

REVEALING // an inventory of Productive Landscapes

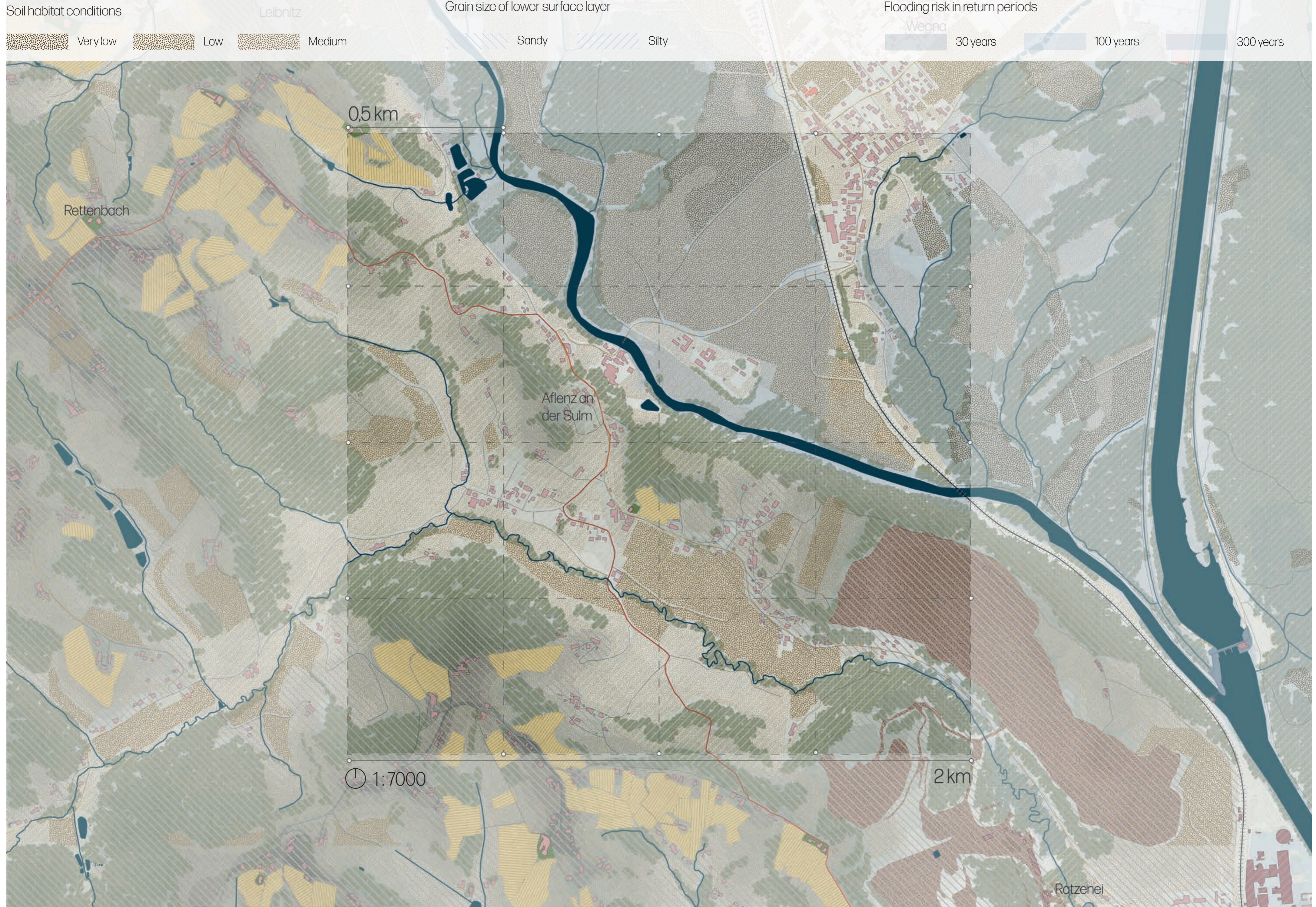
How is this territory productive?

A "Productive Landscape" is a landscape that integrates natural elements and human activities in a dynamic and interdependent way, where the territory is not merely an aesthetic backdrop but a complex system of resources, processes, and practices that sustain and transform human life.

The "Productive Landscape" is a living network of interactions, where human practices, such as cultivation, industry, and urbanization, are intertwined with ecological elements like forests, rivers, and biodiversity. It is a landscape that evolves over time, reflecting social, economic, and environmental transformations, and one that,

despite its productive intensity, retains the capacity to regenerate and maintain the natural resources essential for both human and ecological well-being.

The condition of the productive landscapes



TYPE	LEGEND	COLOURS	QUANTIFICATION	DEFINITION	WALKING THROUGH
FACTORY	Excavation area Cement factory and quarry buildings		The Holcim cement factory has a production capacity of up to 625.000 t of cement per year.	By 2025, Holcim has the goal to produce climate-neutral and fully recyclable building materials.	The factory system is made of different elements, the most relevant are the Holcim cement factory and the quarry for extraction on the material. It is vital for the support of the local economy; it guarantees jobs and economic development. It has significant environmental impacts including habitat destruction, pollution, and long-term landscape alteration with industrial processes.
WATER	Creeks and streams Water bodies Water power plant		298 km of the river Mur lies in Styria. The river Sulm flows at a speed of 34.66 m³/s .	The proportion of natural/ near-natural watercourses is 17% .	The water is characterized by the Mur river, a significant landscape element, and by the Sulm river (with all the other smaller tributaries). This network supports agriculture, viticulture, biodiversity, and local ecosystems being essential for flood regulation, a relevant issue in the lower Mur valley. An energy production plant is located in the confluences of the Sulm into the Mur.
CROPS	Crop fields		In 2017, the Styrian commercial orchards production was recorded by 1998 farms on 10.105 ha .	2691 tsd. tonnes was the amount of the total field crop and pasture production in Styria in 2023.	The crop production is a landmark in this landscape; it is essential for food production, supports local economies and shapes identity of these villages. Some issues arise regarding the maintenance of the soil fertility; intensive farming practices can lead to soil degradation, pesticide use, and water overuse, impacting biodiversity and ecosystem health.
FOREST	Wooded area		Forest area in Styria 2020 was 24,5% . 2023, forestry monetary production in Styria worthed 800,3 Mio € .	850.153 ha of the total surface area in Austria is forest.	Forests cover a big part of Styria; they provide timber as well as biodiversity, carbon sequestration, and ecosystem services like soil erosion control and water filtration. The support of life of different species is one of the main outcome of forest; overharvesting can lead to habitat loss, reduced biodiversity and degrading soil.
VINEYARDS	Recreational path "Vom Glescher zum Wein" Rows of vineyards Wine related activity (canteen "Weingut")		The amount of harvested wine in 2023 in Styria was 190.663 hl .	In Southstiria, there are 580 farms with vineyards on 2279 ha .	The vineyards are a growing land use in this landscape, tourism and economy. It supports biodiversity through sustainable practices and provides ecosystem services such as soil stabilization. Monoculture farming can reduce genetic diversity and the use of fertilizers and pesticides may harm surrounding ecosystems and water quality.
SETTLEMENTS	Streets Railway Public transport bus lines Buildings Industries		In 2023 Leibnitz had 13.000 inhabitants with a forecast of 15.000 citizens in 2026.	There were 12.400 companies with in total 7546 workers in Leibnitz in 2020.	The settlements represent the local identity of the villages; economic and cultural hub providing infrastructure, services and support for inhabitants. Fostering innovation and tourism they are the main driver of urban sprawl who can lead to habitat fragmentation, loss of agricultural land, increased pollution and strain on water and energy resources.

PICTURES: S. Almestad Bårdlund

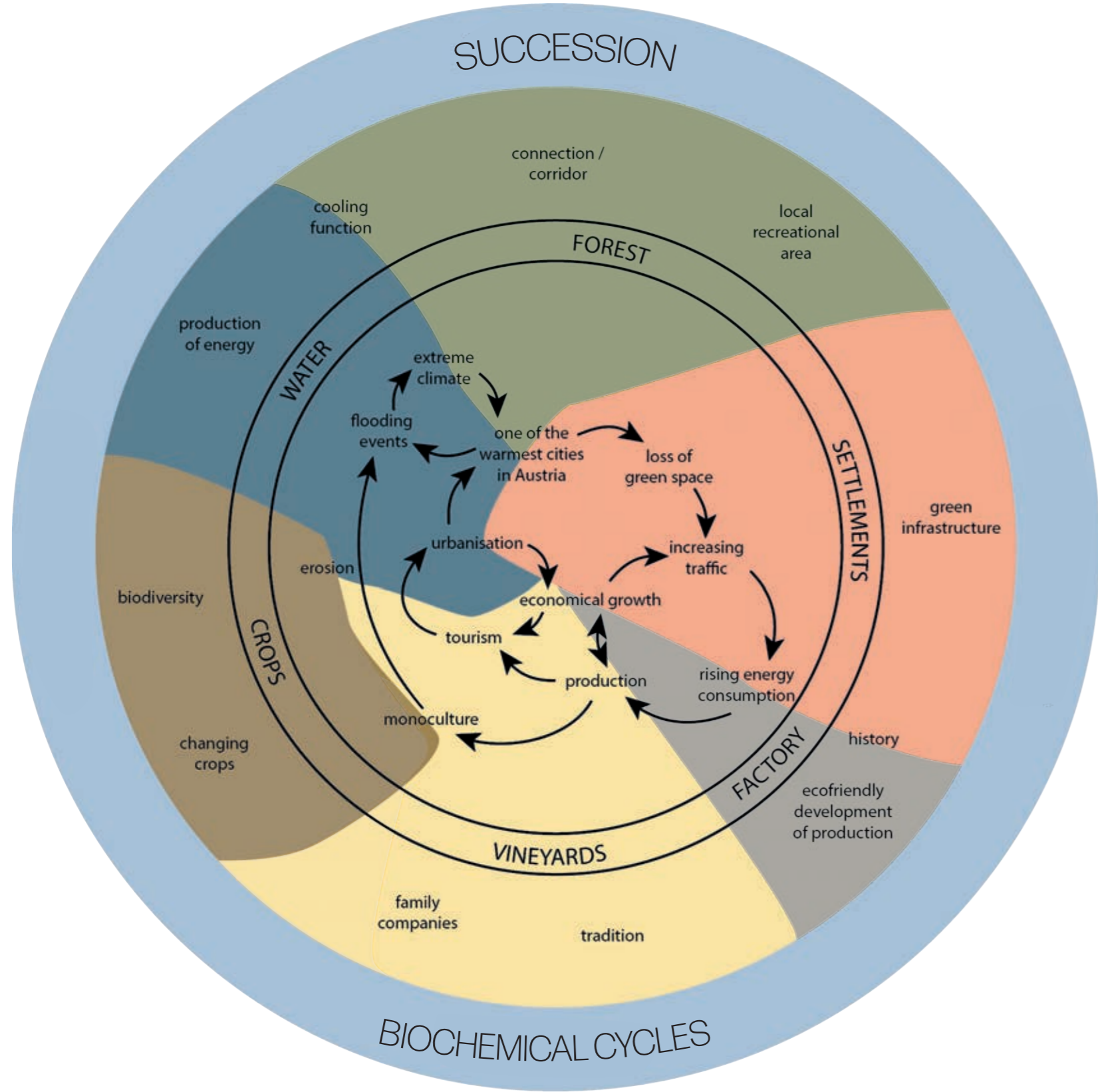
REVEALING to GROUNDING // landscape dynamics

How productive landscape has evolved?

The "revealing" process has revealed the various declination that the "production" concept can have: production not only as something monetary but something supporting in life, covering all the land

surfaces. Looking through this lens, this region can be seen as a palimpsest made of different productive landscapes, interlinked by both, natural and human alterations.

To get to the "grounding" process, it is necessary to stripe the "production" concept through time and also explicit the conceptual network.

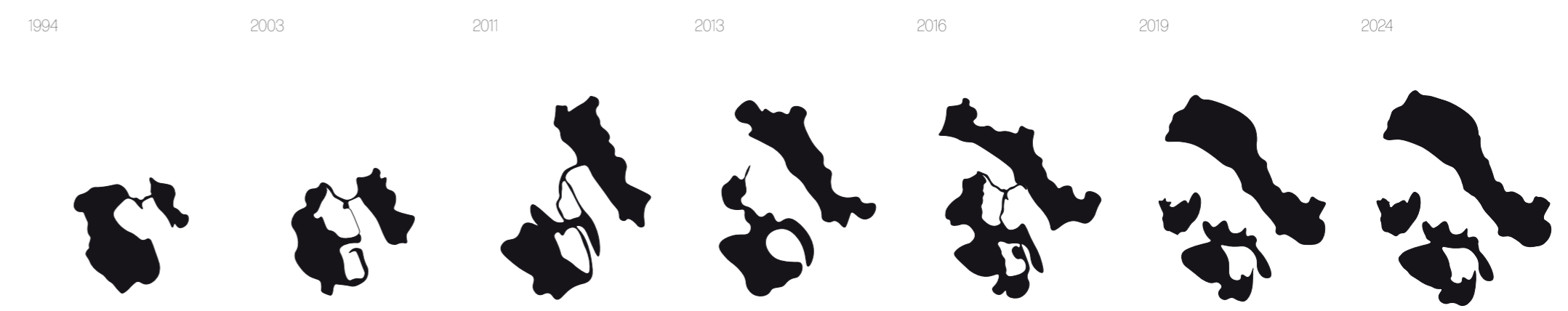


The model above illustrates how economic and environmental processes are interconnected, emphasizing the need for sustainable strategies to balance growth and ecological preservation. Urban areas and factories consume

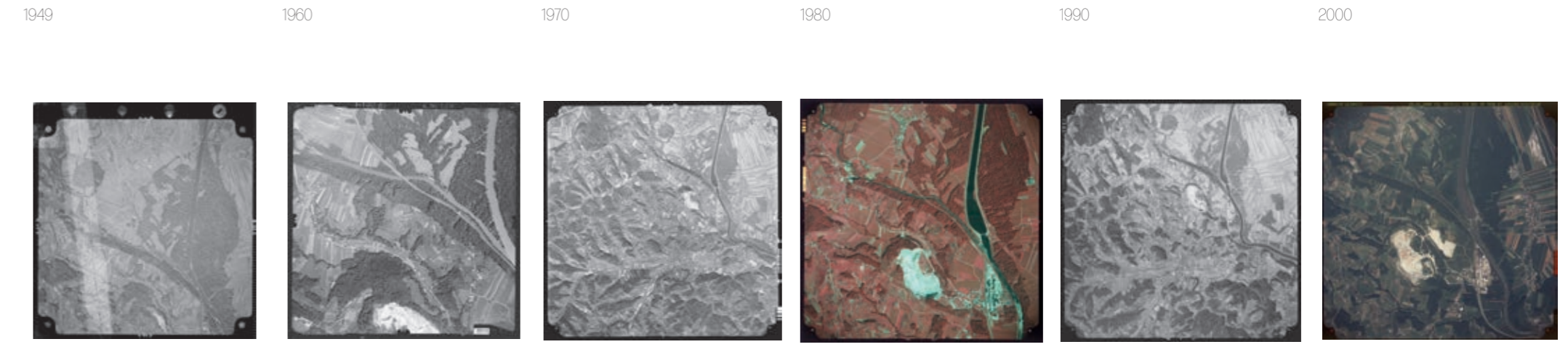
green spaces, leading to increased flooding risks and more extreme climatic conditions due to reduced natural cooling and water regulation. Intensive farming practices reduce biodiversity, while fallow areas support

ecological recovery and conservation. While industrial activities strain natural resources, eco-friendly production methods can positively impact the carbon and nitrogen cycles.

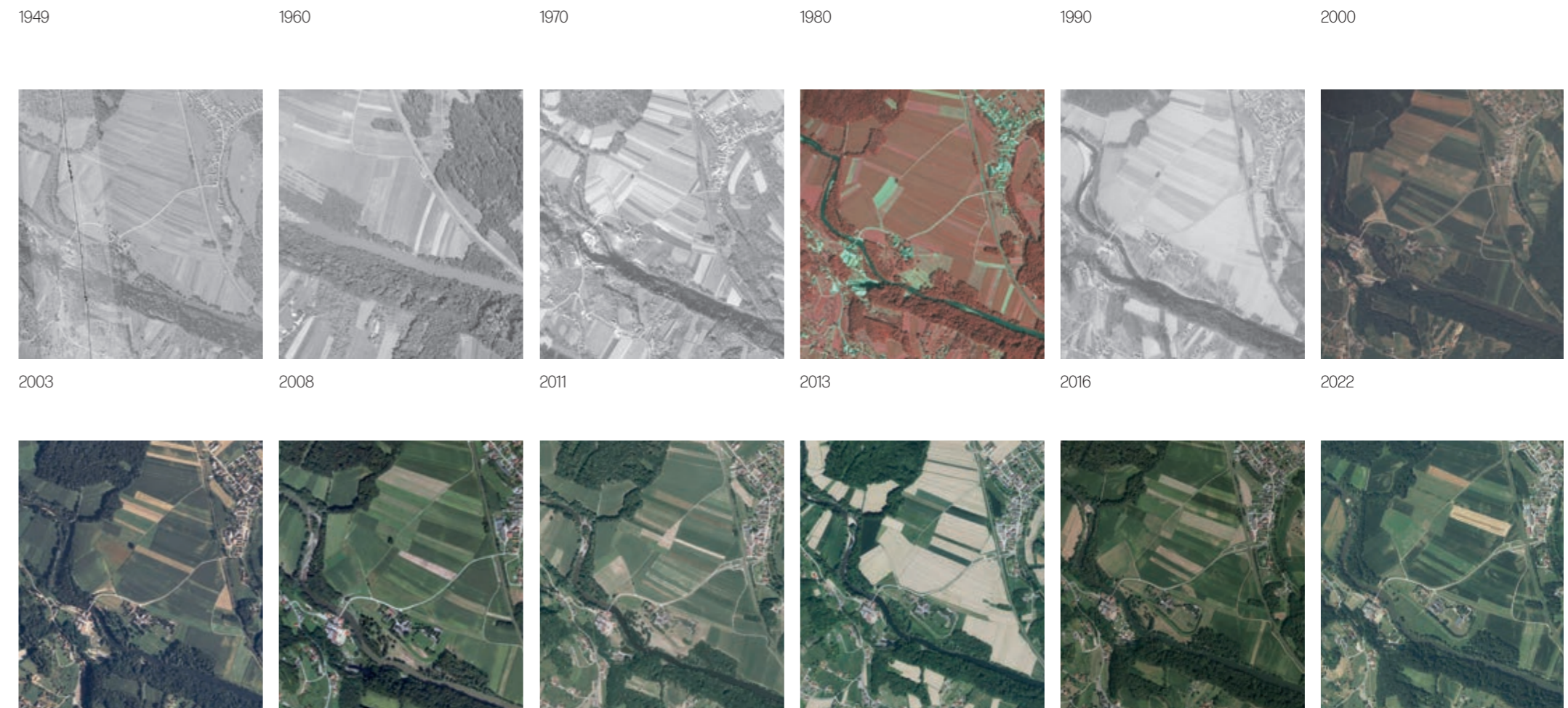
DEVELOPMENT OF THE EXTRACTION AREA IN THE QUARRY



MUR RIVERBED SHAPING THE TERRITORY

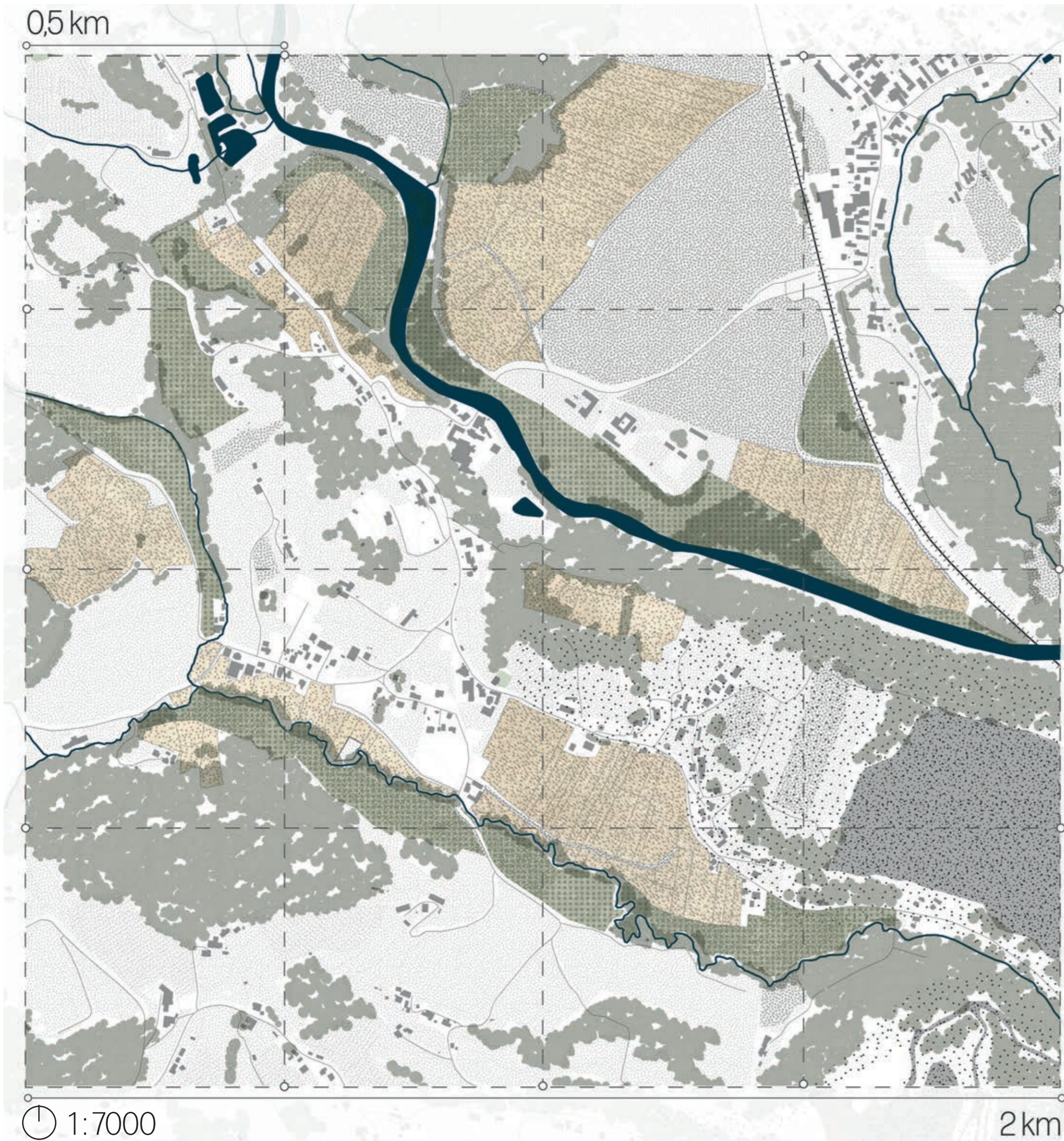


CROP FIELDS CHANGING THE PRODUCTION AND THE EXTENSION

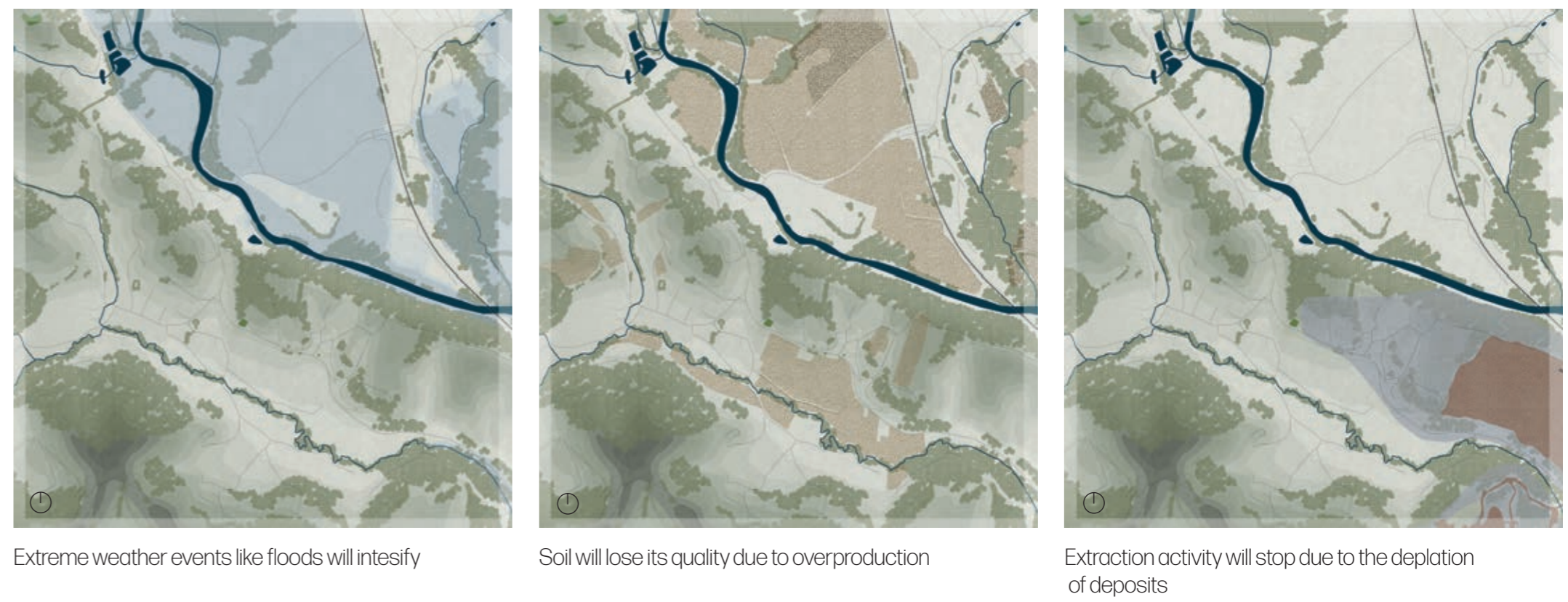


GROUNDING // succession as a production

How could the productive landscape adapt?

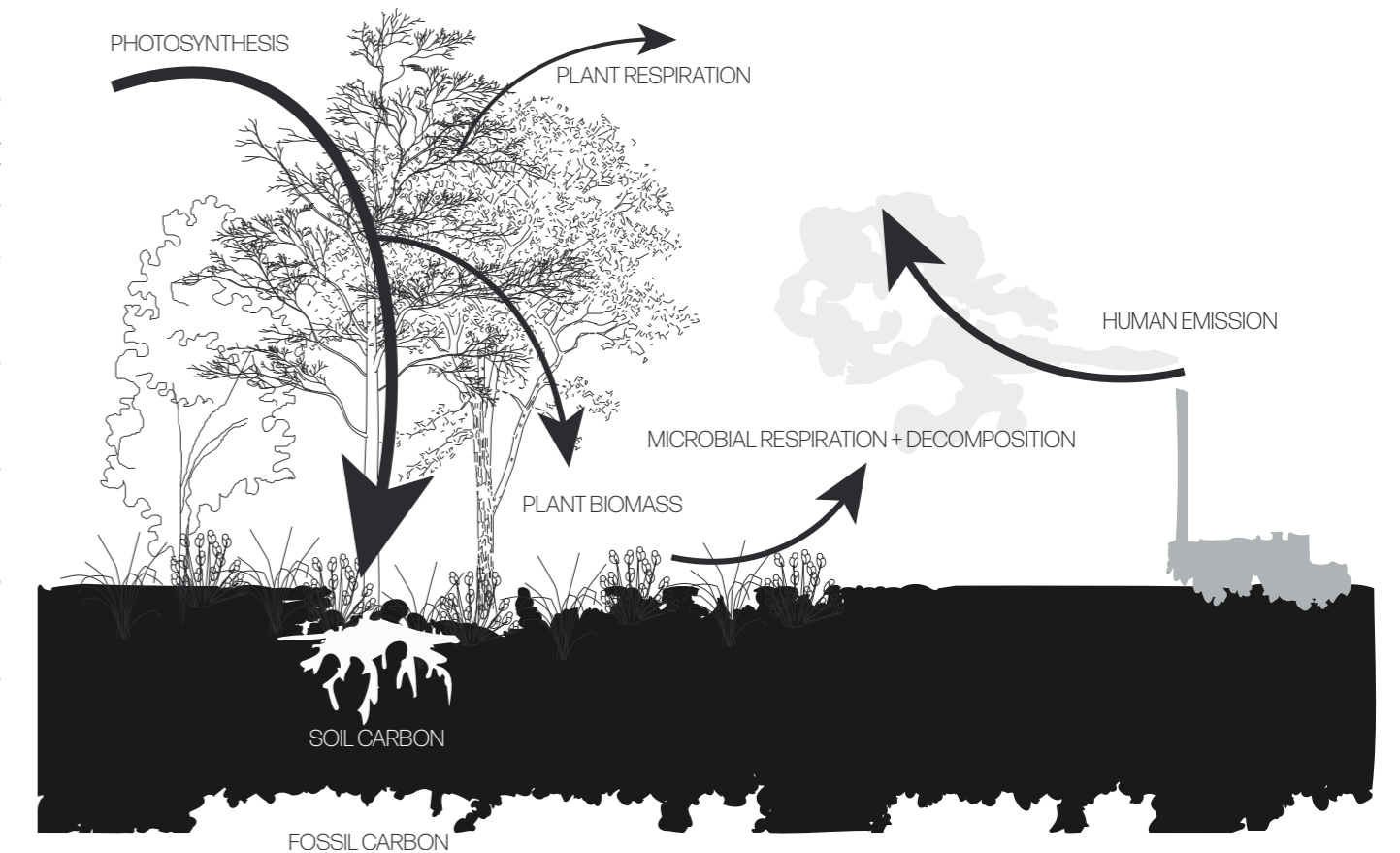


CLIMATE CHANGE



BIOGEOCHEMICAL CYCLES

The carbon cycle and the nitrogen cycle are two fundamental processes that shape ecosystems defining the landscape. The carbon cycle shapes the landscape by moving carbon through processes like photosynthesis, respiration and decomposition, influencing climate, vegetation and soil, directly affecting landscape features. The nitrogen cycle makes nitrogen available to plants through nitrogen fixation, nitrification and denitrification, supporting soil fertility and plant growth, both natural and agricultural landscapes.



SUCCESION

Succession and regeneration refer to the natural process where ecosystems gradually return to their natural state after human activities, such as farming or urbanization, cease. Initially, pioneer plants colonize the land, followed by shrubs and trees as conditions improve. Over time, biodiversity increases, and the area regenerates into a more stable

and sustainable natural landscape, requiring little human intervention. This process can take decades to centuries.



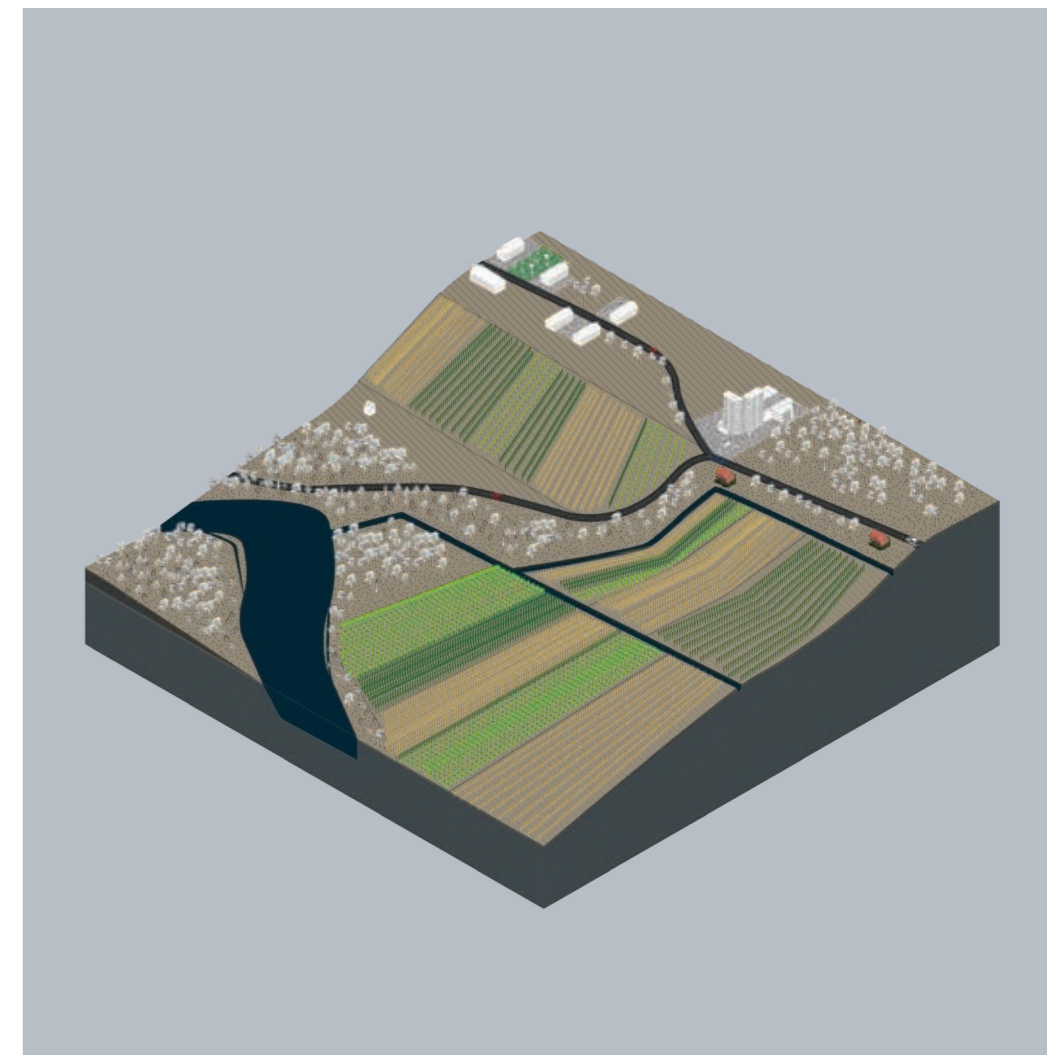
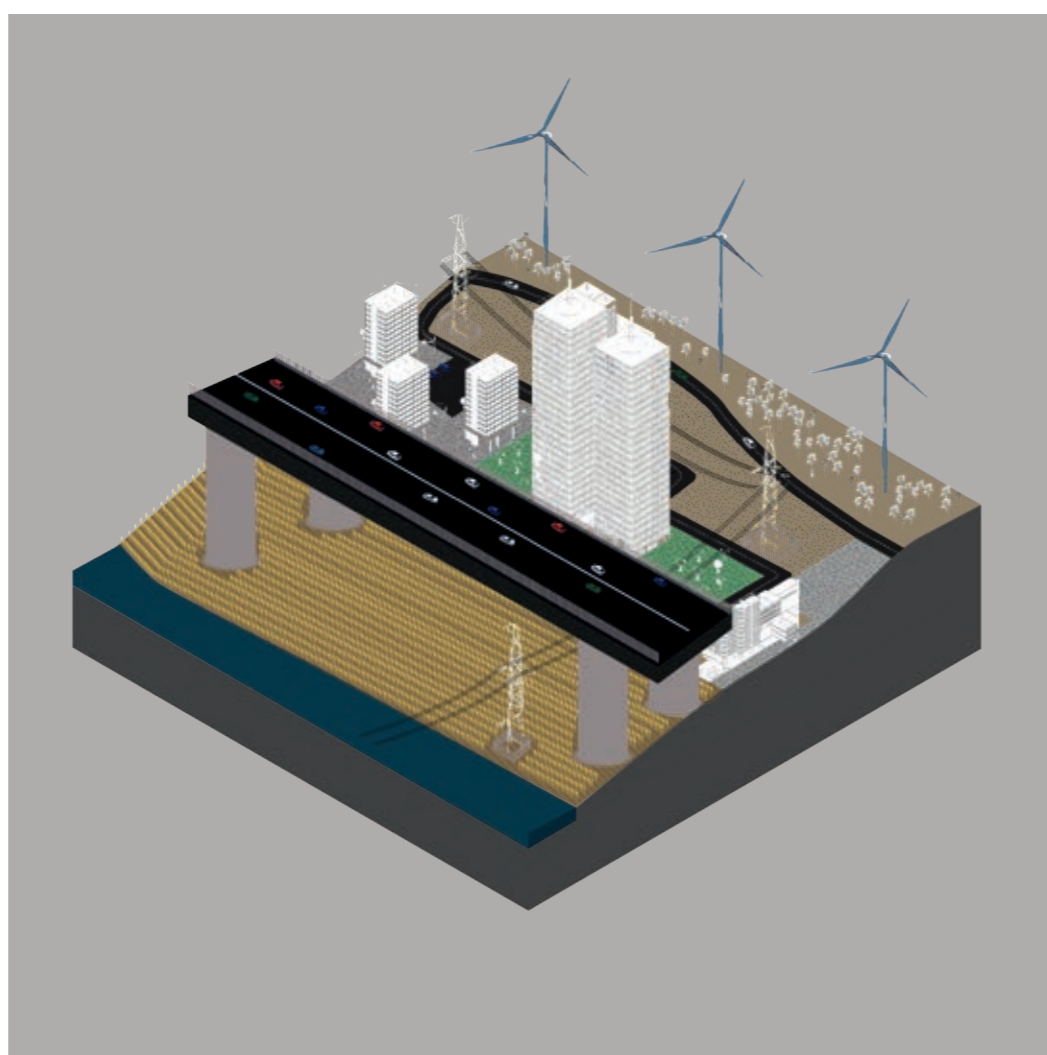
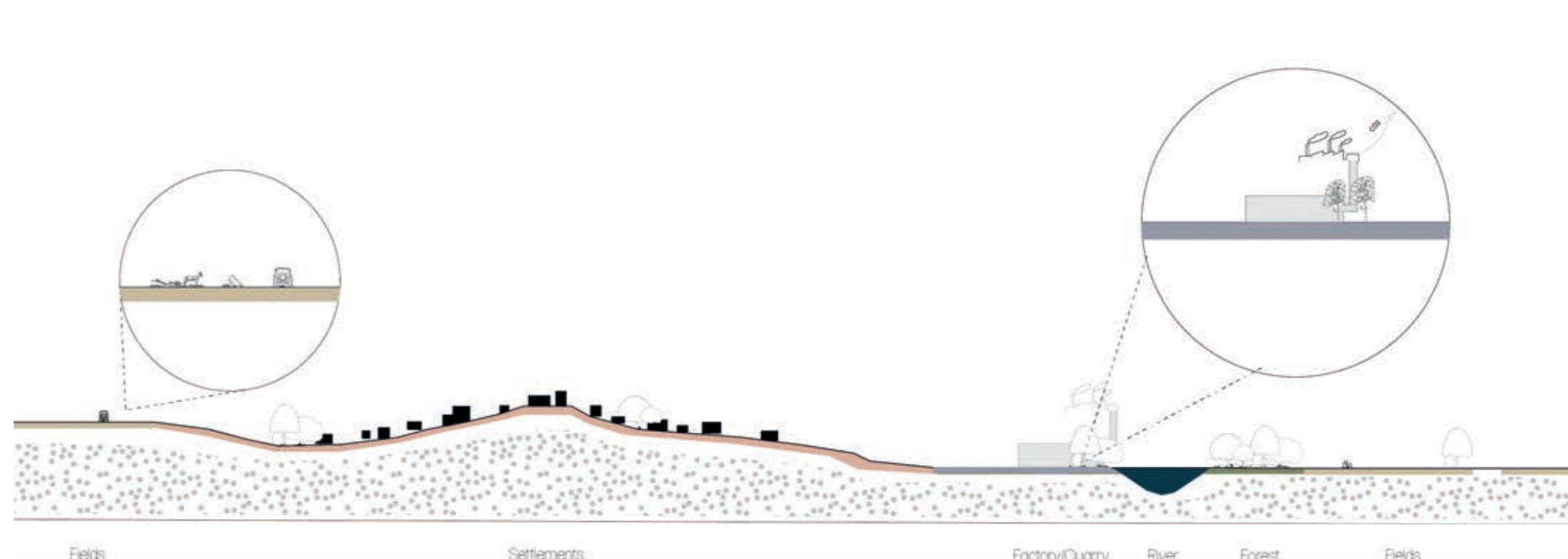
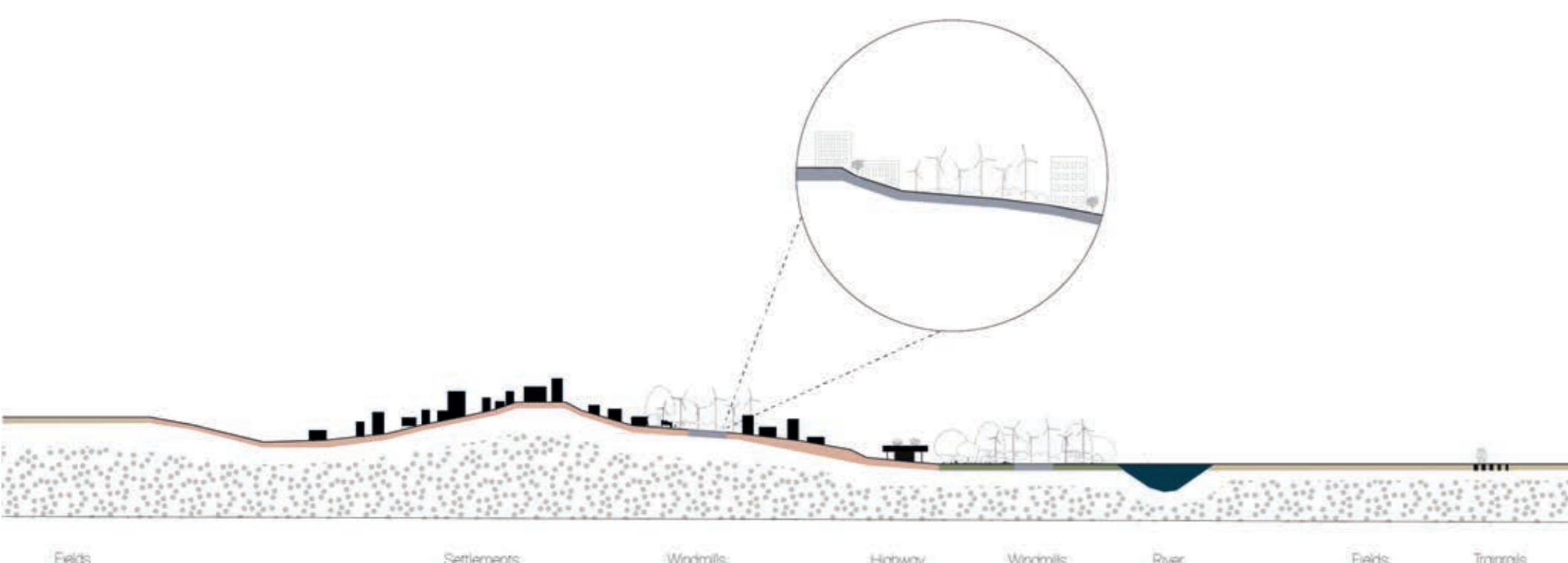
CALIBRATING

How can the landscape look like in 100 years?

„THE HUSTLE OF PROGRESS“



„TRADITION IN TRANSITION“



JOHANN, THE OVERWORKED AI PROGRAMMER

I'm Johann, a 35-year-old AI programmer living just outside of Leibnitz. Most of my life is spent in a constant rush, commuting to a tech hub nearby, where I'm always under pressure to deliver faster, cheaper, and more efficient solutions. My days blend together—endless coding, urgent meetings, and the constant tick of the clock, reminding me that time is running out. I barely take breaks, surviving on caffeine and adrenaline. The world around me feels like it's moving too fast, and I can't

keep up. The gap between the rich and poor is only growing, and it's hard not to feel left behind. To me, resources are just tools to be used as cheaply and efficiently as possible, with no thought for sustainability—because if it doesn't help the economy, it doesn't matter. My mental health is a mess, but I push through. I wonder, though, if all this "progress" is really making things better, or if it's just making everything more chaotic and disconnected.

LILLY, THE VINEKEEPER

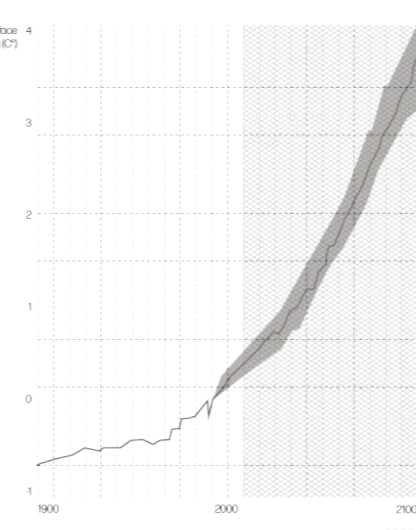
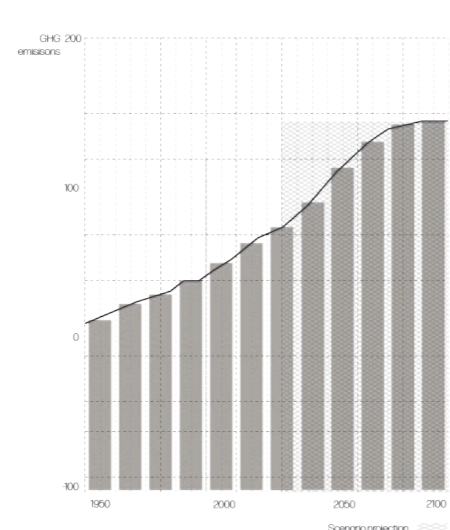
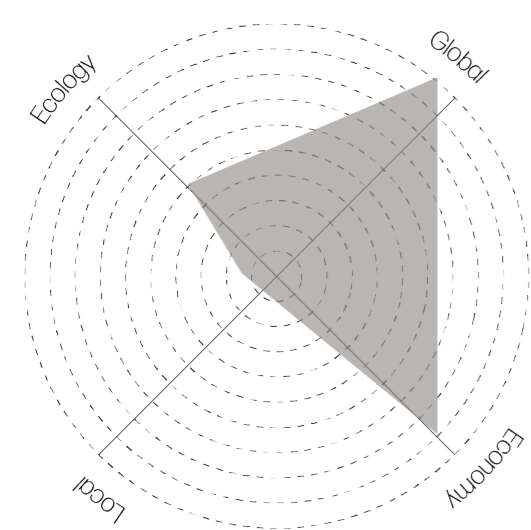
I'm Lilly, a 50-year-old winemaker from a small village near Leibnitz. My family has been tending to these vineyards for generations, and I've passed down the tradition to my children. Life here is simple but fulfilling—focused on work, family, and the land. While we don't compete on a global scale, our small, local businesses thrive through hard work and tradition. The vineyards, the fields, the quarry—each family has its own niche. Though I wish for more holidays, I find joy in seeing my

children grow up in the same way I did, with a strong connection to our craft. Our community is close-knit, and despite the respectful competition, we support each other in keeping our local economy alive. Family, work, and tradition are the heart of everything.

SCENARIO DEVELOPMENT 1950 - 2125

GHG EMISSIONS

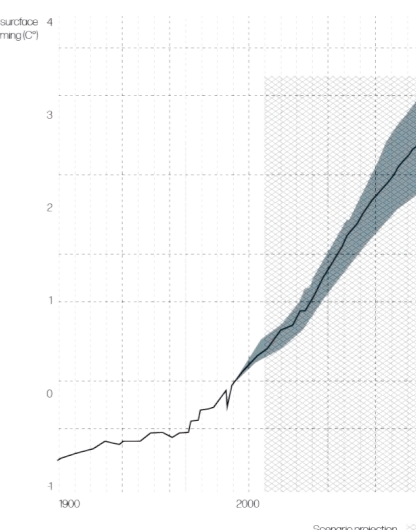
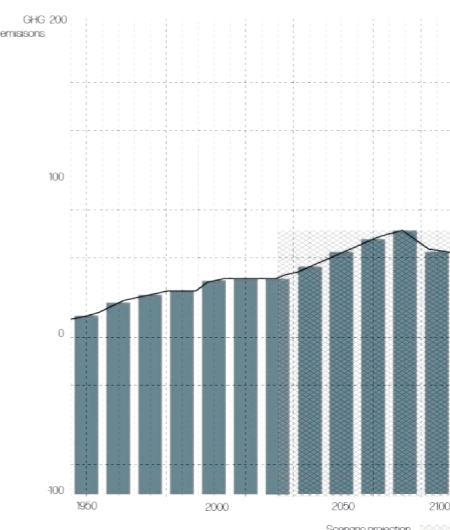
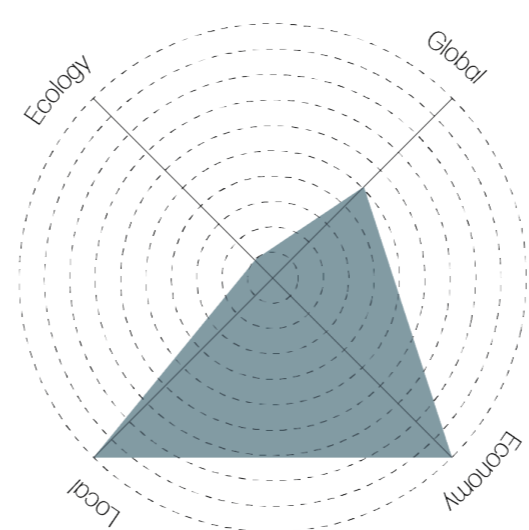
GLOBAL SURFACE WARMING



SCENARIO DEVELOPMENT 1950 - 2125

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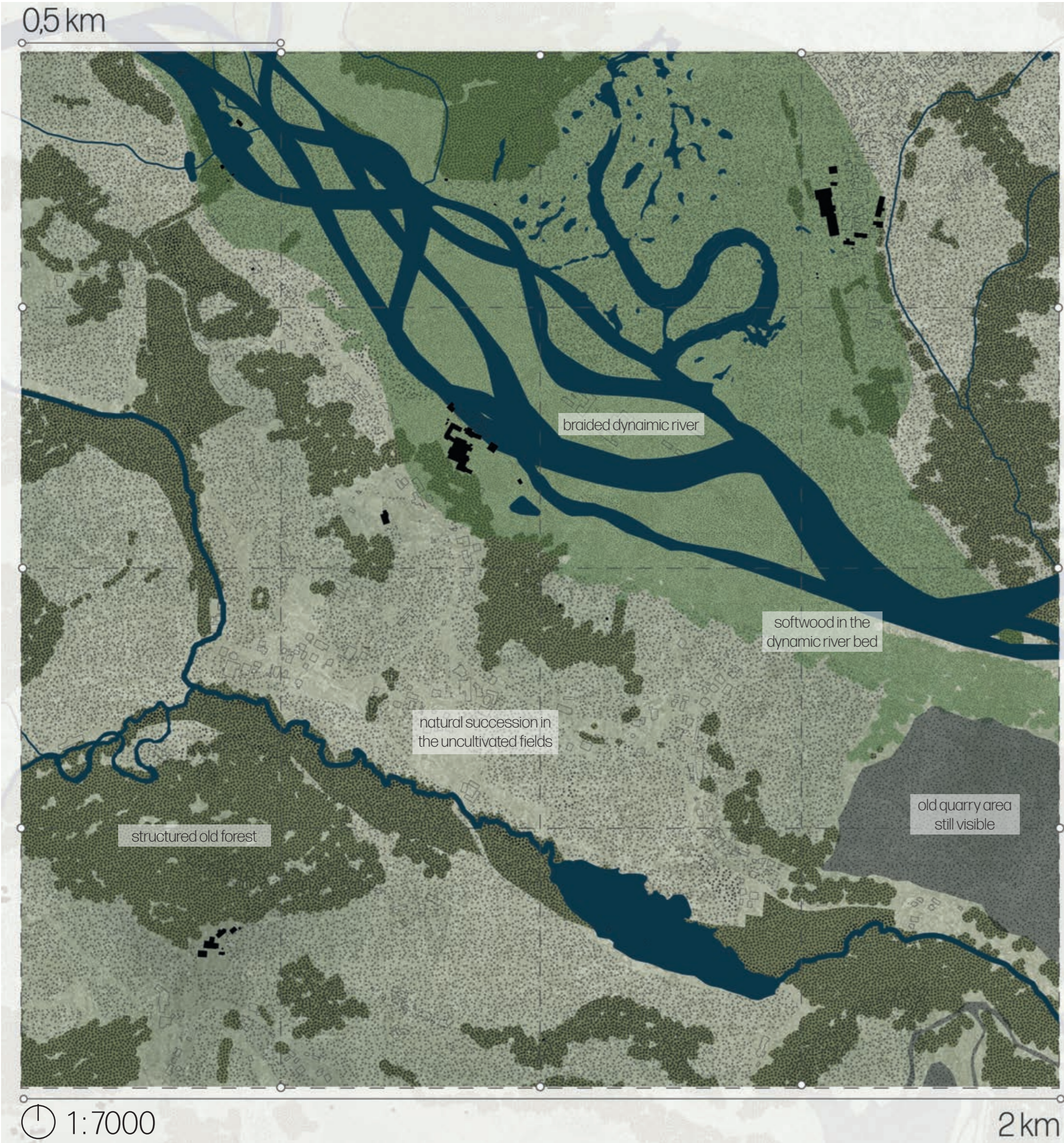
GLOBAL SURFACE WARMING



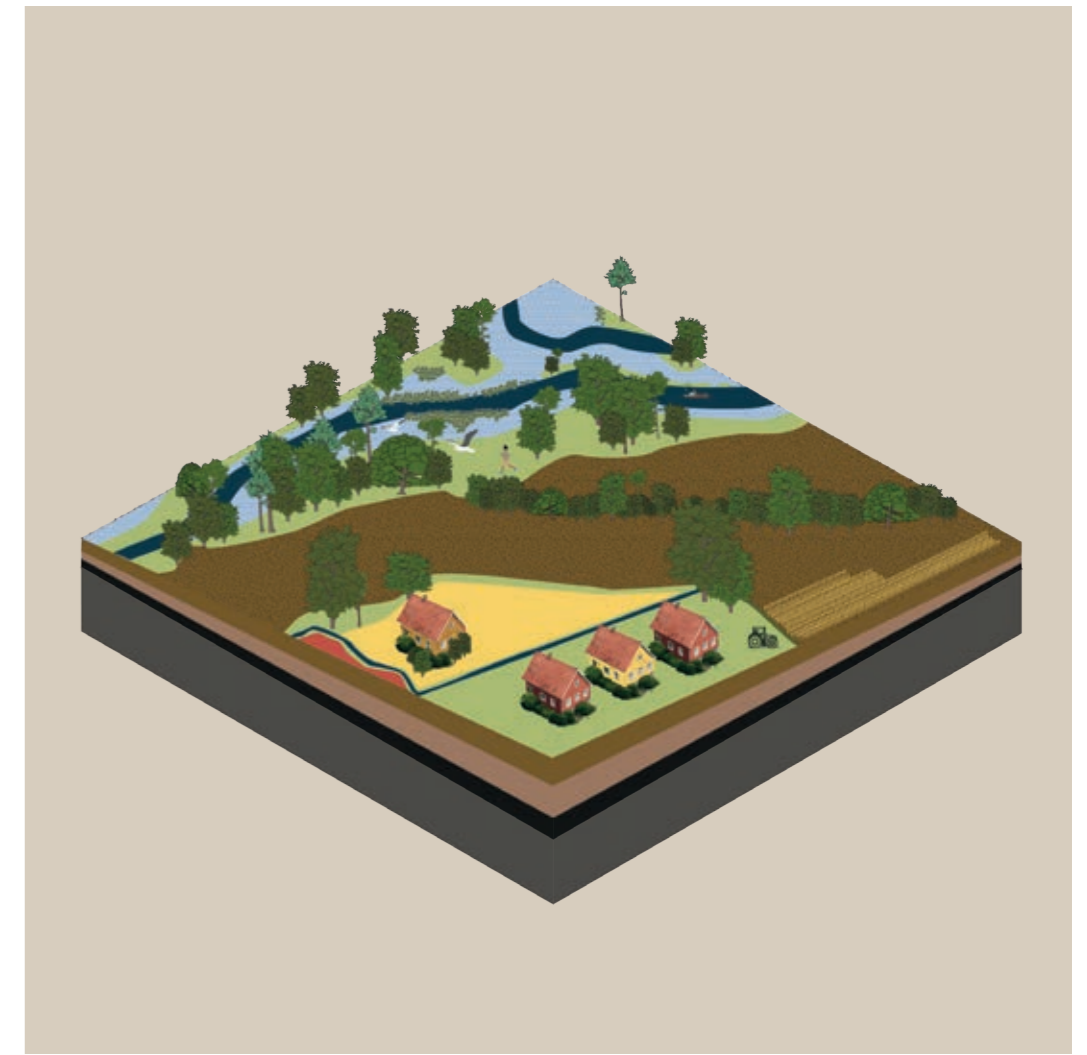
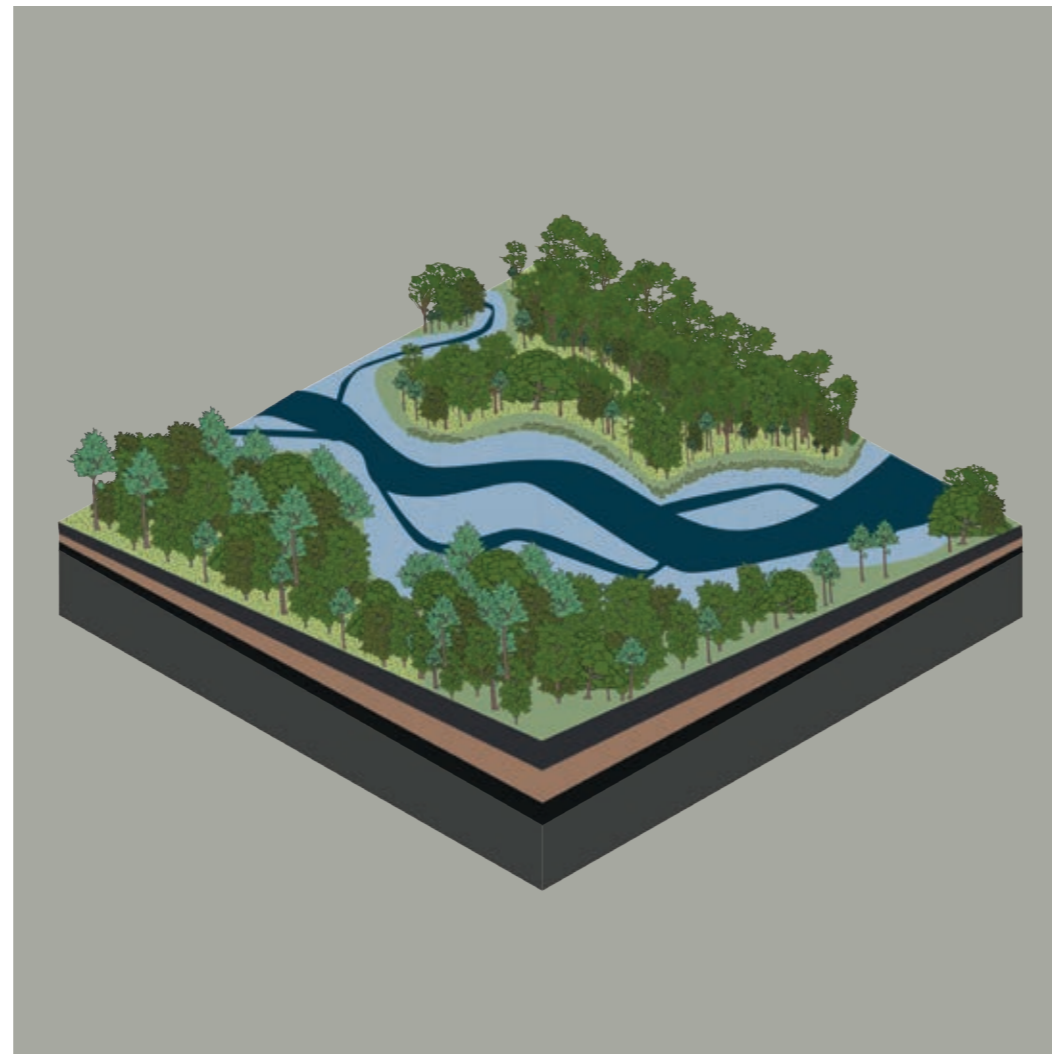
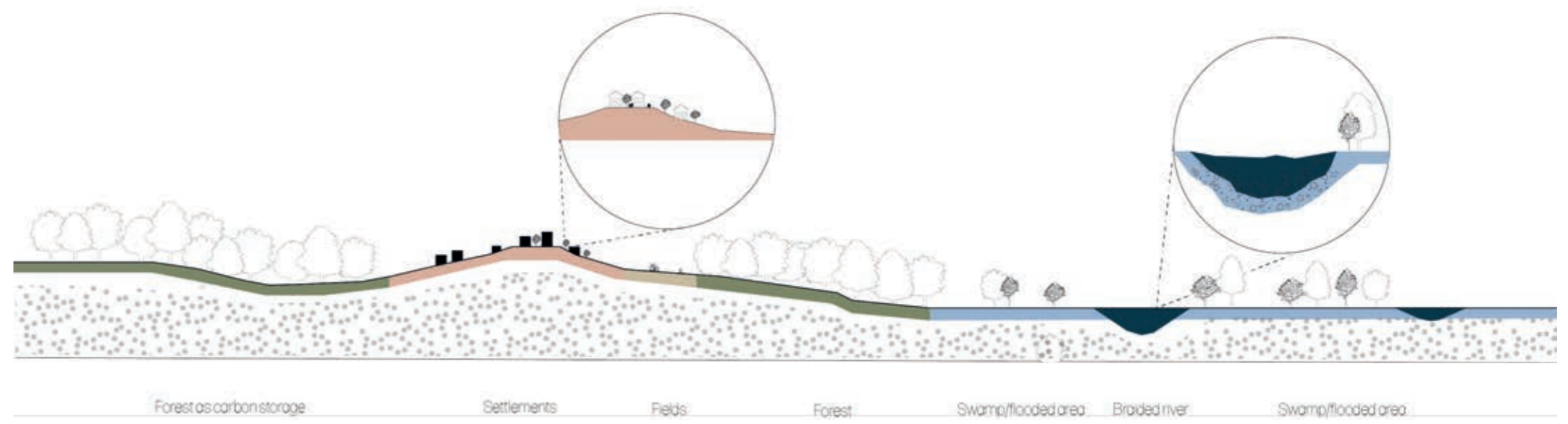
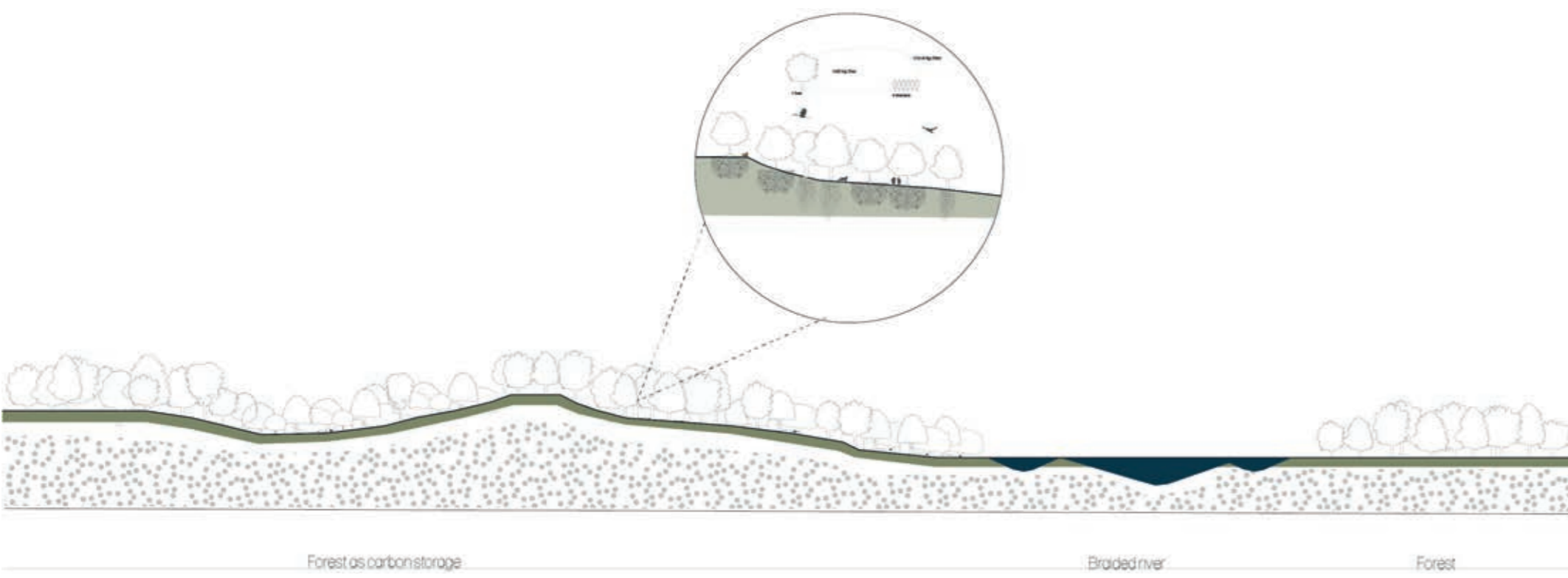
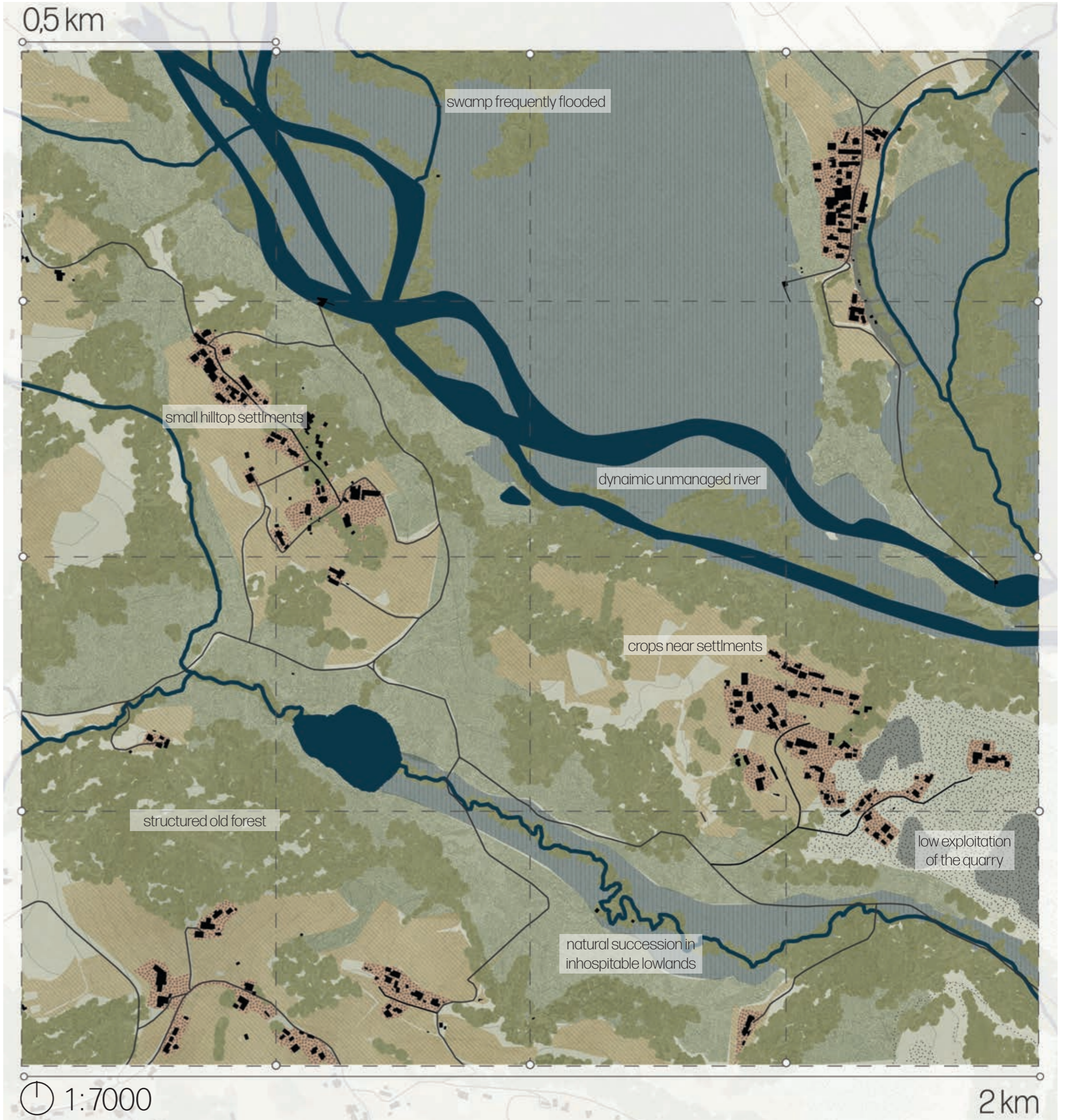
Source: IPCC Report 2024

CALIBRATING

„THE LAND THAT REMAINS“



„IN TUNE WITH THE LAND“



THE OLD OAK

I am an oak tree standing where Leibnitz once was, in a landscape where no humans live anymore. The quarry has long been reclaimed by nature, and along the river, a wetland has formed. I grow here freely, undisturbed, able to stretch my roots in all directions. The surroundings are quiet and untouched, with the land having found its natural balance again. There are no more human interventions, no roads or cities—just nature in its purest form. This place has become an important part of

the natural order, not only for the local region but for the global ecosystem as well. Here, nature is free to be what it is, allowed to grow and evolve without disturbance.

EULALIA, THE OWL

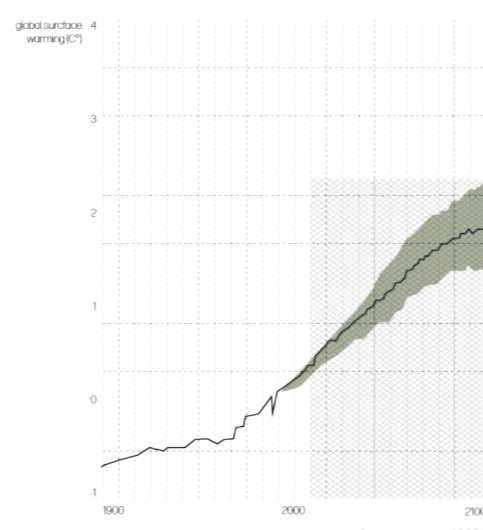
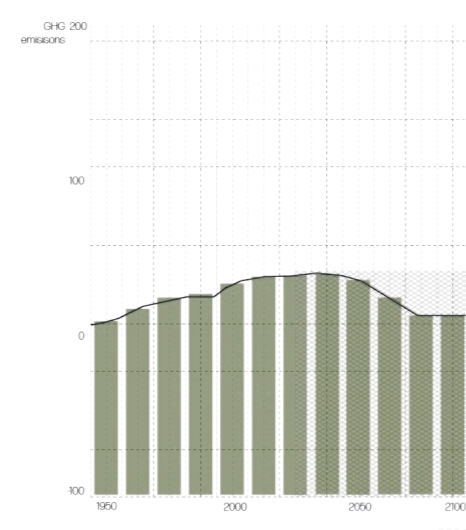
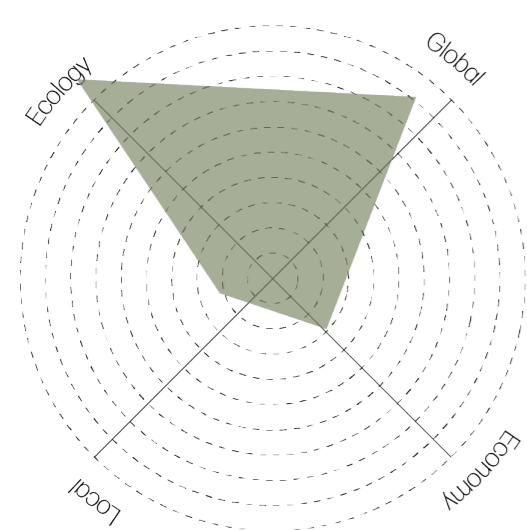
I'm Eulalia, an owl who calls the forests near Leibnitz my home. Life here is slow, steady, and full of wisdom passed down through generations. I watch over the land as the seasons change, always seeing nature in its purest form. The humans around me live in a small community, respecting the rhythms of the earth. I hear their conversations from the trees—about what to grow, what to share, and how to live with what nature gives them. They don't take more than they need, and they always

leave space for the wild to remain wild. The balance they seek is reflected in the way they live, never rushing, always taking time to be still and appreciate the world around them. From my perch, I see a place where every creature, plant, and person has its place, and where the land is cared for with love and respect. Here, in the quiet of the forest, I feel that everything is as it should be, and that peace comes from living simply and harmoniously.

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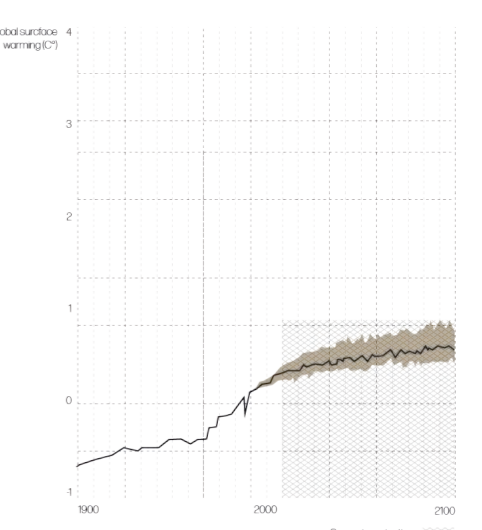
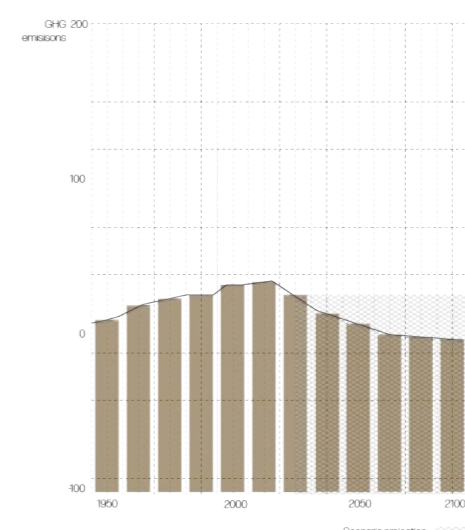
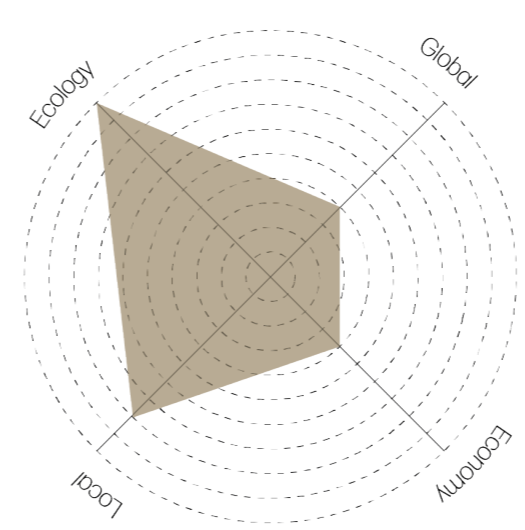
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Source: IPCC Report 2024