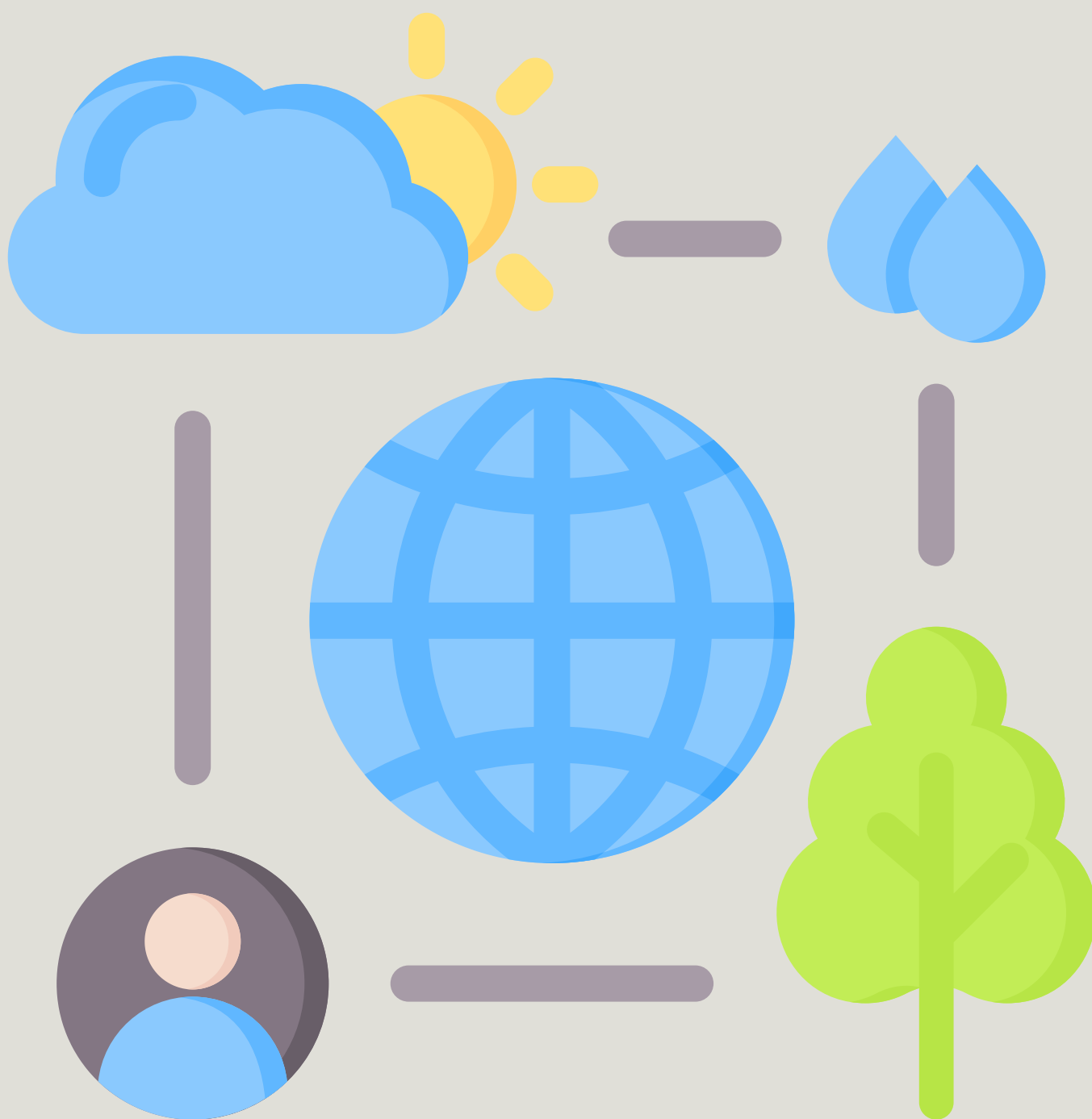


ECOSYSTEM SERVICES OF FORESTS



CITIZEN ENGAGEMENT



SILVANUS

www.silvanus-project.eu



Forest ecosystem services are like the benefits or help we get from forests, which make our lives better and the planet healthier.

Forests play a crucial role in human well-being in many ways, impacting both our physical environment and our mental health. Here are some simple explanations of these services:

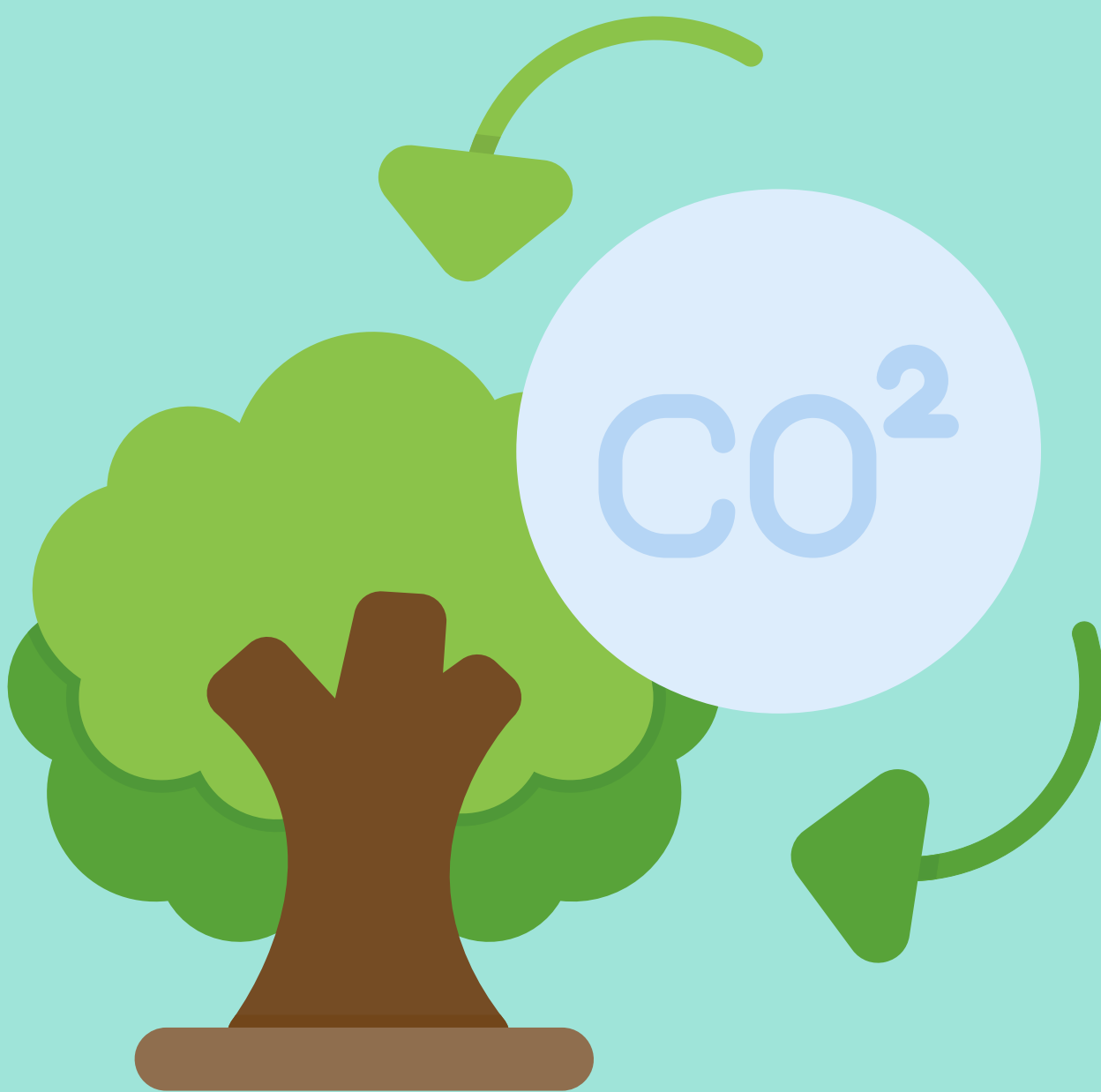


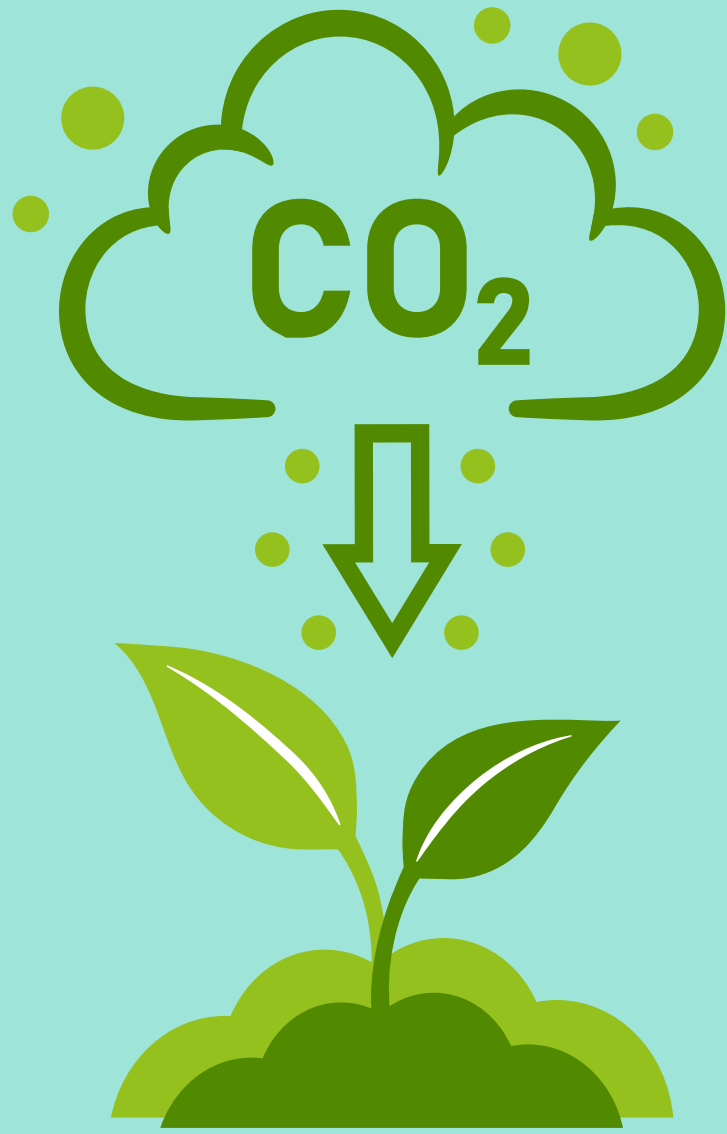
REGULATING SERVICE

Forests act like large air filters. They absorb gases like carbon dioxide and release oxygen, which we need to breathe. This helps reduce the concentration of carbon dioxide in the atmosphere, combats climate change, and keeps the air clean.

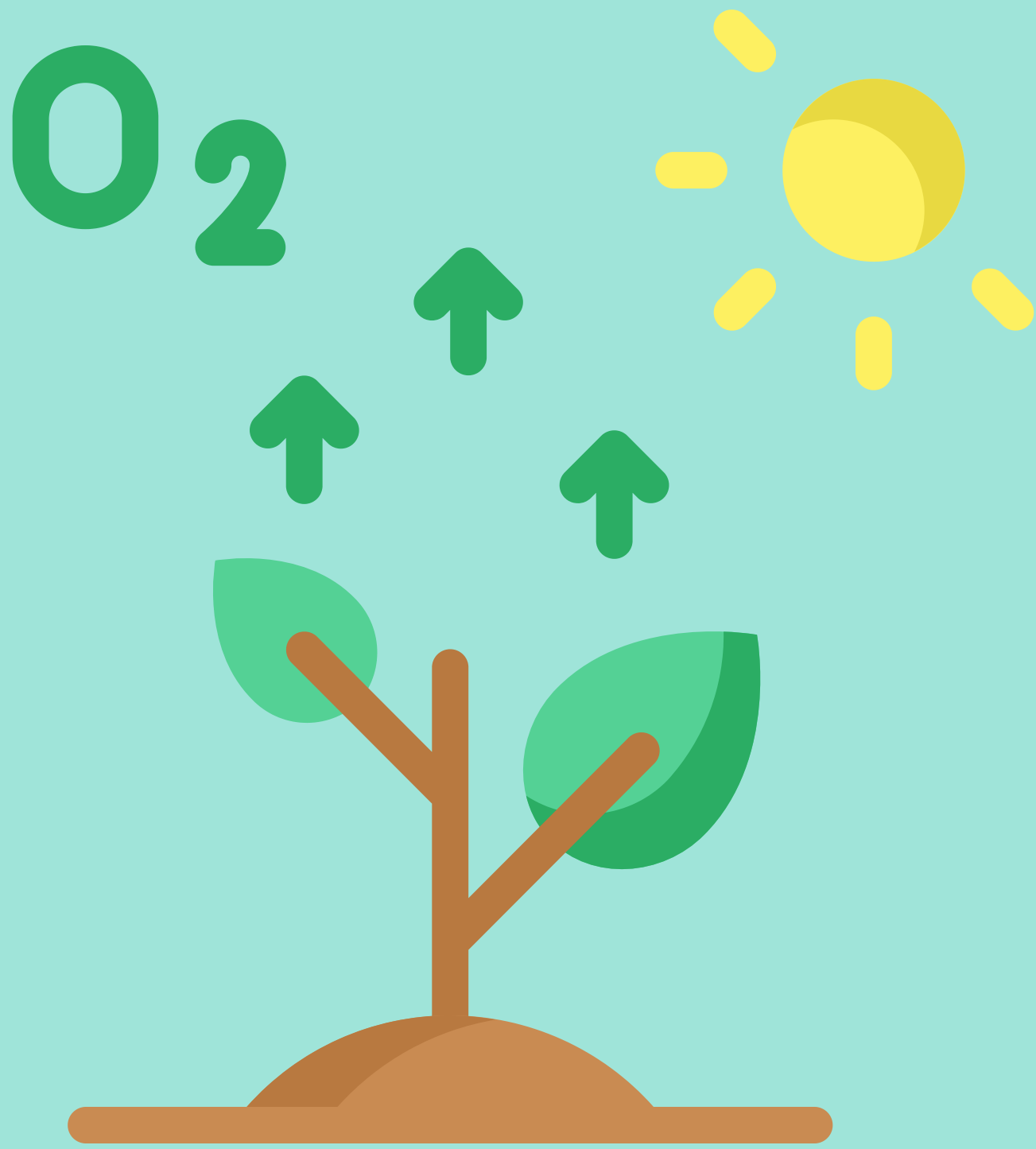
PHOTOSYNTHESIS AND CARBON STORAGE

Trees and plants absorb carbon dioxide (CO_2) from the air and, using sunlight, convert it into oxygen (O_2) and glucose. This oxygen is then released into the atmosphere, which supports life on Earth.





Trees and plants take in carbon dioxide to make their food through a process called photosynthesis, and they store (or "sequester") the carbon in their trunks, branches, leaves, and roots. Forests, especially tropical rainforests, act as significant "lungs of the planet," producing large amounts of the oxygen we breathe while also helping to absorb and store carbon dioxide, mitigating climate change.



PURIFICATION OF AIR

Besides taking in carbon dioxide, forests also clean the air by absorbing pollutants and releasing oxygen. Just like carbon sequestration, this process of photosynthesis helps to make the air healthier for us to breathe.

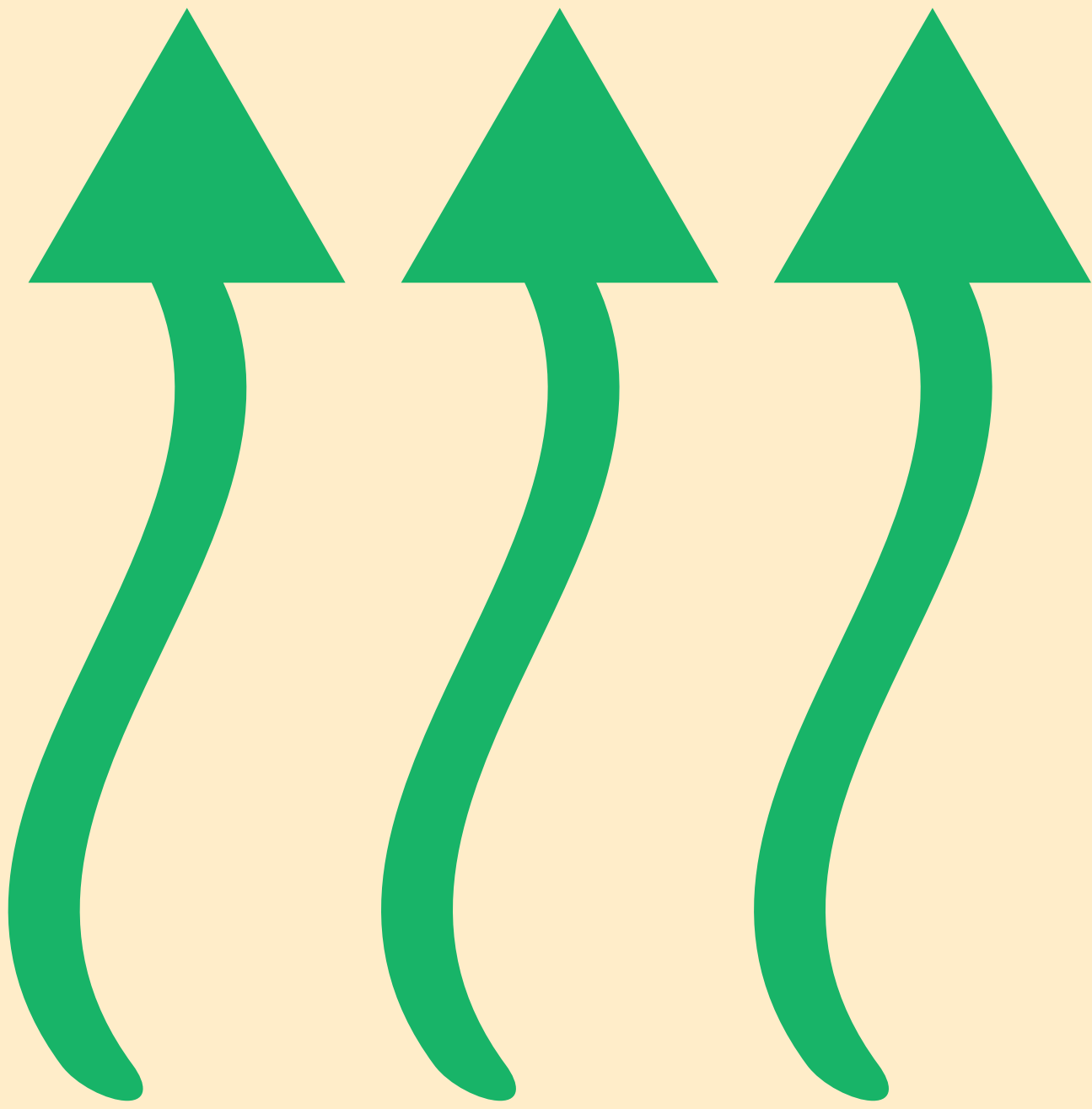
PURIFICATION OF WATER

Forests play a vital role in purifying water by acting as natural filters. The roots of trees and plants stabilize the soil, preventing erosion, while the soil itself acts as a sponge, trapping pollutants, sediments, and excess nutrients before the water reaches rivers, lakes, and groundwater sources. Microorganisms in the soil further break down harmful substances.



FLOOD MITIGATION AND WATER REGULATION

Forests are like nature's water managers. They catch rainwater with their leaves and soil, which helps to reduce flooding by slowing down how fast water flows into rivers and lakes.

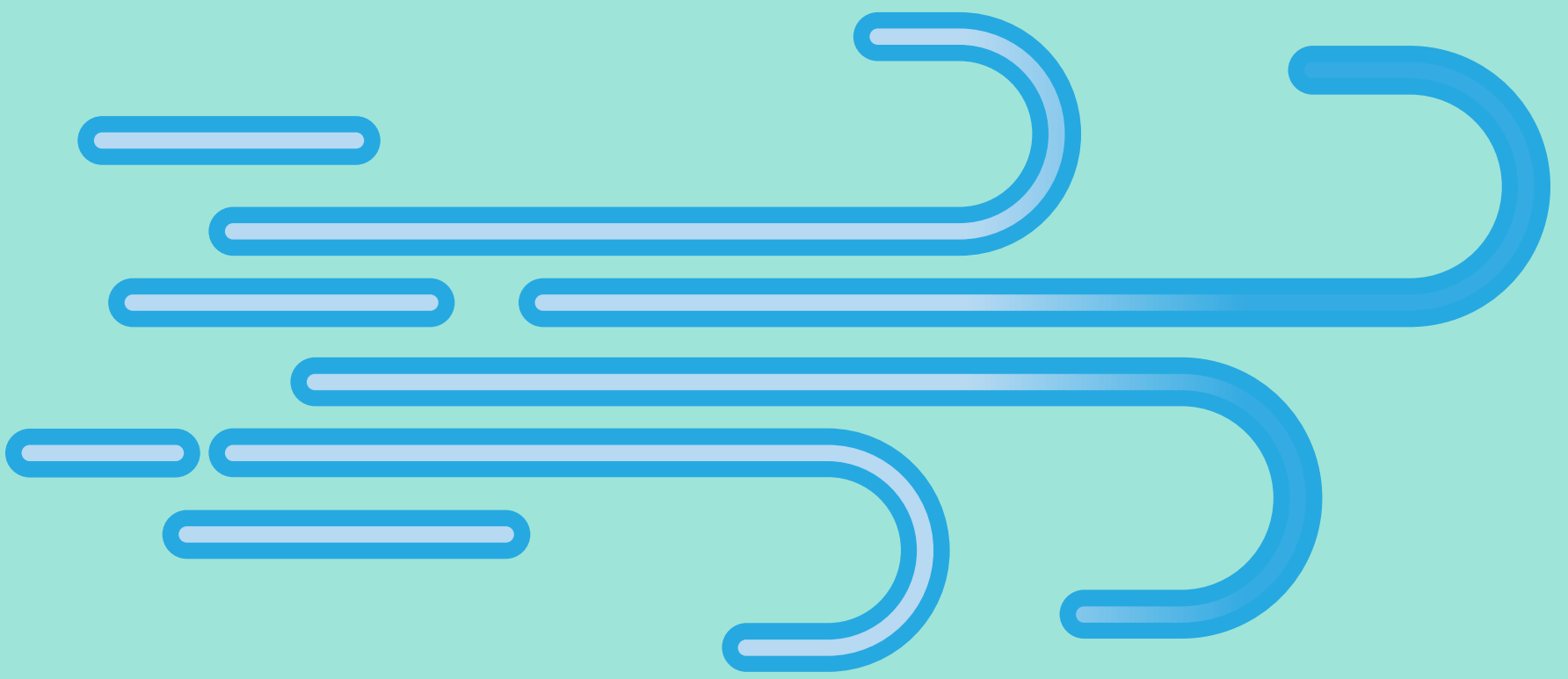


The trees also release water vapour into the air through a process called transpiration, which can help to form clouds and eventually rain. This way, forests help to keep the water cycle going and make sure there's water for us to use.



CLIMATE REGULATION

Forests can influence the climate both locally and globally. They can cool the air by providing shade and releasing water vapour. On a larger scale, by taking in carbon dioxide, forests play a part in controlling the global climate.



COOLING THE AIR

Forests are natural air conditioners. They release water vapour into the air through a process called transpiration, which helps cool down the air temperature. This is especially important in cities where it can get really hot.



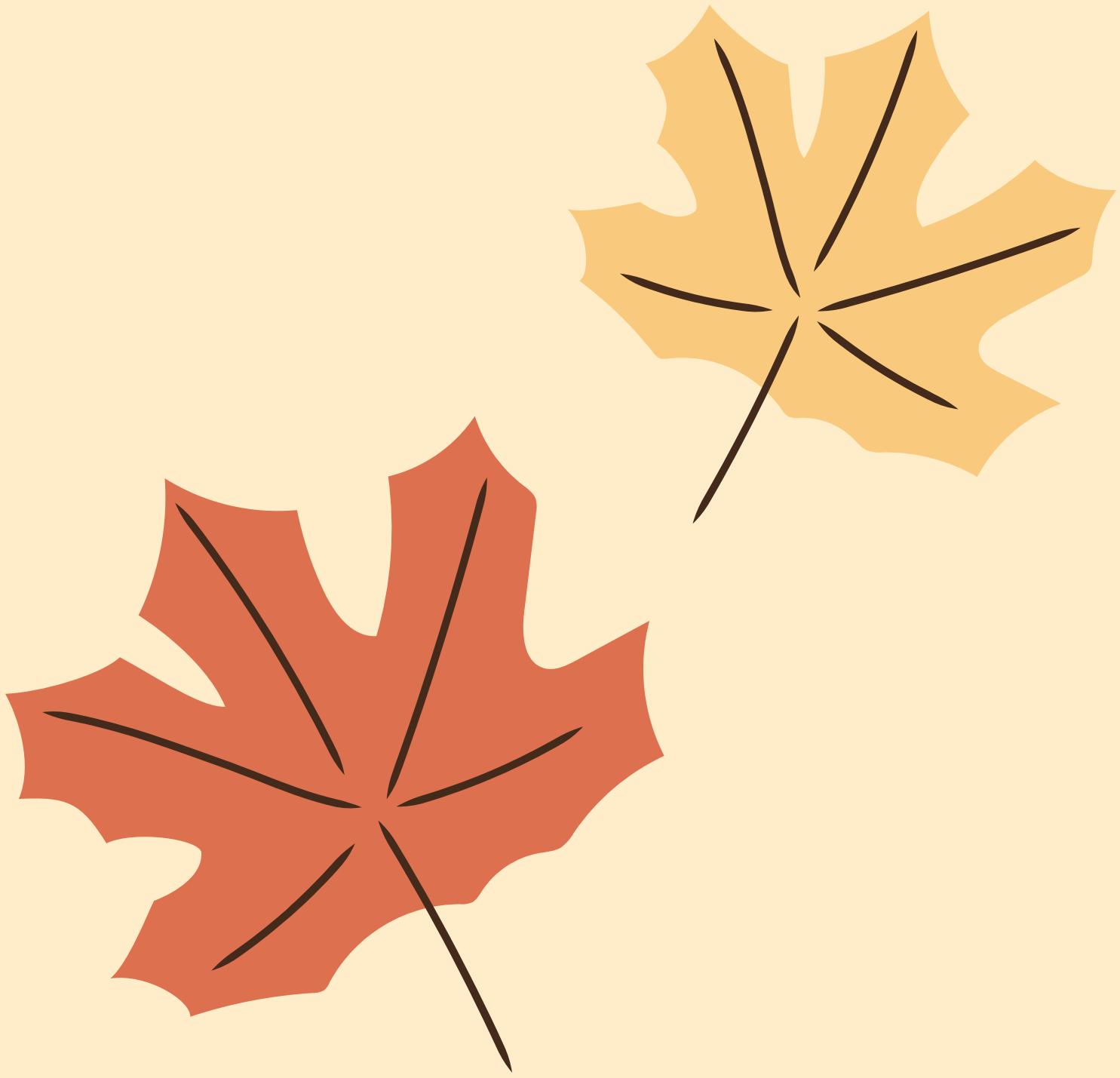
SUPPORTING SERVICES

Forests are like big, natural homes for lots of different plants and animals. They provide food, shelter, and a place to live for countless species, including some that are rare or endangered.

BIODIVERSITY SUPPORT

This variety of life, called biodiversity, is important because it makes the ecosystem strong and able to handle changes or threats, like diseases or natural disasters.





SOIL PROTECTION AND FORMATION

Forests protect the soil by covering it with leaves and branches, which helps to stop the soil from washing away when it rains (erosion).

The roots of trees and plants also help to hold the soil together. Plus, when leaves and other plant parts fall to the ground and break down, they make the soil rich and good for growing things.





PROVISIONING SERVICES

Many people around the world depend on forests for their way of life. Forests provide wood for building and fuel, food, medicines, and other resources that people need to live.



ECONOMIC BENEFITS

Beyond providing raw materials like timber and paper, forests contribute to economies through tourism and recreation.

Sustainable management and conservation of forests can support livelihoods, particularly in rural areas.

FOOD SECURITY

Forests are a source of diverse foods, including fruits, nuts, seeds, and mushrooms, contributing to nutritional diets. They also support the habitats of pollinators and other wildlife, which are essential for the pollination of many crops.



MEDICINAL RESOURCES

A significant portion of modern medicines are derived from plants found in forests. These natural compounds have been used for centuries in traditional medicine and continue to be a resource for developing new treatments.





MENTAL AND PHYSICAL HEALTH

Studies have shown that spending time in forests can lower blood pressure, reduce stress, and improve overall mood and mental health. This connection with nature is an essential aspect of human well-being.



CULTURAL AND SPIRITUAL

For many people, forests are important not just for physical reasons, but also for cultural and spiritual reasons. They are places of beauty and inspiration, and they hold cultural significance for many communities around the world.