

Water is Life



The common expression “Water is Life” usually refers to the fact that all living things need water.

A lesser known aspect of this phrase is that water shaped our planet; is where life originated; and is where our atmosphere was created. Here is an abridged version of the last 4.5 billion years and how the environment shaped life and life shaped the environment, with water in a starring role.

Debris left over from the formation of the sun clumped together to form the Earth. Gravity compacted the material, shifting a cold, dead rock into a warming planet.

Over millions of years, volcanoes ejected gases trapped in the space rock - including sulphur, methane, and water vapour - into an early atmosphere that was essentially poisonous on a planet that was too hot to allow rain to reach the ground.

Once the Earth cooled, rain was able to reach the planet’s surface. It subsequently rained for millions of years, with water submerging the planet in an ocean of liquid water.

Later, land rose above the waves, with sun, wind, and rain shaping the landscape and forging an early climatic system, but with a toxic atmosphere that still lacked oxygen.

Life eventually emerged, and for a long time consisted only of microscopic beings in water. One early life form called cyanobacteria became the first organism to develop oxygenic photosynthesis, converting sunlight and water into energy while producing oxygen.

Indeed, they produced so much oxygen that over several hundred million years that oxygen eventually rose from the oceans to be the atmosphere that essentially still exists today.

Over the same period, other early life forms engulfed some of the cyanobacteria, forming algae, from which all of Earth’s plants evolved.

In short, while we all know that water is needed by all living things, it helped shape the planet, is where life first emerged, and is where our oxygen was created.

In short, water is life. It and the hydrologic cycle must be protected, now and for future generations.

May 2024: Adapted by Dr. Usha Lingappa, UC Berkeley and Andrew McCammon, OHI, from “Ancient Earth: Birth of the Sky”, a 54-minute documentary by PBS SoCal.

Promoting Watershed Security in Ontario: Water for People and for Nature