

Atmospheric Carbonic Acid

Raining CO₂¹

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One aspect of the "Global Warming" discussion, which is not covered adequately, is what happened to CO₂ in the atmosphere?

This highly soluble gas ensures it gets rapidly absorbed into the atmospheric moisture which starts out at a pH of 7.0, but reduces to between 5 and 5.5 pH as rainfall which is the CO₂ absorption limit.

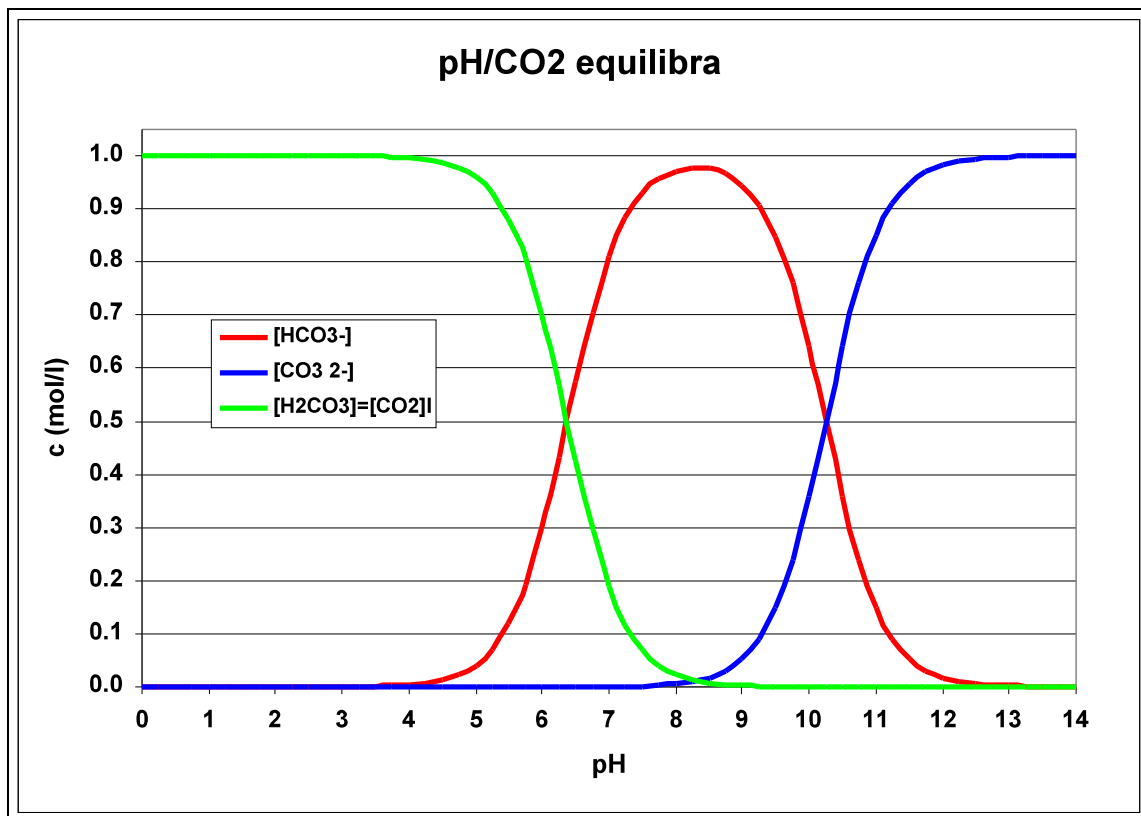
Rain drops have now become drops of carbonic acid.



As rain, CO₂ parachutes out of the atmosphere in large quantities, much of which falls directly onto the ocean, where the pH is around 8.2

Here the sea water immediately neutralises the more acid rain. This ensures CO₂ occupies a unique position relative to the other atmospheric gasses, and explains why there will always be a limit to the quantity of CO₂ present in the atmosphere, but not in the sea water.

The following graph shows why the sea water readily dissolves CO₂ at a pH of 8.2:²



The gas is largely absorbed as the bicarbonate radical HCO₃⁻

CO₂ solubility highlights the importance of Henry's Law, and the Sea Surface Temperature. SST controls the concentration of CO₂ in the atmosphere immediately above the ocean, as reported by Emeritus Professor Lance Endersbee.³ The results are based on recorded quantities, and show a straight line relationship between SST and atmospheric CO₂. Sea temperatures are mostly controlled by tectonic activity on the sea floor.

These fundamentals are germane to the whole 'Green House' debate, and show there is no connection between burning coal, LNG, bush fires, GM, BMW or Tesla, and the concentration of CO₂ in the atmosphere.

Planting trees and reducing 'emissions' will do nothing to alter the basics of atmospheric CO₂ science.

References:

1. <https://bosmin.com/PSL/RainingCO2.pdf>
2. <https://bosmin.com//SeaChange.pdf>
3. http://icecap.us/images/uploads/Focus_0808_endersbee.pdf