HENRY'S LAW AND THE CARBON DIOXIDE (CO_2) CYCLE

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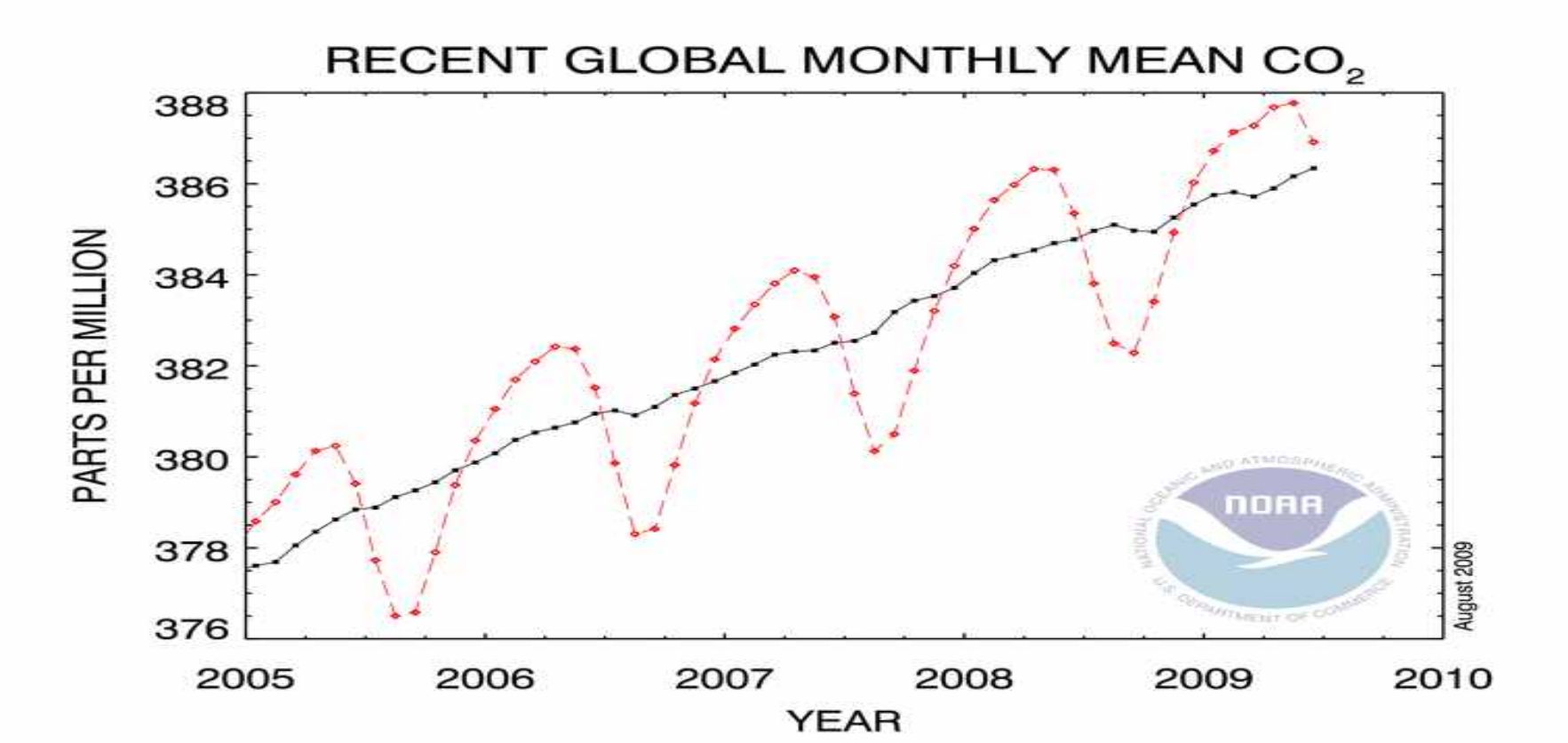
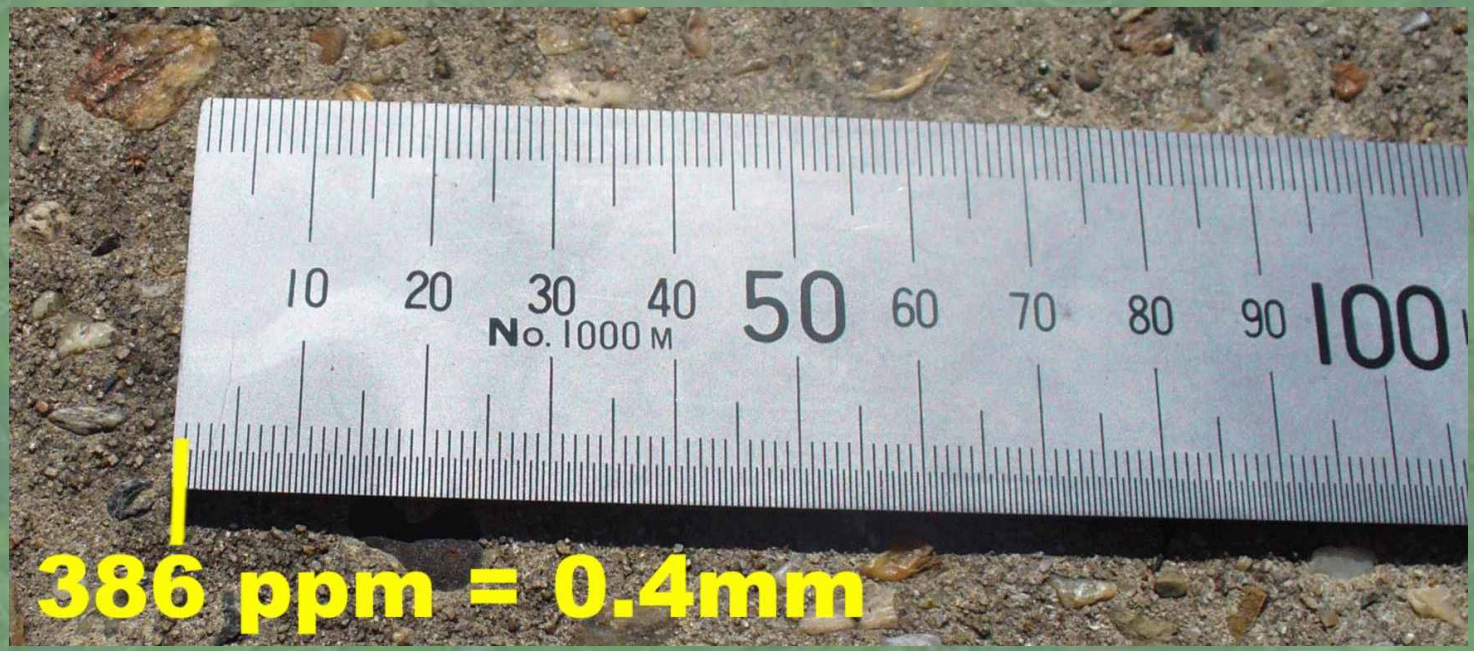
CO_2 IN THE AIR

Data from US Department of Commerce National Oceanic & Atmospheric Administration NOAA Research shows:



The sudden drop in CO_2 mid year coincides with colder southern ocean and strong winter winds.

ONE METRE RULE COMPARISON



CO_2 at 386 parts per million is equal to just over one third of the first millimetre:



CO_2 acts to enrich all forms of sea, land, plant and animal life

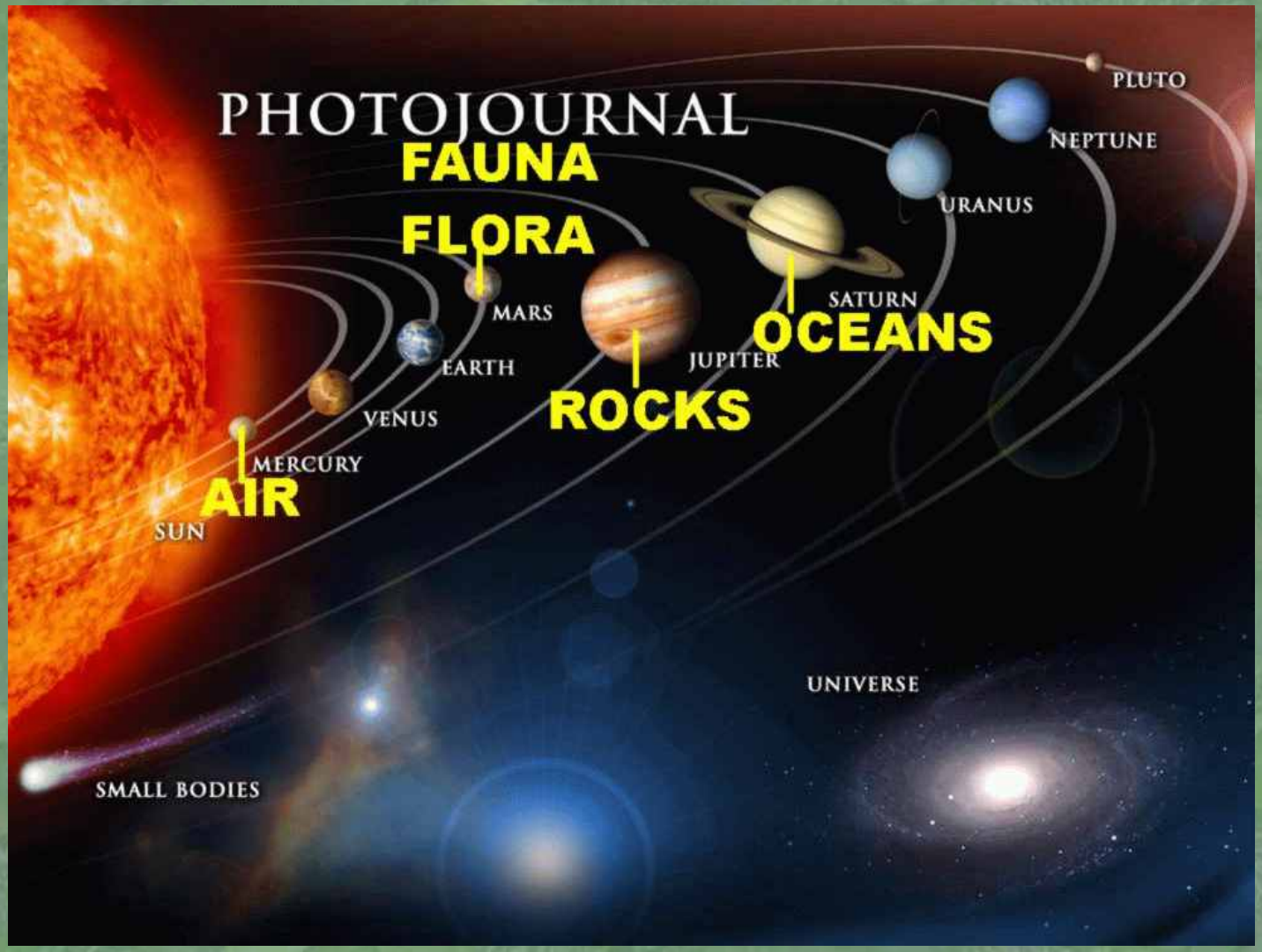


WHERE IS ALL THE CARBON ON EARTH?
Refer Prof Ian Plimer "*Heaven and Earth*" p412

CARBON stores in four areas of the upper mantel including:

- Rocks
- Oceans
- Flora & Fauna
- Air

What proportions does carbon represent when likened to the planets of our solar system?



Carbon in the air as CO_2 is a relatively small component of carbon deposited elsewhere on Earth's surface.

HOW SOLUBLE IS CO_2 IN THE OCEANS?

CO_2 enters the ocean in three stages:
(1) as a DISSOLVED GAS
(2) then as a BICARBONATE and
(3) and finally as a CARBONATE.
The portions of each are sensitive to water pH (acid level)

It is fair to say:
"CO_2 is VERY, VERY, VERY, soluble in sea water."

71% of the World's surface is water which acts like a huge sponge soaking up then storing CO_2

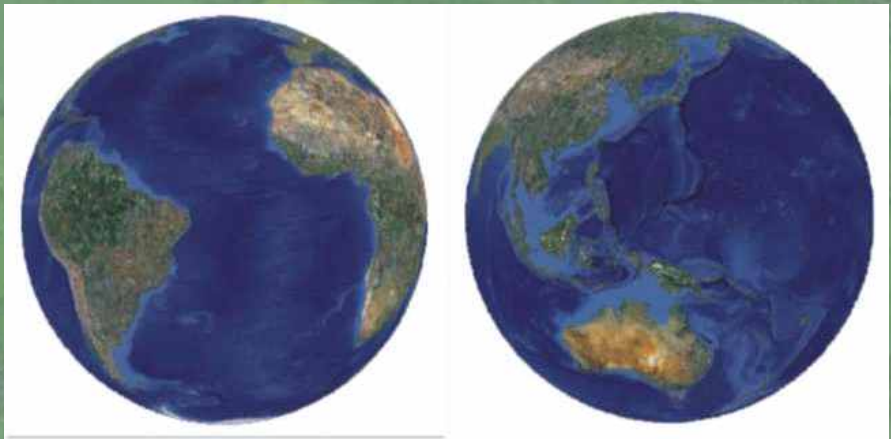
The Carbon Dioxide which dissolves is dependant on the CO_2 concentration in the air, and the sea temperature. This is described scientifically as

HENRY'S LAW

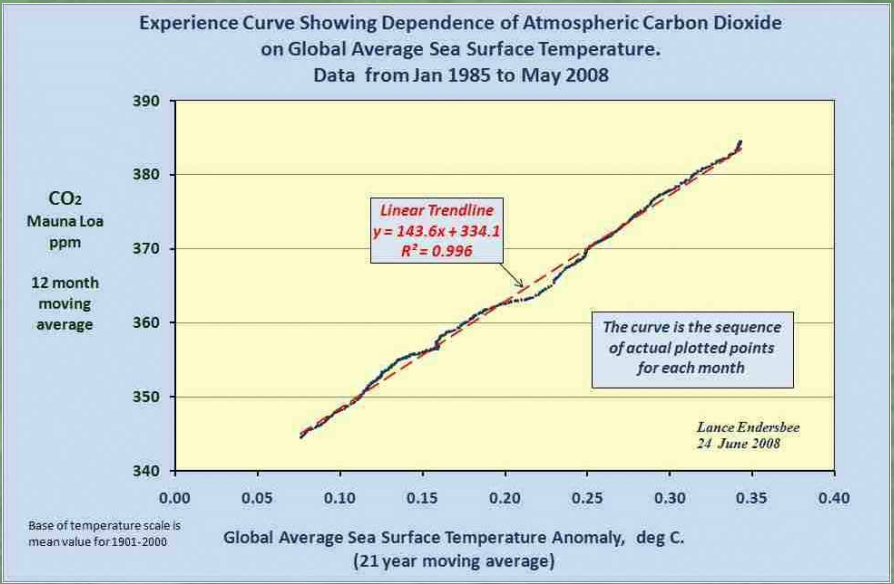
In essence Henry's Law formulated in 1803 means: The quantity of a gas dissolved in a liquid at a particular temperature is proportional to the pressure of that gas above the liquid.

Similar to a glass of warming beer

And similar to the CO_2 dissolved in sea water



A straight line relationship between sea temperature and CO_2 is shown to exist by Emeritus Professor Lance Endersbee consistent with Henry's Law. Refer http://icecap.us/images/uploads/Focus_0808_endersbee.pdf



CONCLUSION

The science fact is that the atmospheric level of CO_2 is always in balance with the sea temperature as postulated by William Henry two centuries ago.

It does not matter how much CO_2 is pumped into the air, it will always find an equilibrium concentration such as 386ppm, but always dependent on the sea temperature.