

Course: Global Functioning of Ecosystems

II- Ecosystems in the World

The most widely used classification is that which is based on the biotope, in other words the environment. For example, the marine environment gives rise to oceanic ecosystems. A biotope (or environment) is broken down into as many ecosystems as there are groups of living beings living there in community.

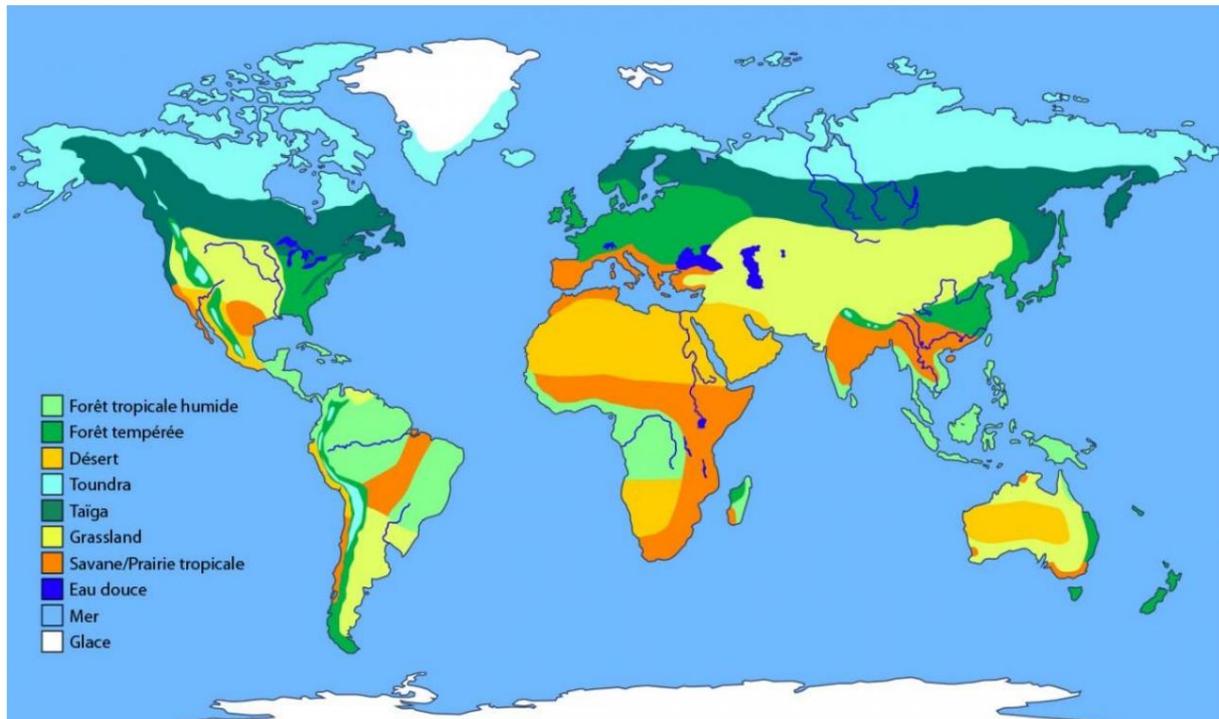


Figure 1 : Main continental biomes in the world

Biomes correspond to latitudinal subdivisions in the form of bands, from the equator towards the poles, depending on the climate and environment (aquatic, terrestrial, mountainous).

The distribution is generally based on the adaptations of species to cold and/or to the drought.

There is no clear boundary between two biomes. The transition zones where the two systems are called **ecotones**.

There are two main types of ecosystems: **aquatic** ecosystems and...

Terrestrial ecosystems . Let's look at some examples of ecosystems:

- I. **Terrestrial ecosystems** : Terrestrial ecosystems are ecosystems that exist only on land, as in the following examples. The rainforest

(rainy), The temperate forest (deciduous), The boreal forest (or Taiga), Tundra (to proximity to the North Pole), the prairies and the desert.

1. **The tropical rainforest**, characterized by a hot and humid environment, a heavy rainfall, large trees and a great diversity of species plant-based.
2. **The temperate forest**, characterized by an abundance of deciduous trees, a temperate average temperature and frequent rainfall.
3. **The boreal forest**, composed of coniferous species, in the cold regions of the northern hemisphere.
4. **The tundra**, located near the North Pole in the Arctic Circle; the coldest and the driest of terrestrial ecosystems. Extremely cold winters. Summers of less than 2 months steppe of the Arctic zone, characterized by plant associations of mosses and lichens, heathers.
5. **The meadows** are largely covered with grasses and other herbaceous plants, but they are devoid of trees or have only a small number of them. They are known by different names around the world, such as the steppes in Europe or the Savannas in Africa. Grasslands are generally found in areas where forests fail to maintain themselves, often due to a lack of rain.
6. **Deserts** are generally found in very hot climates (although there are some exceptions, such as the cold deserts of Greenland), with sparse vegetation and less than 25 cm of annual rainfall.

II. Aquatic ecosystems : a river, a lake, a coastal zone... are

complex systems. According to Ramade, 2003 there are two types of ecosystems
Aquatic

ecosystems: 1. **Marine ecosystem**: The most extensive ecosystem (71% of the Earth's surface, 97% (waters of the planet), Water containing high levels of dissolved salts and minerals ,

We can distinguish two major types: oceans and coral reefs

• **Ocean**: five ocean ecosystems: Atlantic, Pacific, Indian, Arctic

and the largest and deepest Antarctic body is the Pacific Ocean (50% of the ocean surface, Mariana Trench: -11 km), the ocean ecosystem

It contains the largest mammal known as the blue whale.

• **Coral reefs**: Shallow, clear areas of the ocean in certain zones tropical.

2. Freshwater ecosystems: cover only 0.8% of the Earth's surface, 0.009% waters of the planet. There are two types: lentic and lotic. ÿ

Lentic ecosystems: Ecosystems of stagnant water (lakes, ponds, marshes, swamps,...

ÿ **Lotic ecosystems:** Ecosystems of flowing waters (rivers, streams, streams, ...