's role as a conservative centre following the Napoleonic era.

Placeholder for photo of the Lion Monument

From the city centre, the group continued to the Rotsee, located just north of Lucerne. Upon arrival, Anna Czerniejewska welcomed the participants and guided a walk around the lake, introducing its geographical setting and ecological importance. She explained how the Rotsee, a typical glacial lake, provides an important habitat for many plant and animal species, while also being used intensively for sporting events, particularly rowing.

Placeholder for photo of the the Rotsee from the excursion

One of the first topics discussed along the lakeshore was the system of protection zones. The silting zones at both ends of the Rotsee are of particular ecological value, as their gently sloping lakebeds create diverse habitats for numerous species. Because of their sensitivity, these areas are subject to stricter protection measures than other parts of the lake. Next to them, fens extend along both sides of the Rotsee. These federally protected habitats host a range of endangered species and contribute significantly to local biodiversity.

Placeholder for map of protection zones

During the walk, Anna also highlighted how the Rotsee's natural and human uses are carefully balanced. Thanks to its sheltered location and calm surface, the Rotsee is considered one of the best rowing lakes in the world. Its length of just over two

kilometres, the lack of currents, and the surrounding hills that block the wind create ideal conditions for rowing competitions. This tradition goes back many decades, but to preserve the lake's ecosystem, strict rules are in place: only four major rowing events are permitted each year, and rowing activities are limited to specific periods between May and October.

The Rotsee is therefore a remarkable example of how nature conservation and recreational use can successfully coexist. This connection also relates closely to the overall theme of the congress.

The excursion concluded at the offices of the Division of Water Bodies and Soil of the Canton of Lucerne, where participants were welcomed with a traditional Swiss Apéro and had the chance to taste two typical Lucerne pastries, rounding off an informative and enjoyable day. Special thanks go to Anna and the Canton of Lucerne for their warm welcome and the valuable insights they shared during the excursion.

3.3 Engelberg: Development of Sports and Tourism

Anna Stöckli, Lynn Bolliger & Franziska Tarnow

At 8:45 the excursion group took a bus to Engelberg and arrived early at 9:30 at the Sportgymnasium Engelberg. This extra time was used to visit the Schaukäserei in the cloister right opposite the Sportgymnasium, a place where one can watch cheese be made at certain times. Sadly the group arrived at a time when there was no work in progress. Instead the participants took a look at all the locally made specialties such as dried apple rings, ice cream, alpine herbs syrup, swiss cheese and many more.

At 10:30 the tour through the Sportgymnasium started with a short presentation about the history of winter sports in Switzerland and the past, present and future of the school, including some of the more famous alumni of the school such as Marco Odermatt and Michelle Gisin. It demonstrated how closely linked the invention of winter sports, the development of the town, the school, the infrastructure and the climate are linked. All participants received a promotional book about the history of Engelberg, the school and Swiss winter sports. Afterward the guide showed the group around the school, the sports hall, the teaching rooms, the common spaces and even the Hall of Fame, where they put up the helmets all athletes wore for their first grand success. The tour finished with a lively discussion and a question and answer session.

After the tour the group took a leisurely walk towards the sport park, where the tour of the ski jumping slope would take place in the afternoon. With the lunch carefully prepared by the kitchen team, everybody enjoyed a nice picnic outside.

At 13:00 all participants gathered in front of the sport park and met up with the guide for the ski jumping slope. Her many years of experience and her enthusiasm for Engelberg and her job really shone through while she led everybody up the slope step for step and expounded on the origins of ski jumping, the velocity of the athletes going down, the rules, the judges and the technique behind jumping so far. The view from the top of the slope was incredible (see

picture on the left), but all participants collectively came to the conclusion that ski jumping athletes have to be at least slightly crazy to jump up to 144 meters down a mountain at top speeds of about 95km/h.

To conclude the excursion the participants were sent on a little guessing game through the old town of Engelberg, provided by Engelberg tourism, where they had to find the meaning of swiss german inscriptions, count windows and search for clues to find the correct path. Per chance some of the participants met a few EGEA alumni that had assembled for their own event, a parcour through Engelberg.

After completing the game there was some time to shop for souvenirs before everybody assembled at the Titlis Talstation to take the bus back to the accommodation.

The feedback received from the participants was very positive, citing the guided tours as very interesting and the guessing game as fun, the one point to improve would be a bit more free time in Engelberg, as the departure was slightly rushed. This was also because the tour of the ski jumping slope took longer than it was supposed to.

3.4 Glacial Landscape: The Gäntel Valley glacial imprints and developement

David Hacke & Mirjam Iselin

This excursion took us from Melchsee Frutt along four alpine lakes and one mountain pass to Engelberg. While hiking we passed various glacial landforms and crossed a glacial valley experiencing the power of glaciers first hand.

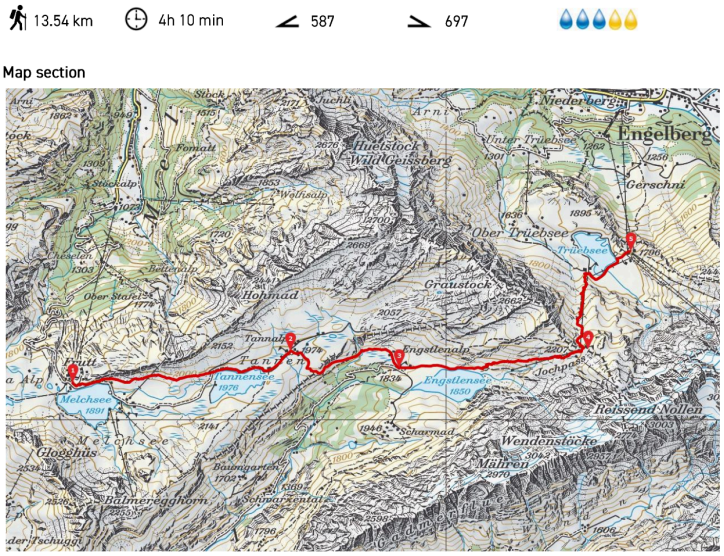


Figure 1: hiking route

Starting at the accommodation we took the gondola from Stöckalp up to Melchsee Frutt where our first lake, the Melchsee with its deep blue colour, is located. We quickly left the village and the first lake behind us and reached the second lake (Lake Tannensee) on to the Tannalp in a short time. Impressively greeted by the karstic landscape formed during the geological unit of the Helvetikum or Penninikum we were greeted by calcite rock formations who are dominating the pre-alps. The whole area we hiked through was covered by glacier ice during the last glacial maximum and divided by the Aare glacier and the Reuss glacier. They were named after two river systems draining the respective valleys occupied by the glacier complexes.

Continuing our hike downhill through a U-valley, typical for glacial landscapes, we passed the striking Spycherflue leading us towards the Gäntelvalley. The Gäntelvalley itself is a hanging-valley, which was formed by a smaller glacier flowing into a bigger one, in this case the Steingletscher which came through the Gadmertal from the Sustenpass. This means that the U-valley entrance is higher than the valley floor of the

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valley the hanging-valley leads into. It usually has a steep transition where the two valleys meet. This is caused by the higher erosive force of the larger glacier which manages to deepen the U-valley further than the small glacier which flows into the larger one. Alongside we heard a whistle and were very lucky to spot a large group of marmots not too far away. From here we should also be able to spot the marvellous snow covered Titlis with its remnants of the Titlis glacier which was unfortunately partly covered in clouds. The Titlis-glacier is intensively used. Skislopes on the glacier ensure a long ski-season to allow training for athletes longer in the year and at the Titlis-cablecar station a glacier-cave is dug out for tourists to experience the glacier from the inside. However, like the other glaciers the Titlis-glacier is retreating rapidly.

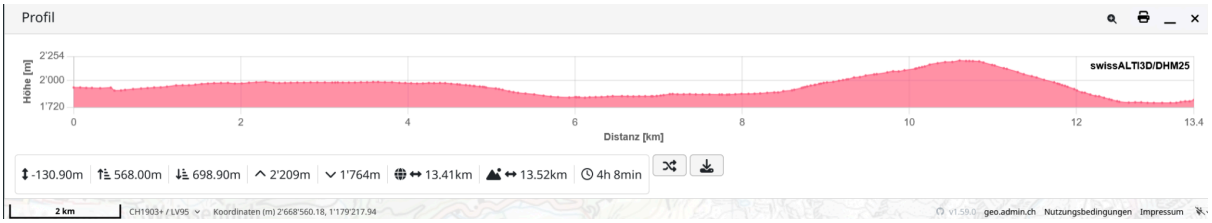

Figure 2: hiking profile

Before reaching the Engstlensee we had to pass several moraines. They are a retreat stadium from the glacier melt since the last glacial maximum and over a thousand years old. The Engstlensee itself is partly dammed by moraines which makes a great viewpoint over the lake with its surrounding mountains. We had our lunch break there and some participants even took the chance to swim in the ice cold water. During our break we were accompanied by a very curious group of ducks. Leaving them at the lake we started our ascent up towards the Jochpass, the highest elevation of our hike. While hiking up the clouds grew thicker and thicker, blocking not only the view of the lake but also to several glaciers on the southern valley side. These glaciers already have lost most of their volume and cover and therefore most likely keep shrinking in the future. With no view on the top we decided to descend immediately. Suddenly the Trübsee appeared on the other side, also covered in clouds. Taking the gondola downhill from Trübsee to Engelberg we left the cloudy area and had a great view over Engelberg and the surrounding mountains. In total we hiked almost 14 km with approximately 550 m of elevation.

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Figure 3: group picture at cloudy Trübsee

3.5 Biodiversity: Re-wilding efforts and nature conservation in touristic areas

Elia Schmitter & Selin Goeksu

This excursion explored alpine biodiversity across the Mechtal and Melchsee-Frutt area, with a focus on how elevation, land use, and conservation shape species and habitats. The route crossed distinct climate and vegetation zones and touched on current conservation topics (rewilding, predators, protected wetlands), directly supporting the event's theme of understanding and communicating human–nature interactions in alpine landscapes.

Route and Schedule

- 08:30 - Departed Melchtal Sportcamp towards the cable-car which brings us to Melchsee-Frutt
- After arriving at Melchsee-Frutt, the hike took us first around lake Melchsee
- The hike continued down from Melchsee-Frutt towards Stöckalp into dense Fog and past pastures.
- In the late afternoon we arrived back at the Sportcamp.

What did we see and learn during the excursion?

One of the main topics was the habitat diversity in alpine terrain. The elevation changes lead to different vegetation and climatic conditions which in turn support a wide variety of plant and animal species. This habitat diversity was visible during our descent where we started at alpine meadows, lakes and bogs and crossed into dense forest which changed from coniferous to deciduous-coniferous mixed forest. These different habitats support changing bird assemblages. Of special interest in the Melchtal area is the rewilding of vultures. The area is part of Switzerlands vultures rewilding and observation program in cooperation with Tierpark Goldau. The group scanned for vultures and other birds of prey before the fog set in.

Another debate in Switzerland regarding rewilding is related to large terrestrial predators. The tour guide (Elia Schmitter) led a debate on wolf management in Switzerland. We examined different stakeholder perspectives:

- Farmers, which often oppose the re-introduction of large carnivores due to fears of livestock loss
- Urban residents: fascination and the desire to conserve nature leads to a support for large carnivores.
- Rural residents: fear of attacks on humans lead to an opposition towards wolves.
- Tourism: large carnivores can boost nature tourism but could also scare off some.

The debate connected biodiversity goals (large carnivores to control deer and other populations) with rural livelihoods, compensation schemes and non-lethal measures to protect livestock.

Another important factor regarding the biodiversity in the Melchtal-Valley are the alpine wetlands. In Switzerland alpine bogs and swamps are protected by the federal constitution as a hotspot of biodiversity and a unique habitat. On Melchsee-Frutt we discussed how the protection of these wetlands conflict with tourism and agricultural use, highlighting the conflicts regarding their conversation and trade-offs between requirements from different stakeholders in the area. However, the area of Melchsee-Frutt also provides an opportunity for people to engage with nature which provides opportunities to teach people about biodiversity and nature conservation. We also talked about the cultural landscape. The traditional alpine farms with livestock, yards and fences leads to a co-evolution of alpine biodiversity with alpine farming practices. The managed meadows and grazing hold the bushes in check which changes the biodiversity.

Figure 1: The group crossing a bridge in a playpark.

Figure 2 & 3: Lake Melchsee before the fog and the fog during the descent from Melchsee-Frutt.

Main Takeaways:

- Biodiversity is tightly coupled to elevation, microclimate and land-use practices.
- Rewilding and predator return raise practical questions about coexistence that require participatory processes and transparent compensation.

Figure 4: Group picture from the Biodiversity excursion.

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3.6 Hydropower: Historical development and impact of hydropower on the Melchsee-Frutt

Caspar Jahn, Paul Fürll, Jared Young, Luisa Bierig

The excursion focused on how hydropower had historically and was currently being produced in the region, using the two dammed lakes Melchsee & Tannensee as sources of water. To reach the lakes we headed south uphill to reach the Stöckalp SMF lsm gondola lift centre and were treated to stunning views as we ascended.

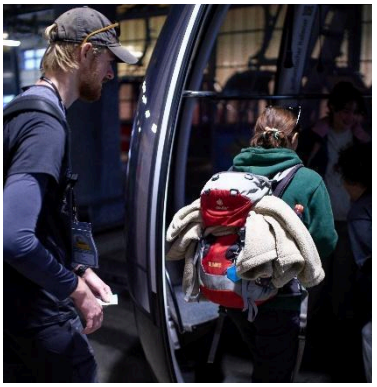
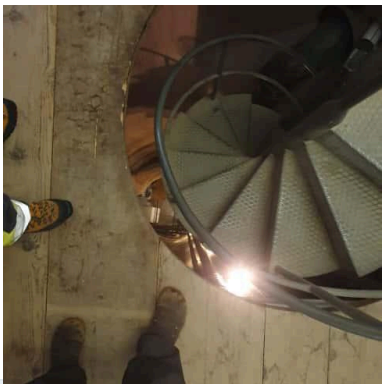


Figure Participants entering the Gondolas to ascend to the lakes



We visited this area because over 100 years ago both lakes received artificial dams so they could be used to generate electricity for the Melchsee-Frutt area. The hydropower plant built there was one of the first of its kind, using a naturally formed karstic cave to drop water down onto a turbine and generate power for the region. This became an attraction in itself, and alongside further developments such as, hotels skiing, it began expanded the areas appeal. As the topic of the congress is "Geographies of Celebration: Rethinking the impact of mega-events" this area attracts thousands of visitors per year, with the reason for people visiting changing with the seasons too.

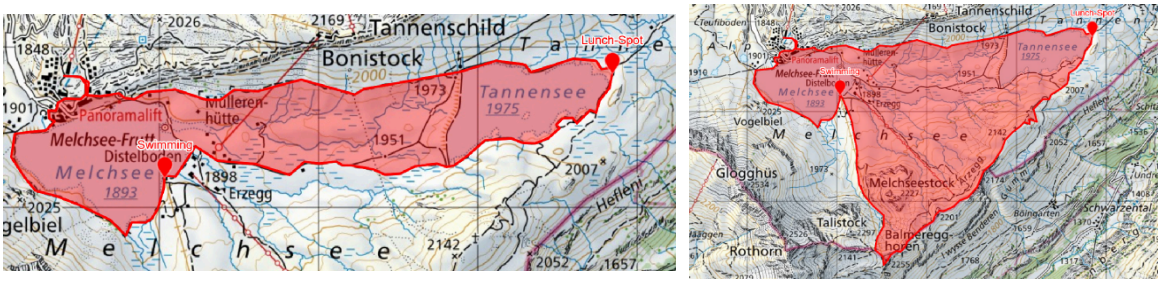


Figure The easy (left) and medium/harder (right) walking routes on offer

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The route was a simple circular walk around the two lakes (figure 3), with a stop half way for lunch and a swim weather permitting. We met the hydropower plant inspectors on their annual inspection of the dam and accompanying power generation systems spontaneously and they happily obliged us in showing us the access and control room to the power plant which descends 40ms down a spiral staircase into the mountain (Figure 2)

We learnt about the dam's construction and how in its design it is multifunctional by Swiss law as both power generation and flood prevention/control for the mountain region, which has allowed for safe access to power for the region and facilitated the building of hotels and activities since the first one was constructed in 1865.

Figure 5 Caspar showing us the historical design of the hydroplant

It was a truly wonderful moment of luck to meet the maintenance crews who also told us how it functioned and some of the challenges they have faced over the years (such as debris blocking the cave entrance or safety for visitors after a visitor fell into the channel and broke their leg not realising the bridge they were stood on was only a metal grate not a solid, uniform platform)

Figure 4 Caspar introducing the topic at the dam location

The excursion was well run, and the leader Caspar was well prepared for the trip. It ran smoothly and we had enough time and flexibility to engage meaningfully with the great opportunity we had to learn more about the location and hydropower from the inspectors.
My only suggestion would be to next time have a pre-discussed plan on how what to do if the group wishes to split, and some do the easy and some the hard route. We sorted it out smoothly while on the walk, but it would have been even better to have it pre-organised.

Overall, the excursion was superb, and everyone had an amazing time learning about the landscape, infrastructure and history based on feedback received post-excursion


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3.7 Alpine soils under pressure: how ski-slopes and climate change alter alpine soils

Maurus N. Villiger & Annika Spaar

How does the soil change with the altering environment when we go up in elevation? What are the characteristic differences of soils which are found under a ski-slope compared to alpine pastures? This excursion tried to answer exactly these questions by going up to Melchsee-Frutt with the cable car and walking back down to the sportcamp, while taking soil-samples on the way (Figure 1).

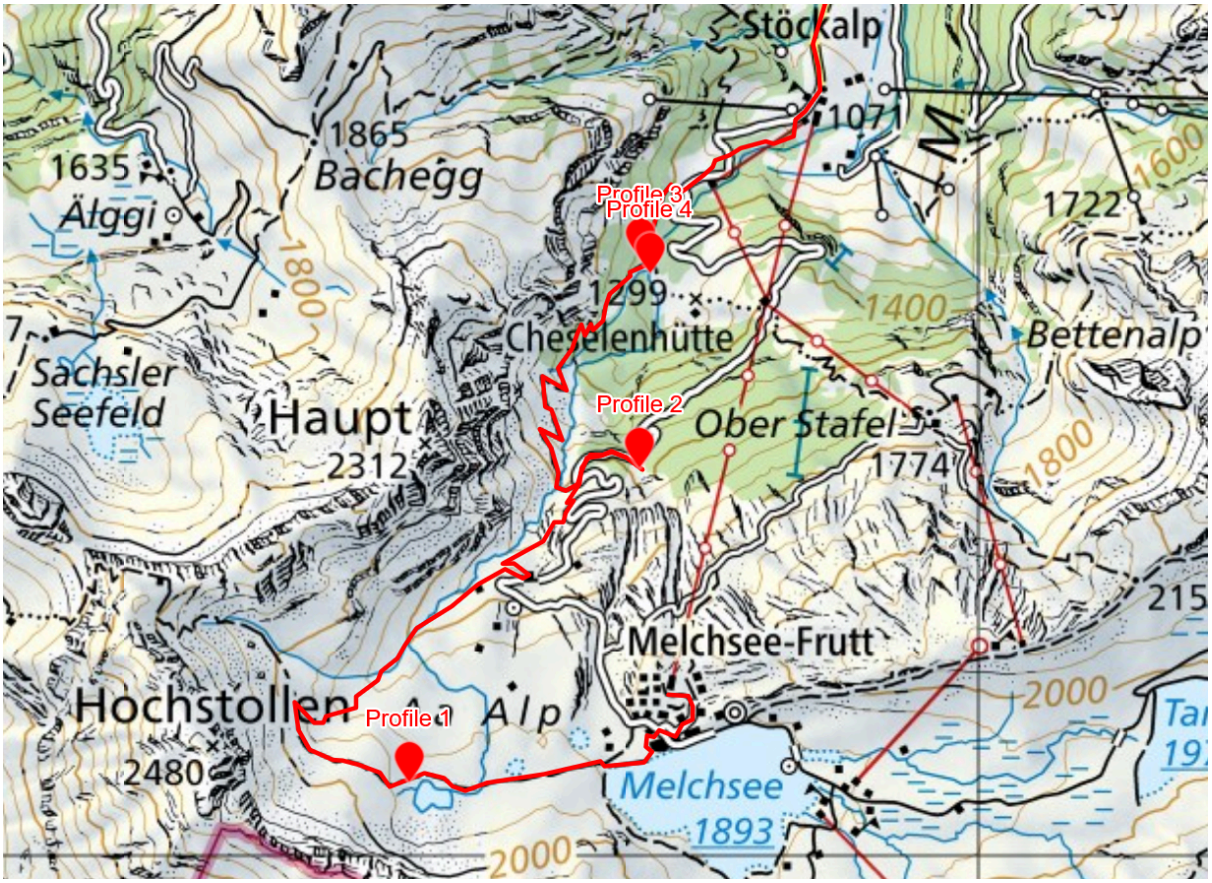

Figure 1: Map of the excursion trail with the indication where the soil profiles were dug. Profile 1: alpine pasture below a slope, profile 2: Ski-Slope in a steep forested area, profile 3: forest in the lower alpine zones, profile 4: pasture in the lower alpine area. Source: Swisstopo.

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The first soil profile was extracted at around 1900 m.a.s.l. close to the Blausee on the bottom of a slope. The soil profile was very deep (>1m) and we couldn't extract the whole. However, the profile that we extracted seems to be a Gleysol. It is characterized by an abrupt change in the colour which marks the border of water saturation. Here we find an orange colour as well as in the soil above. Below we have a temporally water saturated horizon which is dominated by grayish/blueish colours and some orange spots. There are nearly no such spots towards the bottom of the extracted profile, indicating the seasonality of water saturation. The particle size decreases with depth as well and the soil becomes loamy/silty and easily forms into shapes.

Regarding the seasonality of the water saturation it can be assumed that it is highest during the period of snow-melt, as it is at the bottom of a slope with possible accumulation of more snow during the winter (avalanches, wind drift) and the inflow of water from the slope. In fall, when we took the soil profile, the water saturation is the lowest.

Figure 2: Soil profile 1 at the Blausee.

The second soil profile was rather underwhelming. The soil was very shallow as it had just developed on the artificial slope. To create the slope rock was demolished and the gravel produced was distributed over the area to create an even surface for the ski slope. Thus a soil core could only be taken very shallow due to the rocks. Based on previous literature we expected the soil under a ski slope to be more compacted and show vegetation which is more used to wet environments due to the additional snow water input. Furthermore it is supposed to have less decomposed organic matter as lower average annual temperatures and more often occurring anaerobic conditions lead to a slower decomposition (Hudek et al. 2020; Casagrande et al. 2019; Pintaldi et al. 2017). However due to the young age and bad development of the soil we couldn't really test those assumptions. The only thing we could test is whether the additional freshly broken limestone had an influence on the soil pH. With a pH of around 6.5 this was not notably different from the other soil samples. With a TDR-sensor we measured the soil moisture and the temperature (10 cm deep) of the different soil profiles. TDR sensors (Time Domain Reflectometry) are soil moisture sensors that determine the volumetric water content (% vol.). The soil here had a moisture content of 18.80%, which is a moderate moisture content for the alpine environment (Dorigo et al. 2021). The soil temperature for all three measured profiles was around 10.20 °C, which looks like a quite average temperature for mid-September.

The last two samples were taken near the bottom of the hike at about 1100 m.a.s.l. There, one sample was taken from the pasture and one from the forest. The area at the bottom of the slope close to the river leads to an origin-material (material from which the soil developed) of gravel made of calcite rocks with some large boulders around it. In the pasture we found, as expected, a Rendzina. It contained a lot of gravel in the lower horizons and a small Ah-horizon of about 7cm. As expected, the Ah horizon showed a lower pH (pH 6) than the C-horizon (pH 8, Figure 3), as it contained less calcite to buffer the acidity coming in from rain (carbonic acid) and the vegetation (humid acids). The TDR-sensors gave us a value of 41.72% for the soil moisture, which is a quite high value (Dorigo et al. 2021). With taking into account that the pasture was close to a stream and it rained some days before the measurements, the value is realistic. It also showed what we expected, that the soils are more moist further down the mountain (accumulation of downstream water through the slope).

Figure 3: Soil profile of the Rendzina on the pasture with the pH measurement in the Ah and C horizon.

The soil in the forest was similar in depth but at the surface there were more organic materials. One could even argue that there is a small O-horizon on top of the Ah horizon. The pH on the top of the soil was even more acidic in the forest with a pH of around 5. However, in the depth the profile had a high pH as well with about 8. This is due to the higher input of humic acid in deciduous forest vegetation, which was present at this spot, leading to a lower pH in the top-horizon (Stahr et al. 2016). The soil moisture was notably higher at the bottom of the mountain, with a value of 33.54 %.

FIgure 4: Group picture at the location where soil profile 4 was taken (see Figure 3).

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3.8 Remote Sensing of Alpine Forests

Dr. Isabelle Helfenstein, Jeremiah Huggel, Lennart Greiner

The excursion was led by Dr. Isabelle Helfenstein and Jeremiah Huggel from the Remote Sensing Laboratories of the University of Zürich. It began with a short introduction, where Isabelle introduced the basics of passive optical remote sensing data. Key concepts such as spectral bands, wavelengths, and spatial resolution were explained with numerous examples of satellite images from the surrounding area. Participants learned the difference between active and passive remote sensing, as well as the distinctions between satellite, airborne, and UAV platforms. Animated satellite time series, for instance from the Netherlands, illustrated land surface changes related to management or disturbances like drought.

After the 45-minute introduction, the group moved to the football pitch up the hill. There, participants marked the pixel sizes of Landsat (30 m × 30 m) and Sentinel (10 m × 10 m) on the ground to visualize the relatively coarse resolution of satellite imagery compared to UAV data. A drone was then launched, and its technical features were introduced. Reference points and a light calibration panel were placed on the pitch before Jeremiah carried out a short test flight, capturing images that will be shared with participants after processing.

Figure 1: Launching the drone

Figure 2: Forest management technique on steep terrain

The following hike, about six kilometers long, started at the Sportcamp main building and led down into the valley before turning onto a forest path. At the forest edge, participants received an introduction to swiss forestry and alpine forestry on steep terrain. Dominant tree species and their characteristics were presented, along with forest management practices and the role of wildlife. Questions on primary and protected forests were addressed, and a brochure provided by the Canton of Obwalden was used to highlight the local protective functions of forests, such as slope stabilization. At the next stop, a signboard provided further information on local fauna and

wildlife protection areas. After a short uphill walk, five tree species - including beech, maple, and elm - were identified and their site characteristics explained.

Midway through the hike, at the highest point, the group paused at a scenic viewpoint overlooking the opposite slope. Here, participants observed forestry techniques used on steep terrain, such as cable-assisted logging, which creates characteristic star-shaped clearings. This pattern had already been visible in the animated satellite time series of the Melchtal valley over the last years. At this point of the hike, the group did a lunch break and asked further questions about alpine forestry. After a 40-minute break, the group continued along a narrow, steep path down to the village of Melchtal.

Figure 3: Path to Melchtal

Figure 4: Crossing the Melchaa stream

In the village, participants visited the Wallfahrtskirche Melchtal, which is closely associated with Brother Klaus. Relics are displayed in a side chapel for veneration. Following a short break, the group crossed the Melchaa River on a pedestrian bridge and walked back along the riverside path toward Sportcamp Melchtal. Along the way, early signs of autumn coloration could already be seen on the treetops. The excursion concluded in front of the Sportcamp main building, where participants expressed their gratitude to the excursion leaders.

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