Climatic change and the photosynyhetic process in aquatic ecosystem

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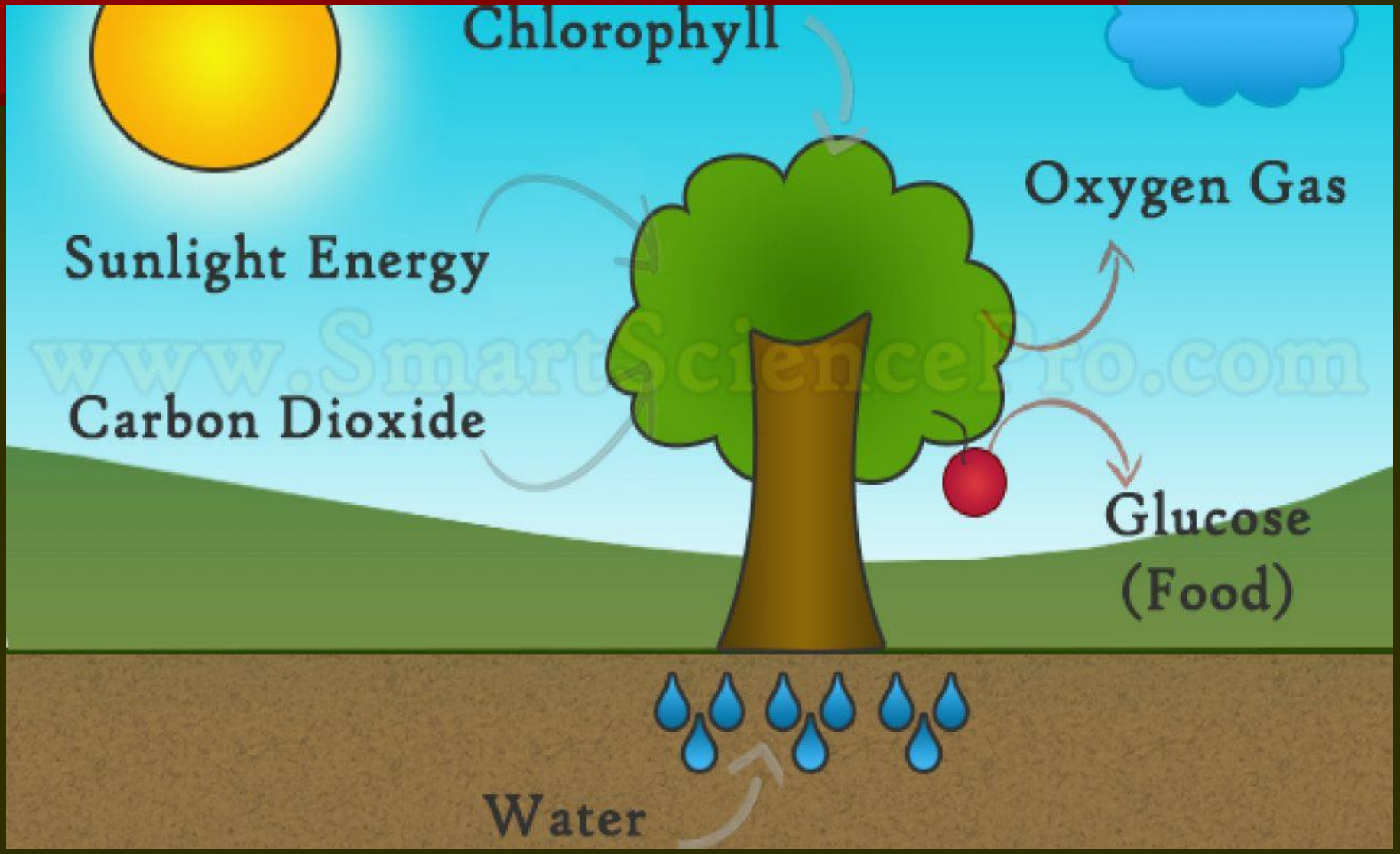
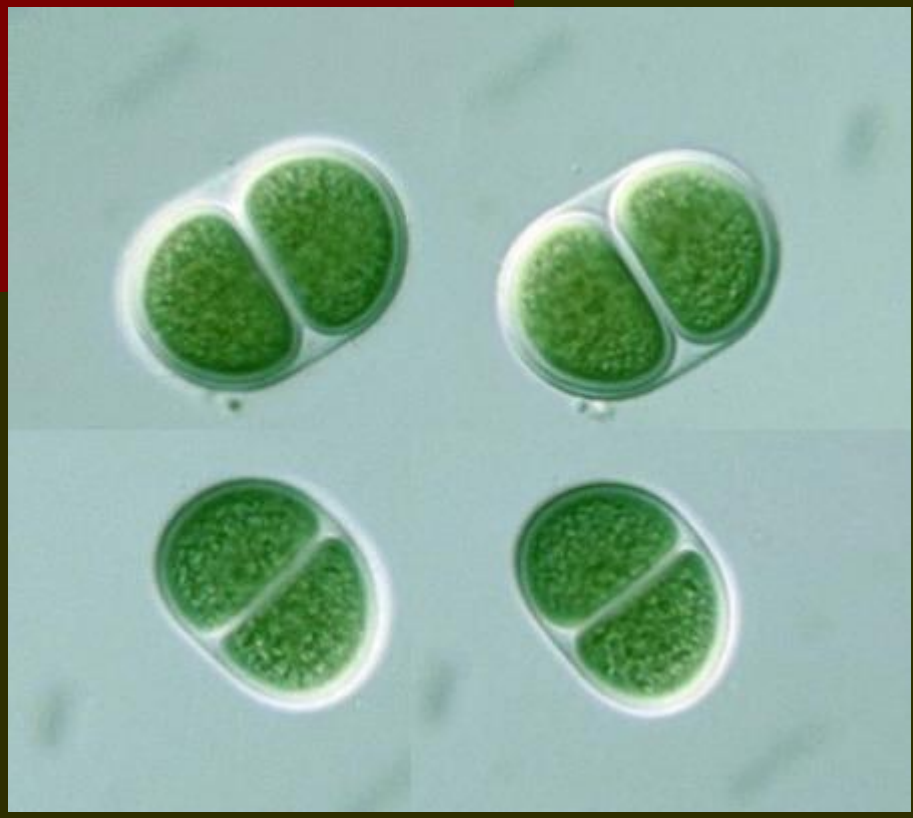
I N E D E S

The biological pump



- Cyanobacteria are among the first organisms capable of capturing carbon dioxide that appeared on the earth.
- Many later the plants developed in the land surface.
- Some of them returned to colonize the water bodies.



Several types of macro algae were also developed in the aquatic environment.

There are currently macroalgae and aquatic plants both in freshwater and in marine water. However, in the continental waters algae and plants reduce their presence due to aquatic contamination.

In the seas there are also species reduction. Dr. Duarte in Spain recently stated that the *Posidonia* meadows, a marine vascular plant of Mediterranean sea, have been reduced by 38 percent in coverage area and are reduced more each year.

Macrocystis pirifera (Kelp) in patagonian coasts of Chile and Argentina would have similar problems.

- If aquatic plants disappear, the ability to capture carbon from the atmosphere is greatly reduced.
- In addition, many of the plants have the ability to retain heavy metals and other contaminants.

Although the aquatic plants and macroalgae are key species to the ecosystem, if they lack it is possible that life does not disappear completely from water, but only cyanobacteria (that produce toxins for the skin and fish), will be remain.

Many programs have been made to grow more trees to capture carbon. But, when fires such as those in Australia and Brazil occur, carbon returns to the atmosphere.

This would not occur in aquatic environments, so recovery of aquatic plants is also important as an urgent mitigation action.

Plants can see their carbon capture systems saturated by excess of carbon dioxide, but in aquatic systems this excess does not occur because there is an equilibrium system (carbonate-bicarbonate) that prevents excess of carbon dioxide.

This is not the solution, but it can be a contribution to the mitigation of the excess of atmospheric carbon.