

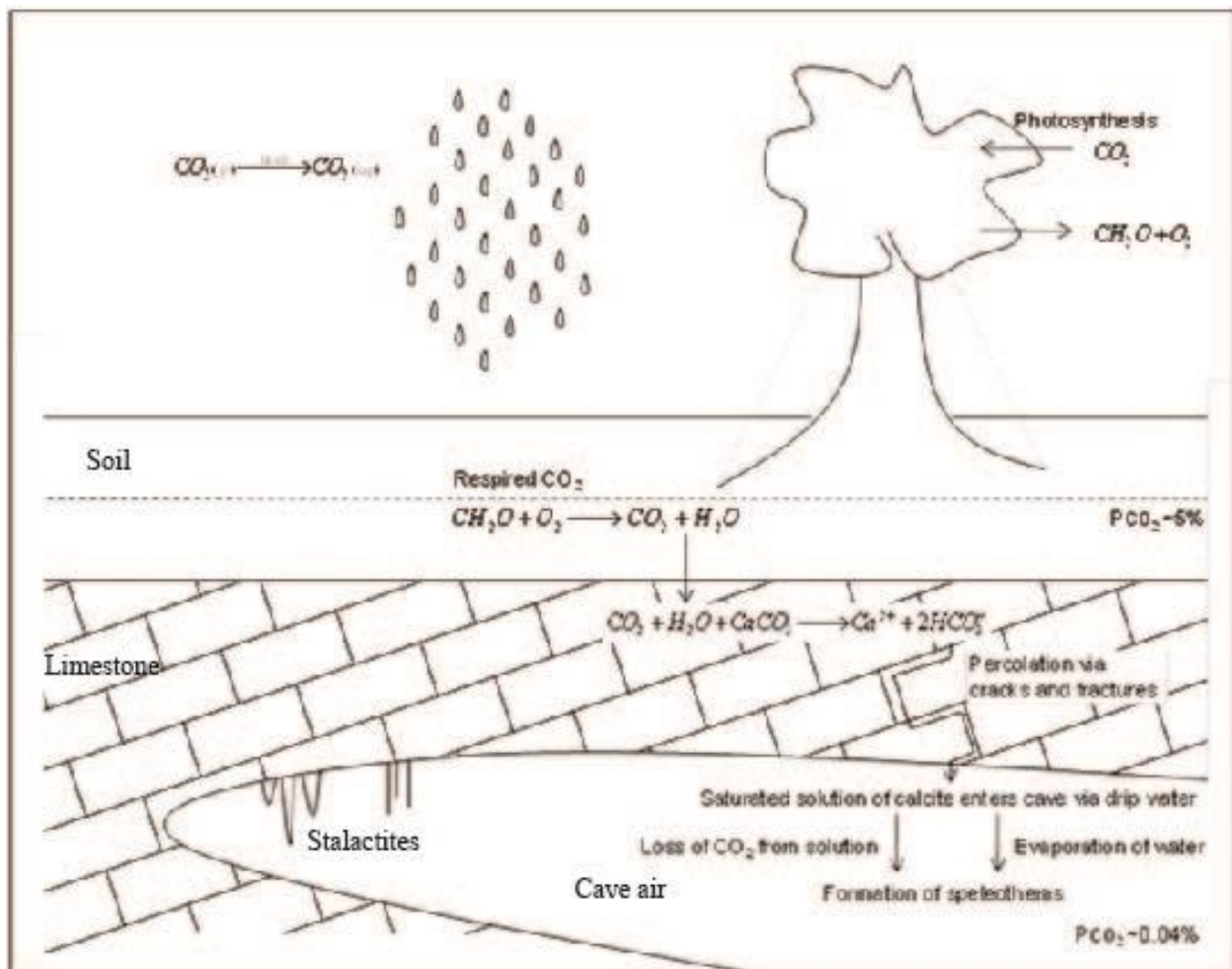
Why is carbon dioxide important in the Waitomo Glowworm Cave?

Carbon dioxide is released by plant roots and microbial activity in the soil. When combined with water it forms a slightly acidic solution.

Over time, this acidic water seeps down through the limestone above the cave dissolving the soluble calcium carbonate minerals present in the limestone.

When this water eventually emerges as droplets in the cave it will lose carbon dioxide causing calcium carbonate to be deposited as cave formations - stalactites and stalagmites.

However, if the concentration of carbon dioxide in the cave air is greater than about 2400 parts per million (ppm) the process is reversed. The drip water will instead dissolve the cave formations.



People exhale air enriched with carbon dioxide. People breathing in a space with restricted ventilation, such as a cave, can cause the concentration of carbon dioxide to increase.

To protect the Waitomo Glowworm Cave's beautiful cave formations we are required to prevent carbon dioxide in the cave air from exceeding 2400ppm.

The risk of carbon dioxide exceeding 2400ppm is typically highest when visitor numbers are high, the outside air temperature is the same as the cave temperature (15°C), the water level in the cave stream is elevated, or a combination of these conditions.

When these conditions arise and there is a risk carbon dioxide will exceed 2400ppm we have we have no option but to delay visitor tours or close the cave.