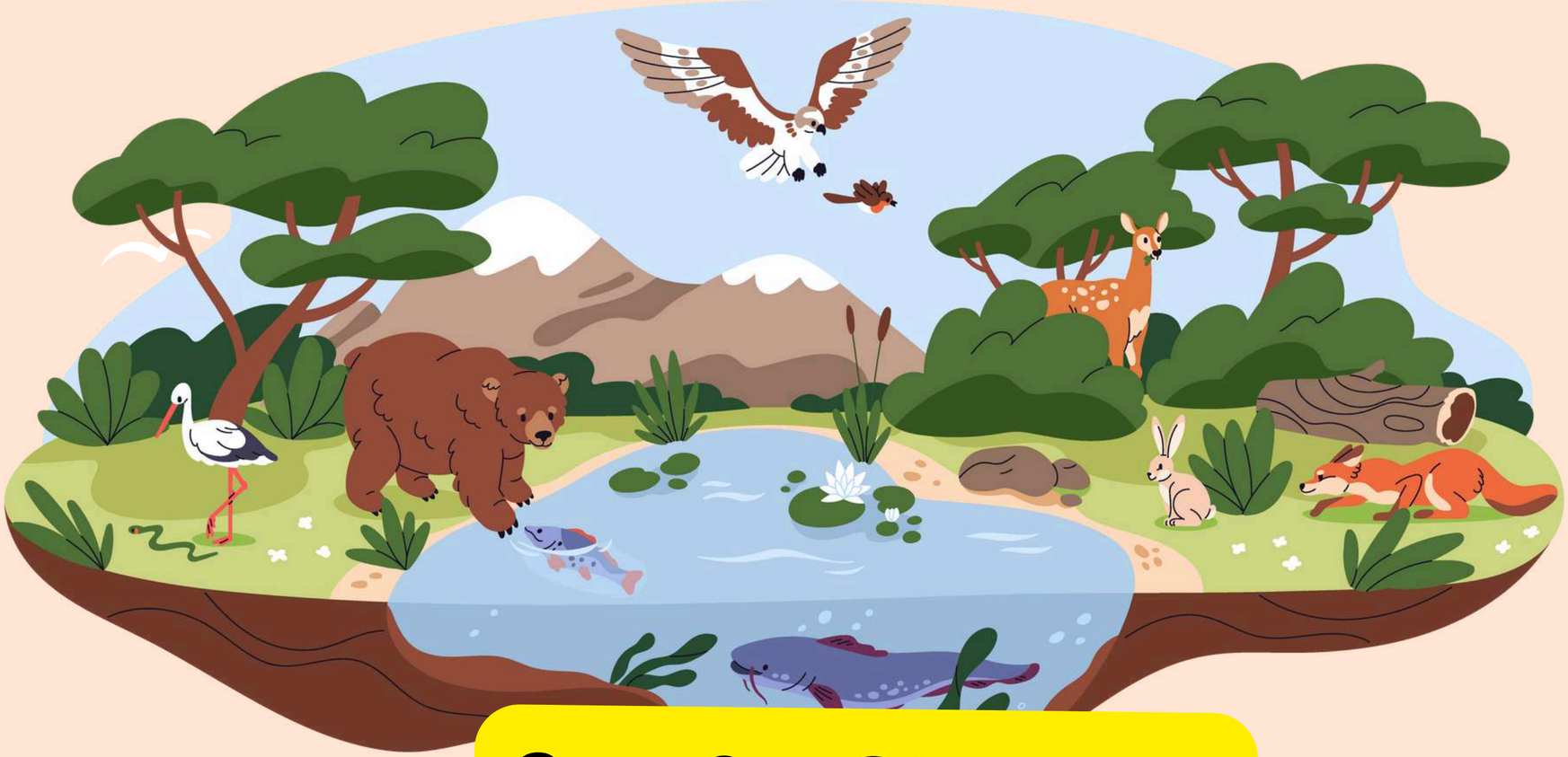

GREEN PARTICAPATION, GREEN EUROPE
PROJECT NUMBER: 2023-2-TR01-KA154-YOU-000168735
A15-FİNAL EVALUATİON OF THE PROJECT
TÜRKİYE ULUSAL AJANSI
TURKISH NATIONAL AGENCY
Funded by
the European Union
GREEN PARTICIPATION
GREEN EUROPE

What is Biodiversity?



Biodiversity refers to the diversity of living organisms in different ecosystems. It includes three main components:

- Genetic Diversity
- Species Richness
- Ecosystem Diversity



Species Richness

Species richness is the number of different species in a particular area. It is a key indicator of biodiversity and is important for ecosystem function, productivity and resilience.



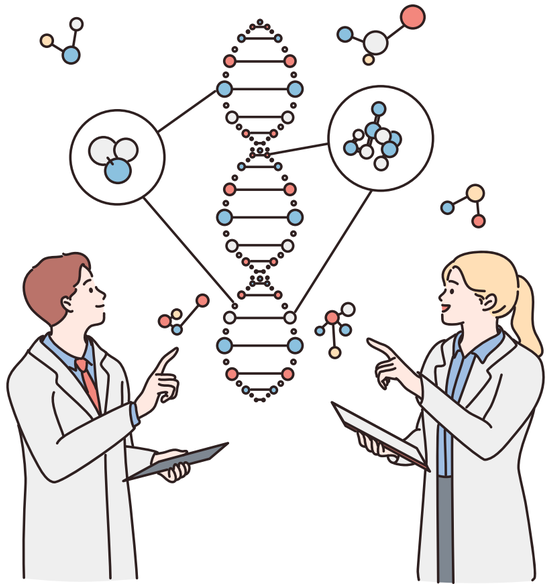
Genetic Diversity

Genetic diversity refers to the variation of genes within a species. This allows populations to adapt to environmental changes and contributes to the overall health and survival of the species.





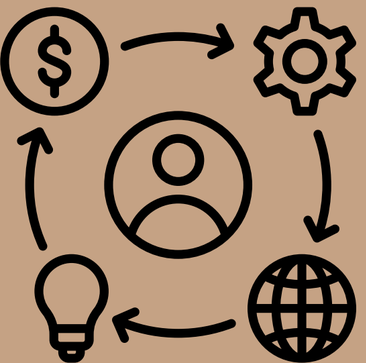




Ecosystem Diversity

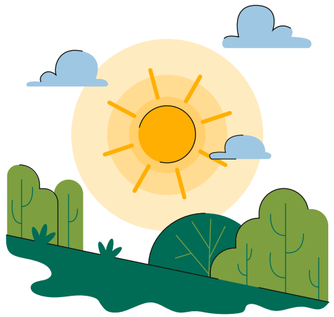
Ecosystem diversity refers to the diversity of ecosystems within a geographic location. Different ecosystems, such as forests, wetlands, and grasslands, provide unique habitats and support a variety of species.



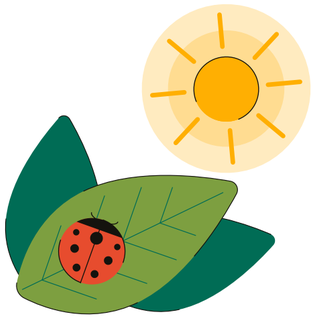


The Importance of Biodiversity

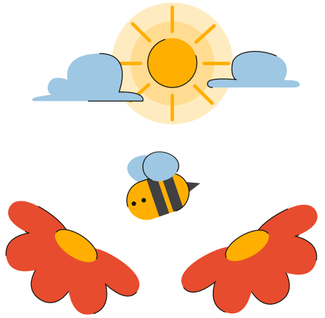
Biodiversity is essential for:



Ecosystem stability and resilience.



Providing ecosystem services.



Guarantee sustainable resources.



Why Is Biodiversity Declining?



The main drivers of biodiversity loss are:

- Habitat loss and fragmentation
- Climate change
- Overexploitation and poaching
- Pollution (plastics, pesticides, heavy metals)
- Spread of invasive species

In the last 50 years, human activities have altered nature at an unprecedented scale (WWF, 2022).

Why Is Biodiversity Declining?

Biodiversity encompasses the diversity of life on Earth, including species richness and ecosystem diversity. Today, we will explore the importance of biodiversity, its components, and how to protect it.



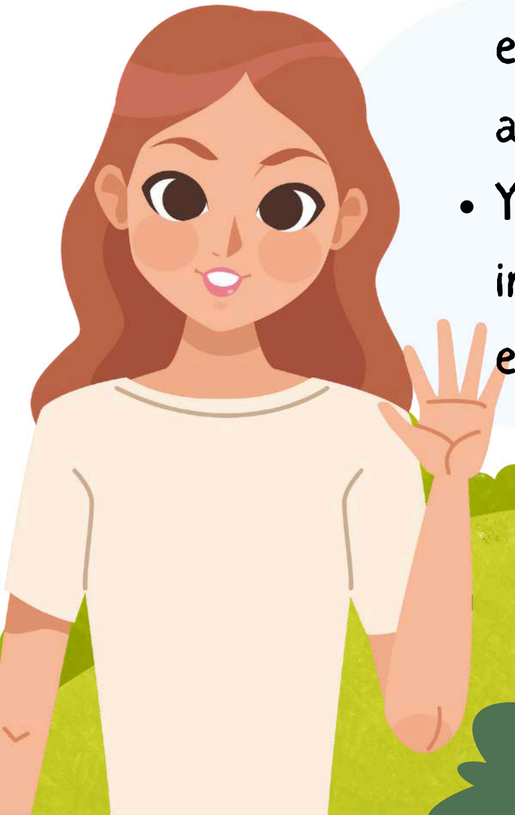
Why Is It a Crisis?

- According to the IPBES (2019) report, one million species are currently at risk of extinction.
- This loss threatens not only nature but also food security, water supplies, and global health.
- Biodiversity decline weakens ecosystem resilience and amplifies the climate crisis.

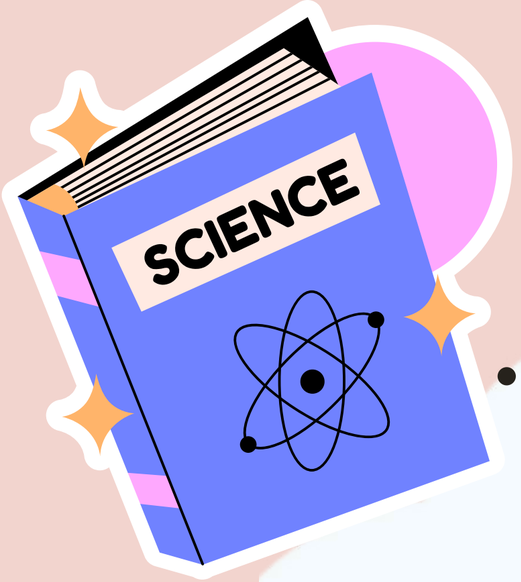


Why Youth Participation?

- The biodiversity crisis is not only an environmental issue but also a social, economic, and ethical one. Young people bring innovative thinking, digital skills, and strong community networks to the table.
- Youth participation enhances diversity in decision-making, ensures the inclusiveness of policies that directly affect the future, and spreads environmental awareness throughout society.





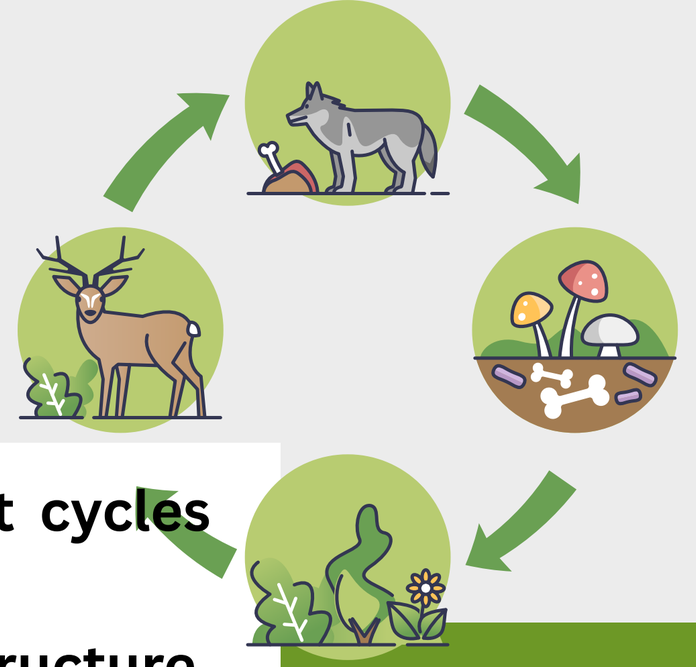


Scientific Basis

- According to IPBES (2019), nearly one million species worldwide are at risk of extinction, and raising public awareness and mobilizing youth movements are critically important in addressing this threat.
- European Commission (2020): The integration of young people into environmental policymaking is one of the core objectives supported under the EU Biodiversity Strategy for 2030.
- OECD (2021): Activating youth participation at the local level strengthens participatory democracy and facilitates the achievement of sustainable development goals.



How Do Ecosystems Function?



- Ecosystems operate through energy flows and nutrient cycles between living organisms and non-living elements.
- Each species plays a specific role: some improve soil structure, others ensure pollination, while some help control pests.
- The loss of a single species can trigger a domino effect that disrupts the entire system.

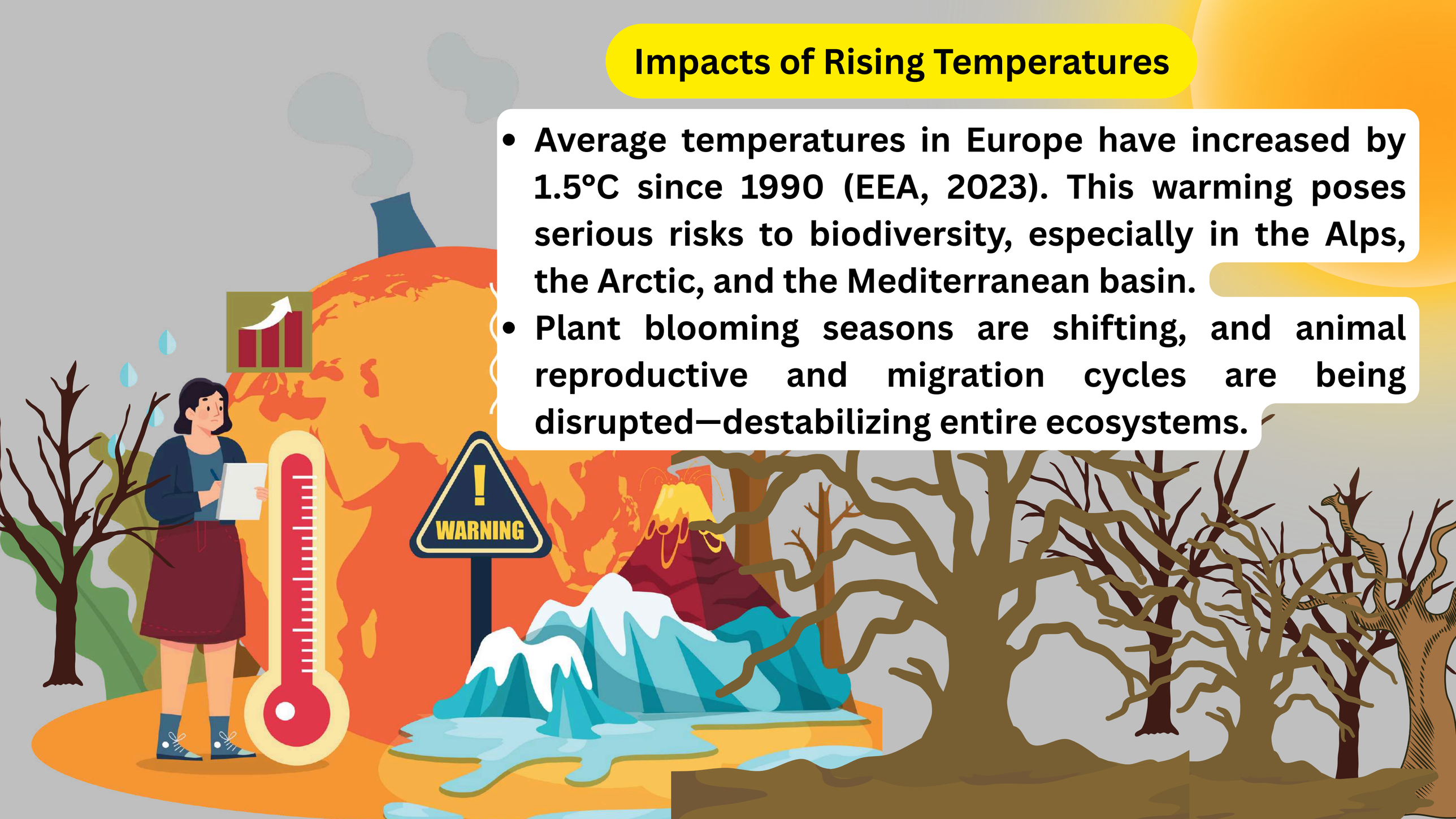
Climate Change and Biodiversity

- Climate change is not only about rising temperatures but also includes extreme weather events, droughts, floods, and habitat degradation.
- These impacts shrink natural habitats, disrupt migration routes, and push many species in Europe toward local or even global extinction.



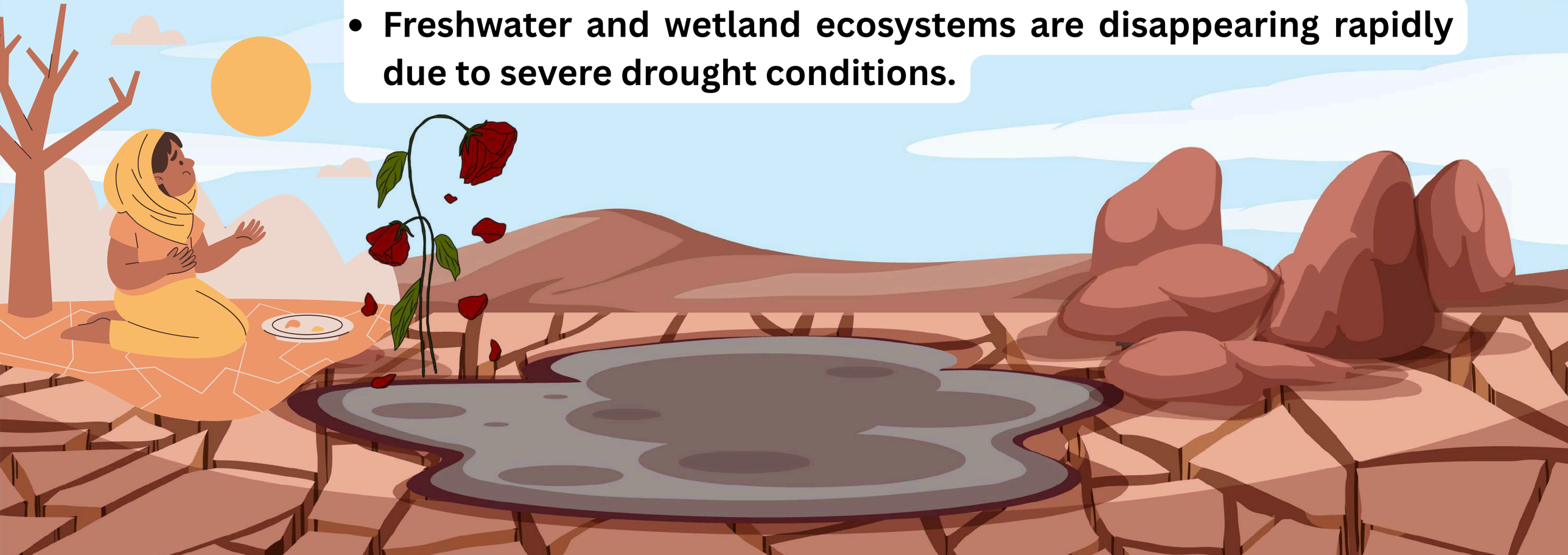
Impacts of Rising Temperatures

- Average temperatures in Europe have increased by 1.5°C since 1990 (EEA, 2023). This warming poses serious risks to biodiversity, especially in the Alps, the Arctic, and the Mediterranean basin.
- Plant blooming seasons are shifting, and animal reproductive and migration cycles are being disrupted—destabilizing entire ecosystems.



Extreme Events and Habitat Loss

- Storms, heatwaves, and prolonged droughts are decreasing ecosystems' capacity to regenerate.
- Some plants like rhododendrons wither before blooming; certain bird species fail to reproduce due to heat stress.
- Freshwater and wetland ecosystems are disappearing rapidly due to severe drought conditions.



Most Vulnerable Regions in Europe

- Mediterranean Basin: Drought, wildfires, and marine biodiversity loss
- The Alps: Glacier melting and extinction of alpine species
- Baltic Sea: Oxygen depletion and pressure from invasive species

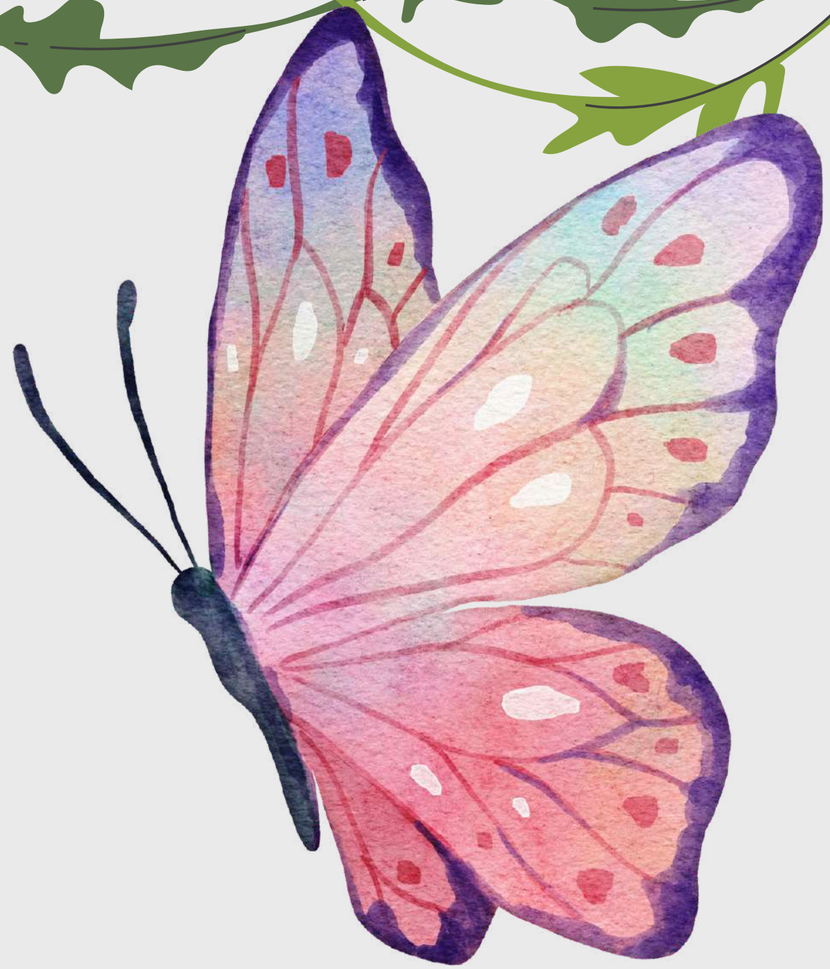
The EU Biodiversity Strategy for 2030 includes targeted action plans for these critical regions.



What Does Science Say?

- Butterfly populations in Europe have declined by 40% in the past 30 years (van Swaay et al., 2022).
- Natura 2000 sites act as ecological buffers against climate impacts.
- The Horizon Europe-funded BIOCLIMAP project studies the biodiversity-climate interactions in Europe.





What Is the EU Biodiversity Strategy for 2030?

- The EU Biodiversity Strategy for 2030 is a core component of the European Green Deal.
- Its main goal is to halt and reverse biodiversity loss in Europe by 2030.
- The strategy rests on three pillars: protecting nature, restoring ecosystems, and promoting sustainable use of biodiversity.





What Are the Strategy's Targets?



- Protect at least 30% of land and sea areas
- Restore 20% of degraded ecosystems
- Reduce pesticide use by 50%
- Plant 3 billion trees
- Strengthen enforcement of EU biodiversity legislation

How Can Young People Get Involved?

- Volunteering in youth-led environmental NGOs
- Participation in LIFE and Horizon research projects
- Joining networks like Youth4Nature and Generation Climate Europe
- Accessing internships and activism via the EU Youth Portal
- Contributing to local biodiversity action plans





What Is Nature Financing?

- Nature financing refers to all public and private funding dedicated to the protection, restoration, and sustainable use of natural ecosystems.
- The European Union has developed large-scale financial instruments to support nature-based solutions by 2030.
- The goal is to ensure both environmental and economic sustainability.

Main EU Funding Instruments

Green Deal:

- The EU's roadmap to a climate-neutral continent, with biodiversity as a pillar of the green economy.

LIFE Programme:

- The EU's oldest fund (since 1992) supporting nature protection, waste management, and public awareness.

Horizon Europe:

- A €95.5 billion research program focused on science-based and nature-driven innovations.





Real-World Success Stories

- **ReNature Malta (LIFE Programme):**
  Protected natural reserves and restored native plant species in Malta.
- **BiodivERsA+ (Horizon Europe):**
  A transnational biodiversity and climate research network involving over 45 institutions across Europe.
- **Green City Accord (Green Deal):**
  European cities committed to expanding green spaces and improving urban air quality.

Youth Roles – Shaping the Future

Today's youth will face the harshest consequences of climate change and biodiversity loss. But they also hold the creativity, energy, and tools to offer the most effective solutions.

Youth are not just the leaders of tomorrow—they are the changemakers of today.



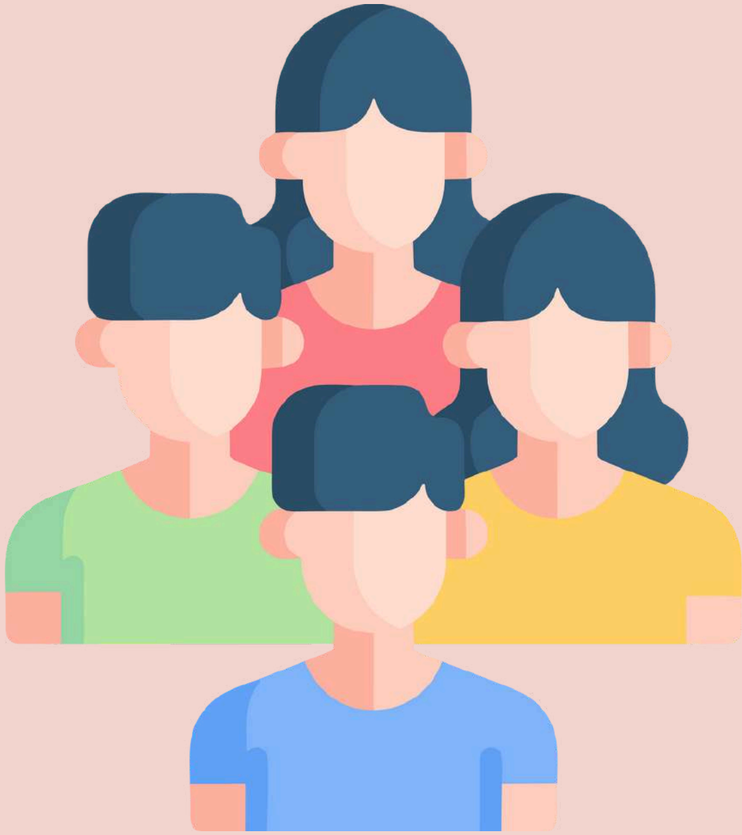
Roles, One Goal: Protecting Nature



- **As Citizens: Support nature-friendly policies through voting and advocacy.**
- **As Students: Spread awareness and act through school-based environmental projects.**
- **As Professionals: Contribute to sustainable development through green careers.**
- **As Consumers: Promote sustainability by choosing eco-friendly products.**

Inspiring Youth Movements

- **Licypriya Kangujam (India): Protested in front of Parliament at age 11 demanding a climate law.**
- **Youth4Nature (Europe): A global youth-led network promoting nature-based solutions.**
- **Green Legacy Ethiopia: University students leading a campaign to plant 4 billion trees.**





Youth Participation Is the Key to Sustainability

Every step young people take for nature contributes to building a more just, greener, and more resilient world.

Remember: A sustainable future is in the hands of youth.

Hidden Climate Allies: Bees, Soil & Microbes

Often overlooked, pollinators, soil organisms, and microbes are essential players in:

- Maintaining carbon cycles
- Preserving soil fertility
- Enhancing ecosystem resilience against climate stress

Bees' Ecological Role & Climate Link



Around 75% of flowering plants rely on pollination by bees (IPBES, 2016).
These plants help sequester carbon from the atmosphere through photosynthesis.
Declining bee populations → Less plant diversity → Reduced carbon storage
Monoculture farming and pesticide use threaten bee habitats.

Soil Biodiversity – A Living System for Climate

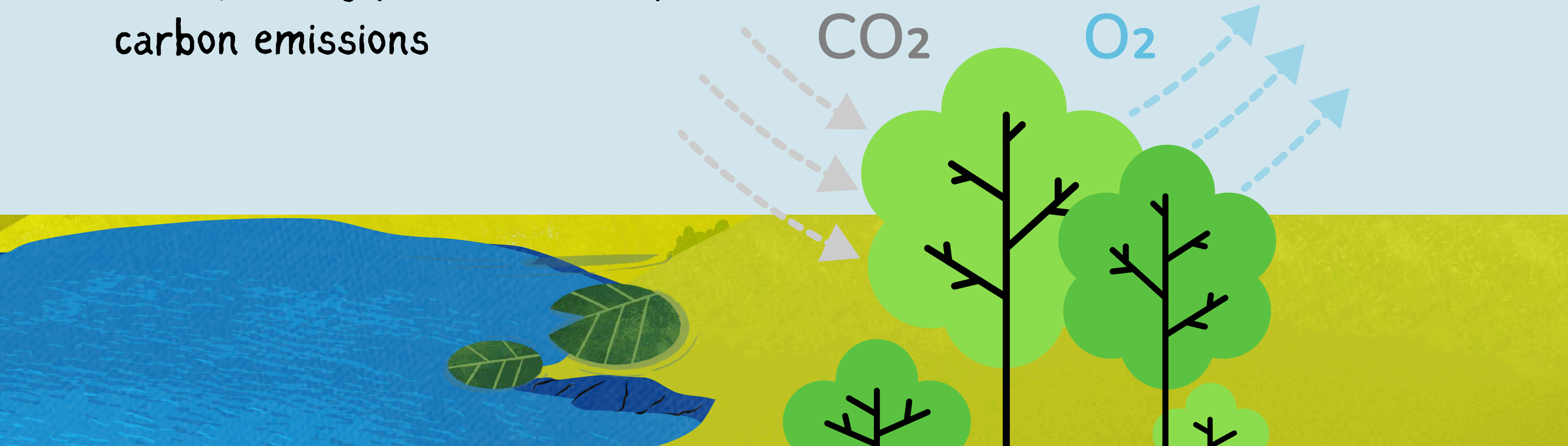
- A teaspoon of soil can contain over a billion microorganisms (FAO, 2020).
- Earthworms, arthropods, fungi, and bacteria break down organic matter, enabling carbon storage.
- Healthy soils = More organic carbon = Lower atmospheric CO_2 levels





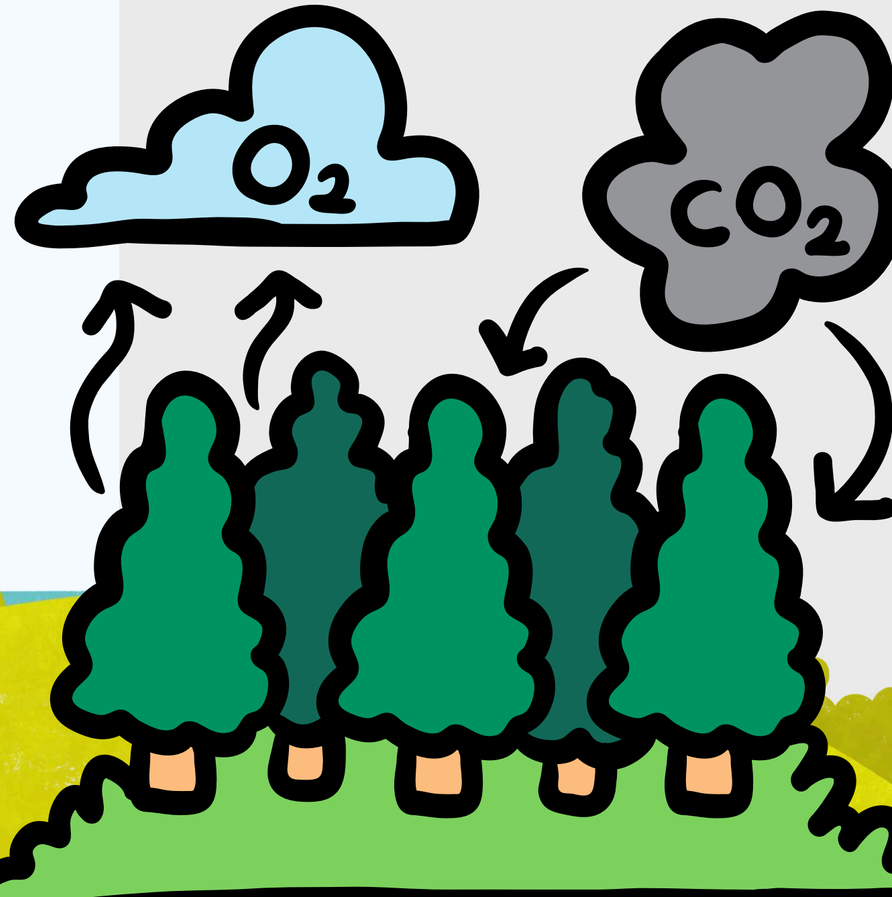
Microbiome and the Carbon Cycle

- Microbial metabolism helps store carbon in the soil long-term
- Mycorrhizal fungi form symbiotic relationships with roots, optimizing carbon transfer
- Poor farming practices disrupt microbial balance and increase carbon emissions



Scientific Findings and EU Projects

- Soil BON (2022): Mapping soil biodiversity across Europe
- HORIZON ‘BeeConnected’ (2023): Studying bee population dynamics and climate stress
- CLIMASOIL (2024): Testing microbial fertilizers that boost soil carbon storage



Policy & Agricultural Recommendations

- Subsidies to reduce pesticide use
- Support for organic and regenerative farming
- Creation of bee corridors and flowering habitats
- Expansion of soil health monitoring systems



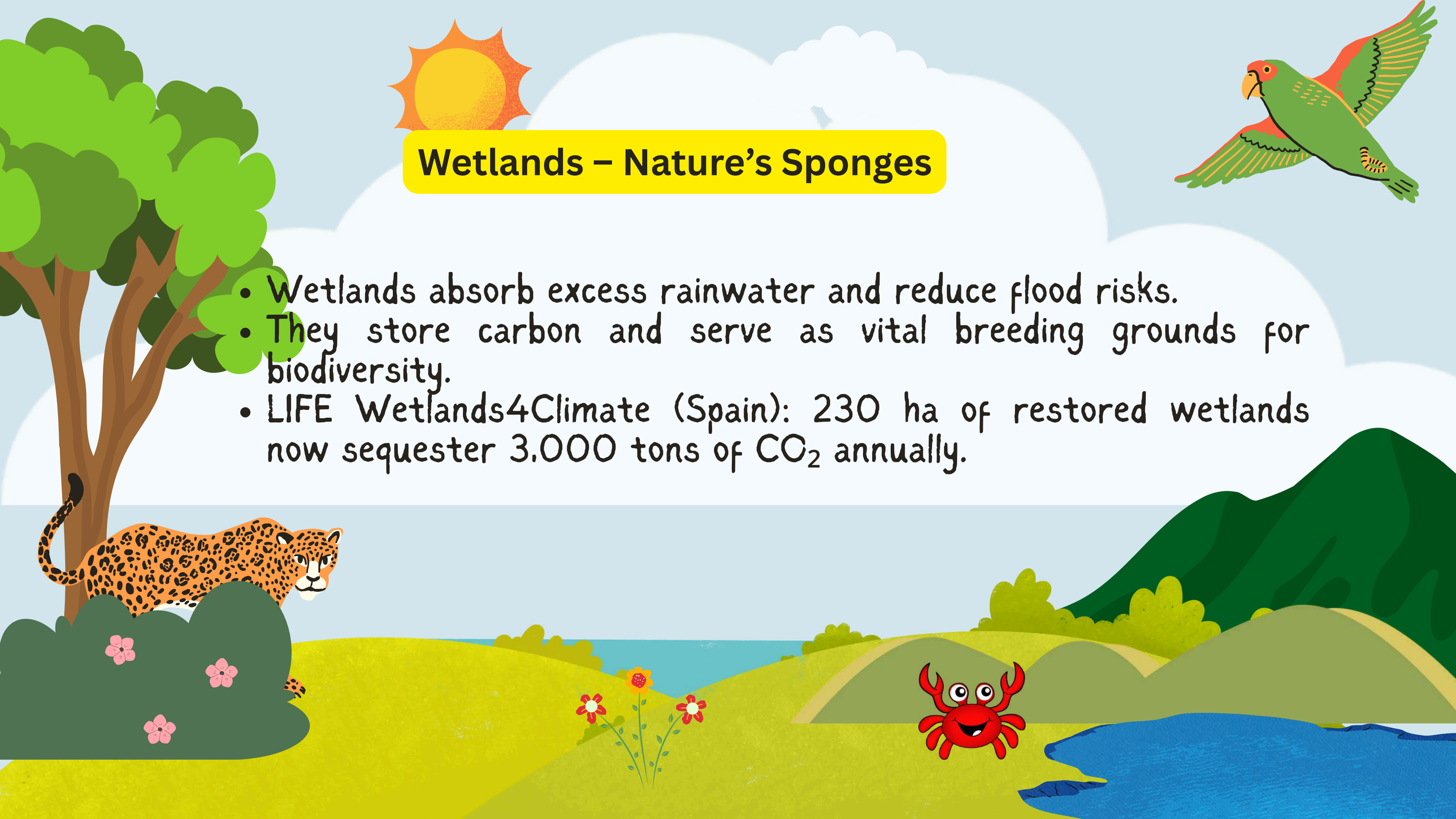
What Are Nature-Based Solutions (NbS)?

- Nature-based Solutions (NbS) are sustainable, multifunctional strategies that use natural ecosystem processes to address environmental and societal challenges.
- They mitigate climate risks while providing economic, ecological, and social co-benefits.
- Examples: Wetland restoration, green roofs, urban forests, floodplain reconnection



Wetlands – Nature’s Sponges

- Wetlands absorb excess rainwater and reduce flood risks.
- They store carbon and serve as vital breeding grounds for biodiversity.
- LIFE Wetlands4Climate (Spain): 230 ha of restored wetlands now sequester 3.000 tons of CO_2 annually.



Nature in Urban Spaces

- Urban green infrastructure (green roofs, rain gardens) mitigates heatwaves.
- Urban forests improve air quality, reduce noise, and enhance public health.
- GreenUrbs Project (Germany): In Munich, a 1,500 m^2 green-roofed building saw indoor temperatures drop by 17%.



Nature-based Solutions:

- ✅ Slow down climate change
- ✅ Reduce flood and drought impacts
- ✅ Improve urban liveability
- ✅ Preserve biodiversity
- ✅ Support ecotourism and green jobs



Successful Examples from Europe

- URBAN GreenUP (Italy, Spain, Turkey): Tools for planning and implementing urban ecosystem services
- LIFE COOLHEAT (France): Reduced urban heat through green corridors
- Connecting Nature (Ireland): Developed governance models for NbS in cities

Save the World

Today, we did more than exchange knowledge—we shared our responsibility to nature, the power of youth, and the hope for a common future.

Each of you is part of a greener and more resilient Europe.

Nature is our partner, and protecting it is our shared duty.



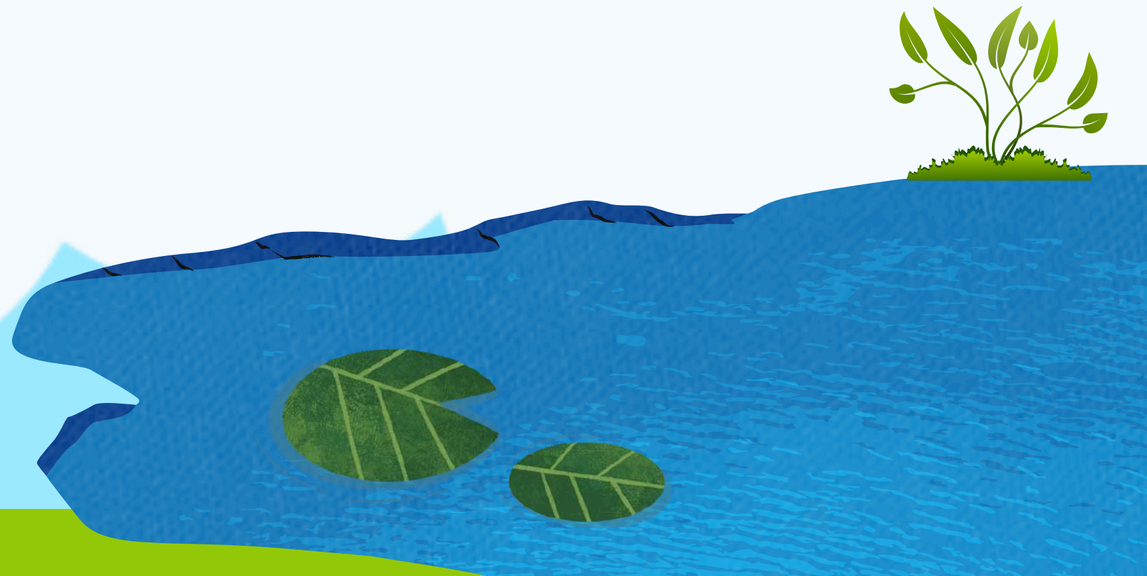
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