

# Adapt4K

Promoting adaptation to climate change and bark beetle using a Citizen-Science transformative approach.

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GESELLSCHAFT FÜR  
FORSCHUNGS  
FÜRDERUNG  
NIEDERÖSTERREICH



## Past and on-going projects:

2015-2017	Biochar Net2U	FWF
2018-2022	Biochar Net2U2	FWF
2020-2022	Heavy Metal CityZen	FWF
2023-2025	GeBO/CityZen Boden	Wirtschafts agentur Wien

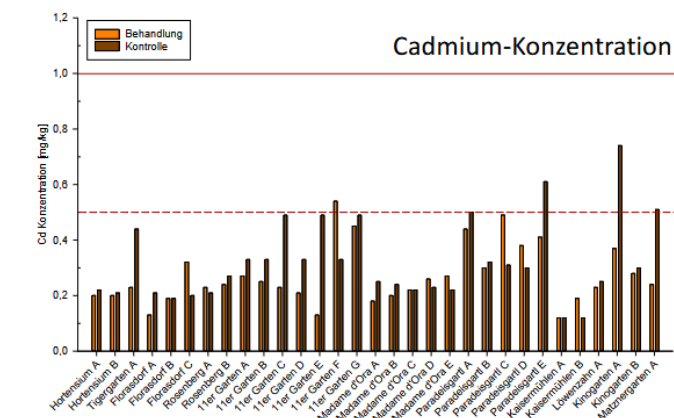
## Activities:

- Science communication
- Citizen science experiments
- Podcasts produced
- Biochar days established
- Science day events
- Lange nacht der forschung
- Räritaten borse
- Pub quiz
- Teaching materials published
- Scientific journal publications
- Websites

[biocharnet2u.wordpress.com/](http://biocharnet2u.wordpress.com/)

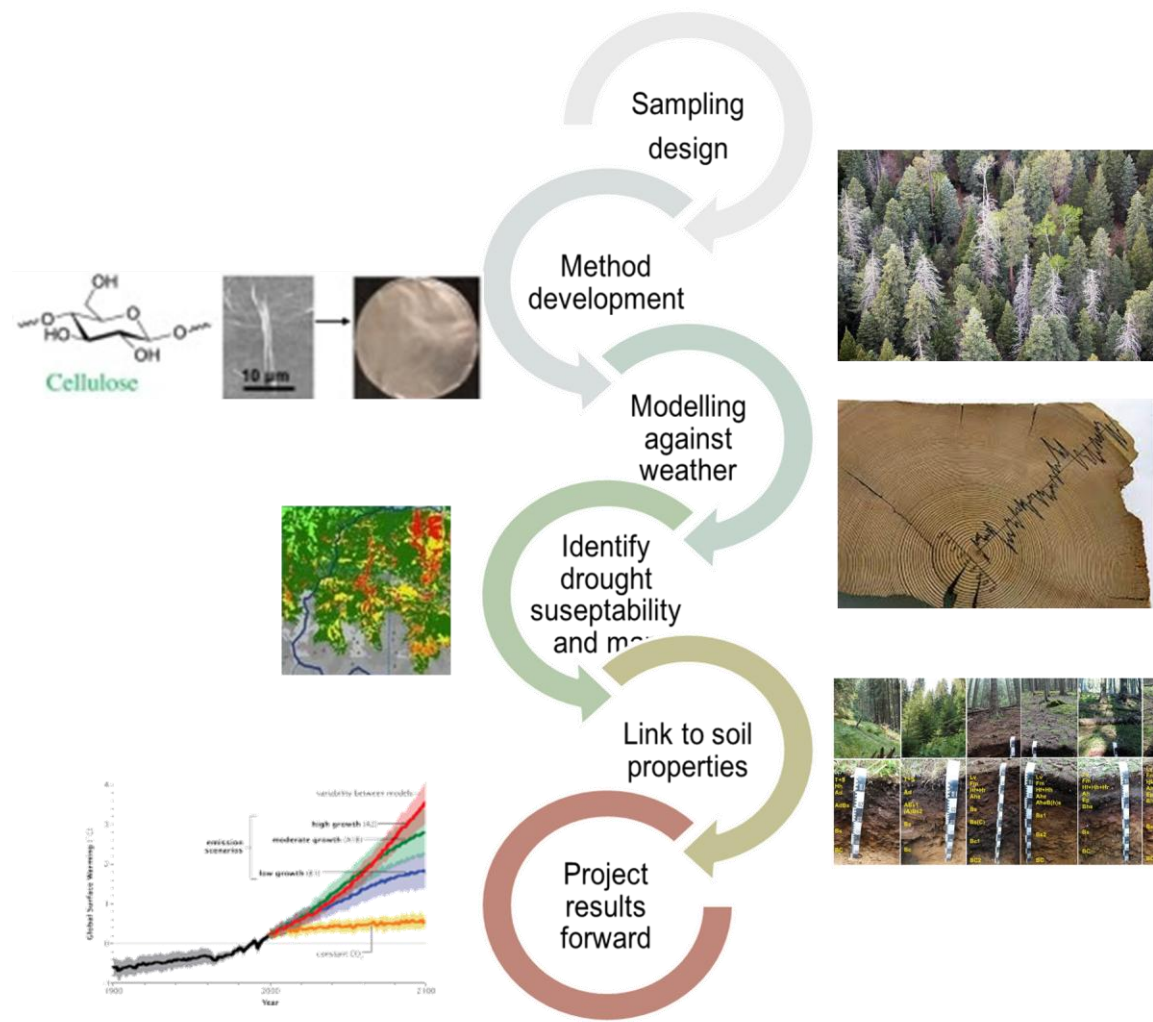


[cityzenboden.com](http://cityzenboden.com)





# Bark BeAT:

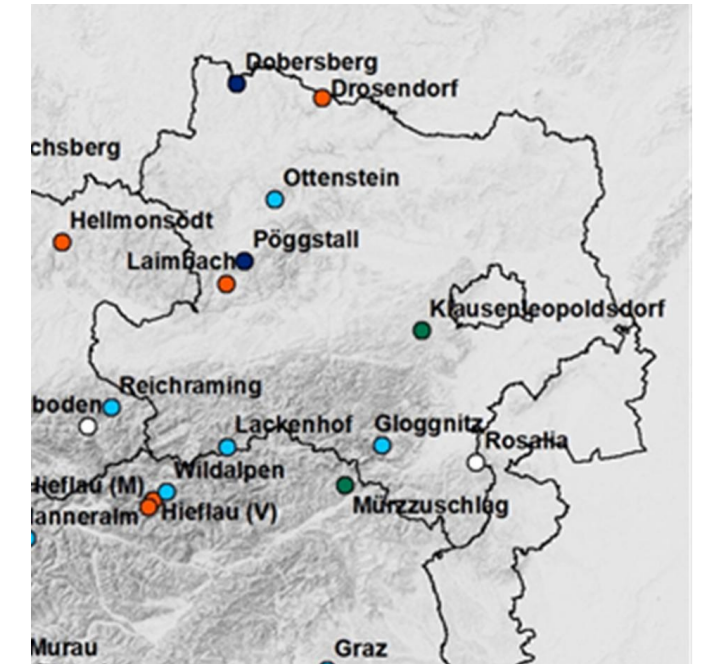


# Citizen science

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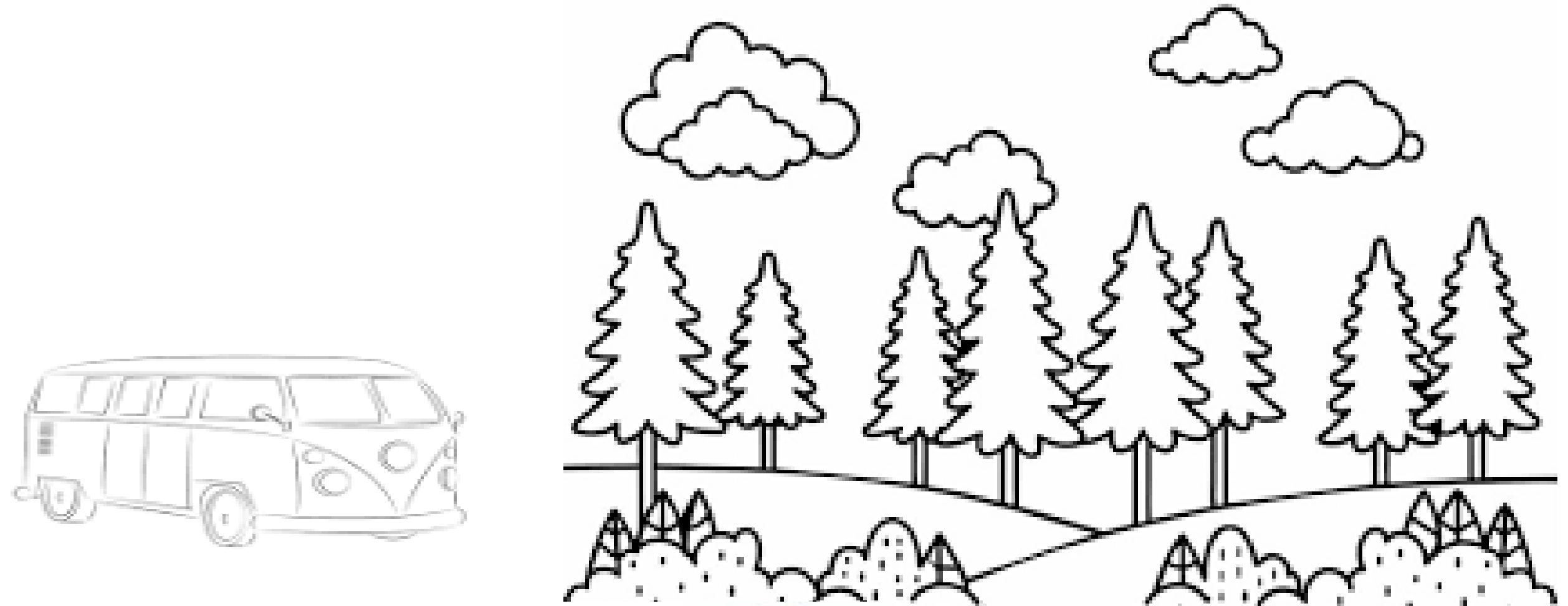


= Adapt4K





Scientists, social scientists, policy makers and forestry experts



Foresters and small holder forest owners



Free-timers

12 % of society and have a 30% willingness to participate in CS activities



Intrigued adolescents

7% of the population, 20% of willing to participate in CS

8-15 living labs (10).

## Living labs.

- Living labs are open innovation ecosystems in real-life environments using iterative feedback processes throughout a lifecycle approach of an innovation to create sustainable impact.
- They focus on co-creation & testing and scaling-up innovations providing (different types of) joint-value to the involved stakeholders.
- In this context, living labs operate as intermediaries/orchestrators among citizens, research organisations, companies and government agencies/levels.



## Survey.

- Identify forester tribe typologies, intrinsic attitudes, perceived problems and solutions.
- Determine current status of adaptation knowledge and capacity to act implement recommendations.

## Participatory workshops

- Initial workshop to identify key issues.
- Workshops and field days to discuss climate change adaptation options, and means of assessing their success.
- Road map development

## **Virtual academy.**

- Monthly online session where someone presents their work for 20 mins.
- Usually preceded by monthly project meeting.

## **Citizen retention**

- Training modules, in-person and online.
- Digital competence pass

8-15 living labs.



## Parameters we aim to measure.

**Parameter 1.1:** Soil, xylem and water data (BOKU).

Parameter 1.2: Finger soil texture (CS).

Parameter 1.3: Respective bulk density (CS).

**Parameter 1.4:** Respective total soil carbon, and nitrogen tot-P

**Parameter 1.5:** pH, soil respiration (CS).

Parameter 1.6: Tree cores  $^{13}\text{C}$  and  $^{18}\text{O}$  (CS).

Parameter 1.7: Bark beetle traps

Parameter 1.8: Tree height, BHD, position (CS)

Parameter 1.9: Understory, plant diversity and canopy analysis (CS).

**Parameter 1.10:** Decomposition (CS)

## Aims and goals of Adapt4K

- To identify, engage and create the Adapt4K networks.

These include foresters of small-scale holdings (for Citizen-Science activities on their land) and other actors and stakeholders identified above.

- Recruitment of Foresters willing to host Forest Living Labs.
- Establish interesting, engaging and effective communication channels between the different groups (WhatsApp groups, Webpage, Linked-In, Instagram posts, etc.).
- Augmentation of current data set to understand drivers of bark beetle attacks.
- Develop a “climate fit” Roadmap using a participatory approach.

**[Merci BOKU]**

- Stakeholders and foresters trained to be able to independently sample and –characterise forest sites.
- Sufficient sites characterised and sampled across Lower Austria.
- Stakeholders comprehend entire sampling and site characterisation process.
  
- To test the drought stress response of Norway Spruce to various adaption measures.
- To test and explore alternative management strategies and measurement parameters as defined by the Citizen Scientists and stakeholders.
  
- To integrate collected quality assured data into ongoing projects and models.
- To disseminate the results and findings of our studies to appropriate stakeholders and actors .
- Develop a “climate fit” Roadmap using a participatory approach.