

ECOSYSTEM SERVICES OF THE EVERGLADES

WHAT IS THE EVERGLADES?

The Everglades is a subtropical wetland ecosystem and a national treasure. Spanning over 100 miles long and 60 miles wide, it is the largest subtropical wetland in North America. The historic Everglades spans from the Central Florida area down to Florida Bay. The Everglades provides the freshwater supply for 9 million Floridians.

The Everglades is a very special and unique ecosystem. It provides humans many ecosystem services. Ecosystem services are the free benefits to humans provided by nature from healthy ecosystems.

ECOSYSTEM SERVICES

01 **EVERGLADES WETLANDS FILTER AND CLEAN WATER.**

- Wetland plants trap and remove pollution. Because water moves so slowly through the Everglades watershed, sediment or pollutants can settle to the bottom. From here, the plants hold the sediments or pollutants in place and can actually chemically change them.
- Red mangrove trees are able to filter pollutants out of the water through their vast root systems.

02 **THE EVERGLADES PROVIDES FLOOD CONTROL AND WATER STORAGE.**

- Mangrove trees stabilize the shoreline, reducing flooding from storm surges, and provide and protect habitats and nurseries for wildlife and plants.

- The plants living in a healthy ecosystem will slow down rain as it hits the land, allowing the soil to soak it up and store water. This prevents both erosion and flooding.
- As water flows slowly from north to south, it seeps into the limestone rock foundation and is stored in the aquifer system underground. We get our freshwater supply from this aquifer system.

03 **THE EVERGLADES HELPS MAINTAIN THE WATER CYCLE.**

- All ecosystems in the Everglades take part in the water cycle as plants absorb water through their roots and release water into the atmosphere through their leaves in a process called transpiration.
- When water transpires from the leaves, any impurities that might be in it stay behind in the plant.
- Evaporation and transpiration in the Everglades adds water to the atmosphere which plays a major role in the type of weather we experience in southern Florida, especially during our summer wet season.

04 **EVERGLADES SOIL FILTERS WATER.**

- Soils, like peat and marl, can help to purify water by filtering out some of the contaminants as they flow through the different soil layers.

05 **THE EVERGLADES PREVENTS SOIL EROSION.**

- Trees with long, sturdy tree roots anchor the soil, preventing soil erosion.
- For example, mangrove swamps help build and bind soils with their dense root systems. Above the ground, the mangrove roots are able to slow down the water flow which allows for sediments to deposit, which reduces erosion.

06 **THE EVERGLADES TRAPS GREENHOUSE GASES.**

- Greenhouse gases in the atmosphere have increased as a result of human activities. When plants and trees perform photosynthesis, they take in carbon dioxide, the major greenhouse gas, and store the carbon in their branches, roots, and leaves.
- Mangroves in Everglades National Park have trapped enough carbon equal to the amount of energy used for 19.9-24.1 million homes in one year.
- The Central Everglades contains carbon that is equivalent to 670.5 billion pounds of coal burned.
- Seagrass beds in Florida Bay contain enough carbon equal to 20-23 million passenger vehicles driven for one year.

08 **THE EVERGLADES PROVIDES PEACE AND AESTHETIC BEAUTY.**

- The Everglades ecosystem provides aesthetic beauty and it is a favorite recreational spot for families, tourists, and outdoor enthusiasts to enjoy.
- Shade provided by these ecosystems keeps humans, plants, and animals cool.
- The Everglades is a place people come to enjoy the sounds of nature; birds singing, the whistling of the trees swaying in the breeze, and alligators bellowing.

EVERGLADES RESTORATION PROTECTS ECOSYSTEM SERVICES

- Everglades restoration will maintain the critical balance between fresh and saltwater, restore habitats, and provide optimal living conditions for wildlife.
- Everglades restoration protects mangrove ecosystems, which provides us with coastal flooding control and contains peat soils that trap carbon.
- Through Everglades restoration, increased fresh water flow throughout the year will slow the impacts of sea level rise and saltwater intrusion around the coast.

