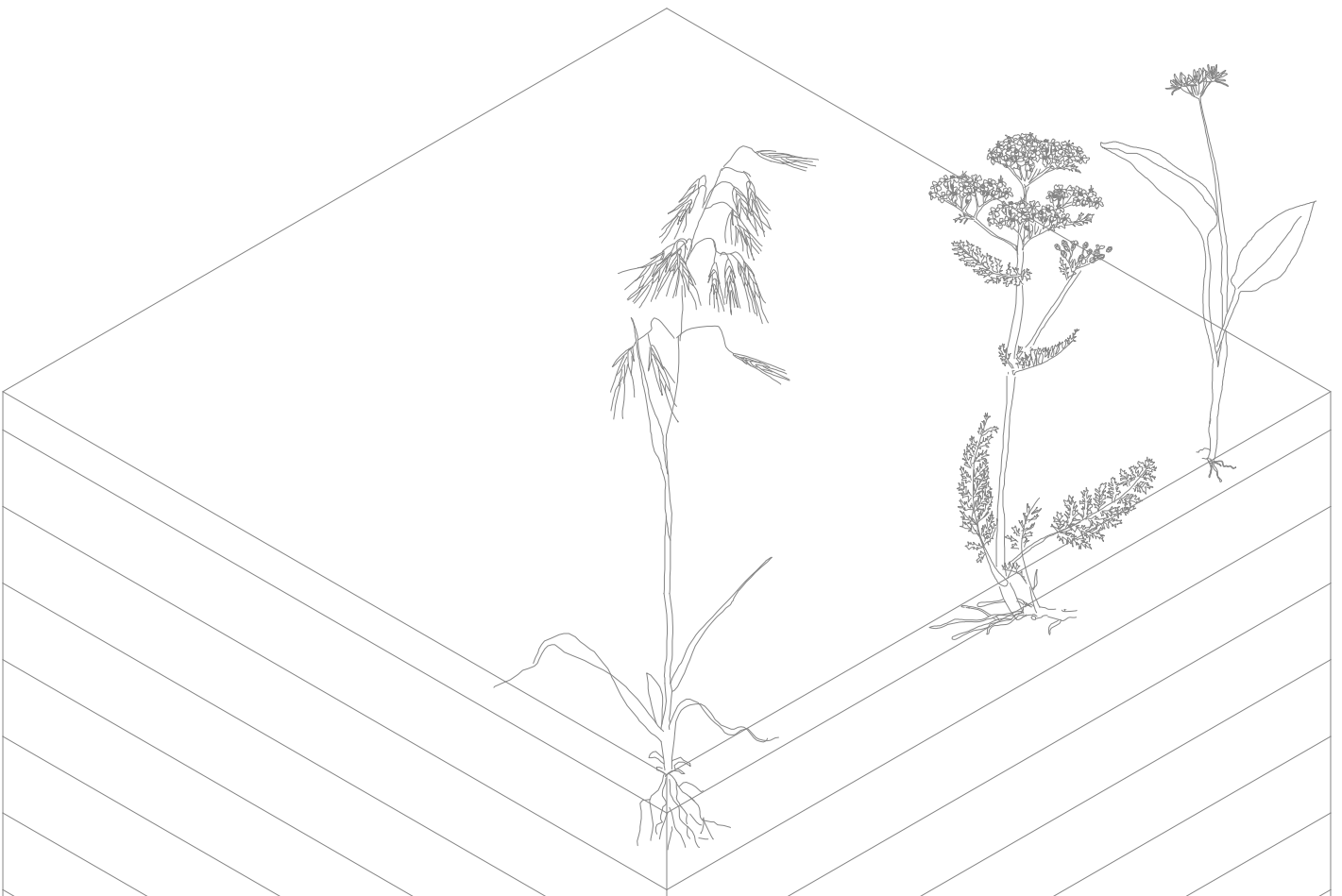


VERTICAL Reforestation

REACTIVATING GENEVA'S SQUARES. NATURE, MEMORY, AND PARTICIPATION





The future of Geneva is seeded in its past.

For centuries, the city grew behind protective walls, shaped by defensive constraints and topographical limits. When those fortifications were dismantled, the city expanded outward, gradually absorbing the surrounding landscape. Yet this expansion fragmented Geneva's deep relationship with its natural heritage. As streets, infrastructure, and impervious surfaces multiplied, vegetation retreated and urban heat intensified. Today, Geneva is at a crucial turning point. Pressured by the climate emergency, the rise of urban heat islands, and increasing social and spatial disconnection, it must rethink its public spaces, mobility systems, and ecological foundations. This proposal positions reforestation, rooted in the Miyawaki method, as both a strategy and a system. The project unfolds across three scales: the city and its historic evolution, the typology of its squares, and the experience of its citizens.

We begin at the metropolitan level, where the city's morphology reveals a fragmented network of public squares, often isolated and divorced from natural systems. Using layered cartography, we analyze their spatial and thermal relationships to Geneva's rivers, lake, and historic forest edges. These spaces, once central to civic life, now float as underutilized nodes amid heat-retaining hardscapes.

A vegetation calendar aligned with the Miyawaki method proposes native species for year-round planting, ecological resilience, and rapid growth. This calendar integrates with Geneva's climate adaptation strategies for 2030 and 2070, positioning reforestation not as decoration but as urban infrastructure. We invert the traditional model of green expansion from the periphery and propose a re-naturing from within, initiating dense ecological micro-forests in the city's core.

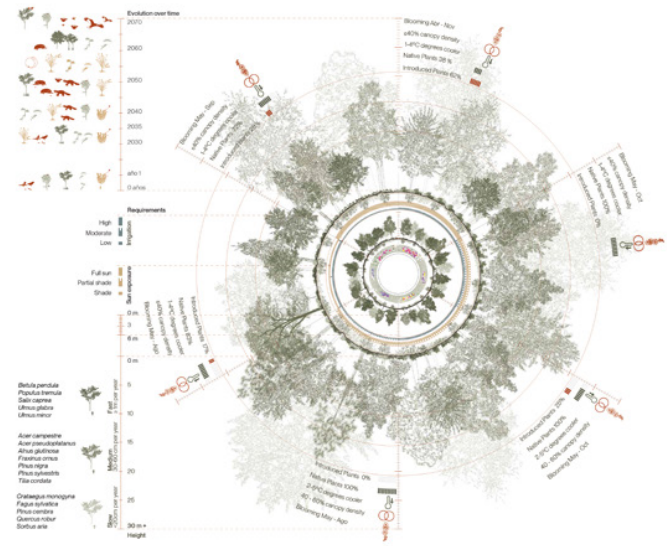
GROWTH AND EXPANSION TIMELINE FOR THE PROTOTYPE AND ECOSYSTEM





Selection of species for shelters during heat picks

The integration and organization of the proposed tree planting was structured into six grouping modules, defined by the characteristics of each species according to aesthetic criteria, such as chromatic harmony throughout the year, flowering, color tones, and the shape and texture of the foliage, and essential technical aspects for their development, including irrigation needs, sunlight requirements, maintenance demands, functionality (productive or ecological), environmental compatibility, and their status in Geneva (considering native species and their territorial representation). The broad biodiversity of species is essential for the city's reforestation, contributing a variety of characteristics that help redefine the meaning of public space and coexistence with the living organisms that accompany urban vegetation. This selection makes it possible to incorporate the temporal variable "Evolution over time," which considers the relationship between vertical stratification and projected human activities throughout the life cycle of each species, generating aesthetic, technical, and architectural program diversity within a single site.

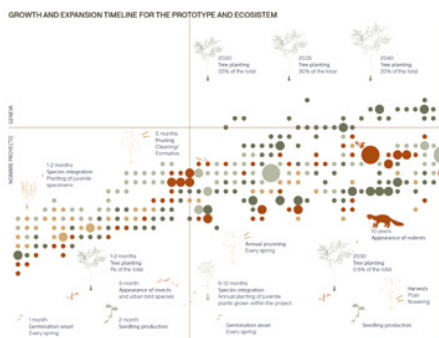


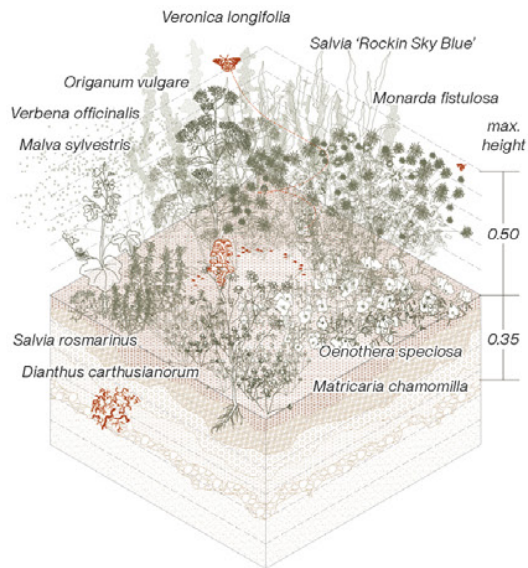
At the scale of the square, reforestation becomes actionable. A prototype is developed and tested at Plan Palais, not as a static landscape element but as a dynamic and participatory process.

The intervention unfolds in three ecological and spatial stages:

In **Stage 1**, existing vertical elements such as light poles are repurposed to carry wires that define shaded areas for seed germination. This structure marks a visible shift in the space, creating new shaded microclimates and didactic installations. In **Stage 2**, aerial pots are suspended along the wires, forming a visible nursery above the square. Passersby observe the plants' development, creating an open-air classroom and signaling the transition in progress.

In **Stage 3**, matured plants are transplanted into soil pockets below, forming multi-layered forest islands optimally distributed for sunlight, soil, and biodiversity. This sequence transforms sterile hardscapes into shaded, biologically rich public environments.





Bioclimatic microforest

Each module integrates the following variables: the type of substrate required (consisting of 5 cm of mulch, 20% dry matter, 30% mature compost, 40% enriched soil, 10% woody material, and a 20 cm drainage layer); the main physical characteristics of the species (ornamental value based on foliage, flowering, or form, and height: low, medium, or tall); key sensory traits (such as fragrance, tactile texture, and attraction for fauna like butterflies, birds, or bees); growth rate (fast: under one year, medium: between one and two years, or slow: more than two years); required maintenance level (low, moderate, or high, depending on irrigation, pruning, and pest control needs).

The growth of the project is structured along four axes: vegetation, tree planting, maintenance, and fauna:

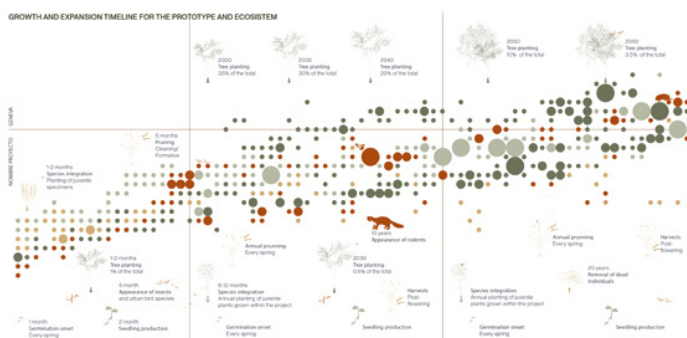
Vegetation: By summer 2025, the project will initially include juvenile plants sourced from Geneva nurseries. Simultaneously, seeds from the selected species will be prepared to begin germination.

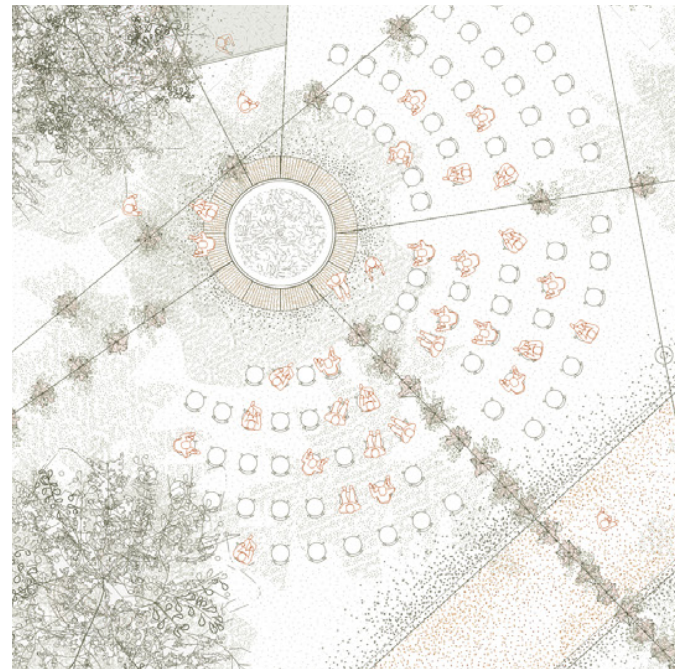
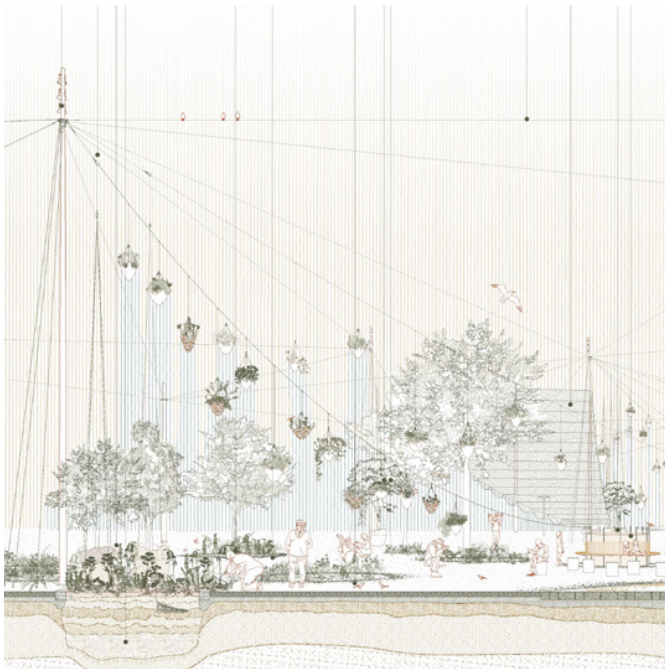
These will eventually become young individuals ready for future planting phases. This will be a cyclical process: each spring will involve seed preparation and transplanting of young plants ready for future planting phases.

Tree Planting: To expand shaded areas in Geneva, tree planting is a key component. Selected species are native with broad canopies, enabling wider coverage with fewer individuals. The Stratégie d'arborisation cantonale (2024 version) establishes key years and planting percentages for both the project and the wider city to meet the goal of planting 150,000 trees by 2070.

Maintenance: Once the prototype is implemented, a comprehensive maintenance plan must be put in place. This will be crucial for preserving green areas and enabling the healthy development of the proposed activities cycles.

Fauna: Long-term outcome of introducing native plant species, which will improve soil quality and create habitats for various animal species.





The transformation is visible, tactile, and communal.

Finally, we zoom into the human scale — where reforestation becomes experience. The prototype is porous and lived-in. It invites sitting, gardening, learning, and gathering. A spatial choreography emerges as people circulate, pause, observe, and co-create. Movement and use patterns change over time, transforming passive squares into evolving civic landscapes. Participatory events, such as planting days, seasonal festivals, and school workshops, cultivate stewardship. **Citizens are not spectators but agents of change.**

The prototype begins with an observation of the existing hanging systems in Geneva, used for signage, lighting, and the tramway, and proposes a similar concept for the project. It follows the principles of lightness and aims to create a new urban network that does not disrupt daily life but enhances it, like a veil gently laid over the metropolis.

A technical sequence reveals how each stage of the Miyawaki method is integrated into the urban fabric. Importantly, this strategy is not imposed, it grows in phases that are visible, shared, and owned by the community. This builds a sense of collective stewardship rather than passive occupation. A ground-level movement and activity map shows how people circulate, pause, and inhabit the square over time. Spaces once traversed in haste become arenas of contemplation and encounter, adaptable to events, education, and daily use.

This project imagines the square of 2070 not only as a hub of resilient mobility, but as a climate shelter, a civic nursery, and a collective garden. Through architecture and landscape, it reclaims the public square as a spatial and ecological commons. Through forestation, it renders climate action visible, rooted, and shared.

