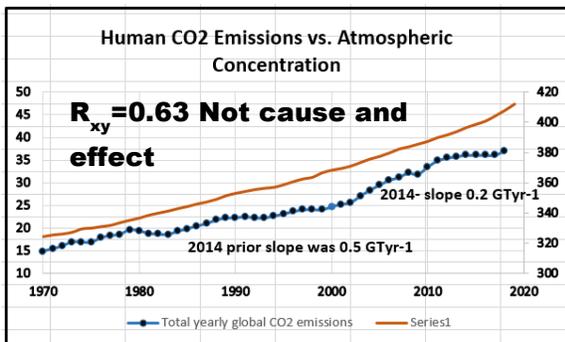


In Graduate School Statistics, our professor told us these:

- 1 Just because two variables increase at the same time it does not mean they have a relationship any more than two people walking down the street together until they turn into the same home. Then you need to investigate to see what kind of a relationship they have.
- 2 For a binary system like atmospheric CO₂ caused by emissions or loss of photosynthesis, we have to have an R_{xy} (correlation coefficient) greater than or equal to 0.90.
- 3 Ocean CO₂ is also a binary system caused by atmospheric CO₂ or decay from pollution.
- 4 These rules are standard in industries like semiconductors, pharma chemistry and petro chemistry to name a few.

The current R_{xy} for atmospheric by emissions is a lousy 0.63.

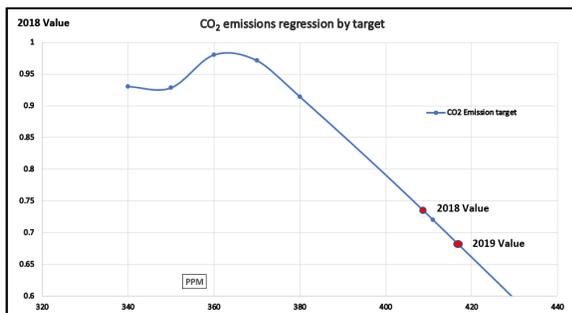


This does not meet the criteria above

The current R_{xy} for Ocean CO₂ by Atmospheric CO₂ is a lousy 0.64 this does not meet the criteria above

We need to perform regression by target when the R_{xy} is less than 0.90.

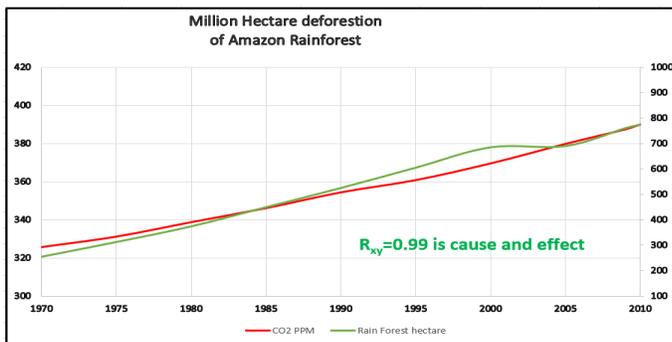
For Atmospheric CO₂ by emissions: Correlates to 363 ppm of the rise.



We have been discussing CO₂ emissions since the 1980's. However, we should have been discussing **Effective CO₂ Emissions**. Effective CO₂ emissions are emissions per year after subtracting the total photosynthesis consumption for the year. For example, the worldwide emissions for 2018 are 37 gt and change. The worldwide photosynthesis is 12 gt. Therefore, the effective emissions would be 25 gt. Calculating it this way tells the actual effect. Instead of our emissions effect being at 120 ppm of atmospheric CO₂ it would be 84 ppm from Effective CO₂ Emissions (ECE). This correlates well with total emissions effect at 363 ppm. 280 ppm are natural CO₂ emissions. 83-ppm actual effect. Please use this new term: **Effective CO₂ Emissions** (ECE) from now on.

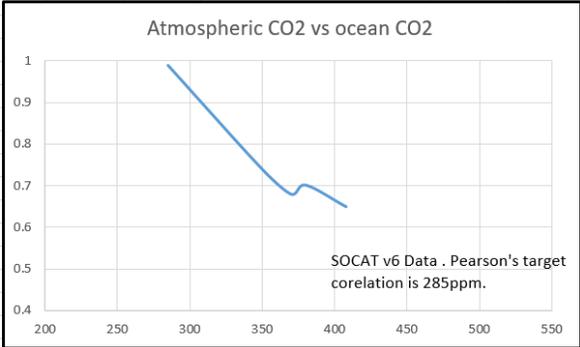
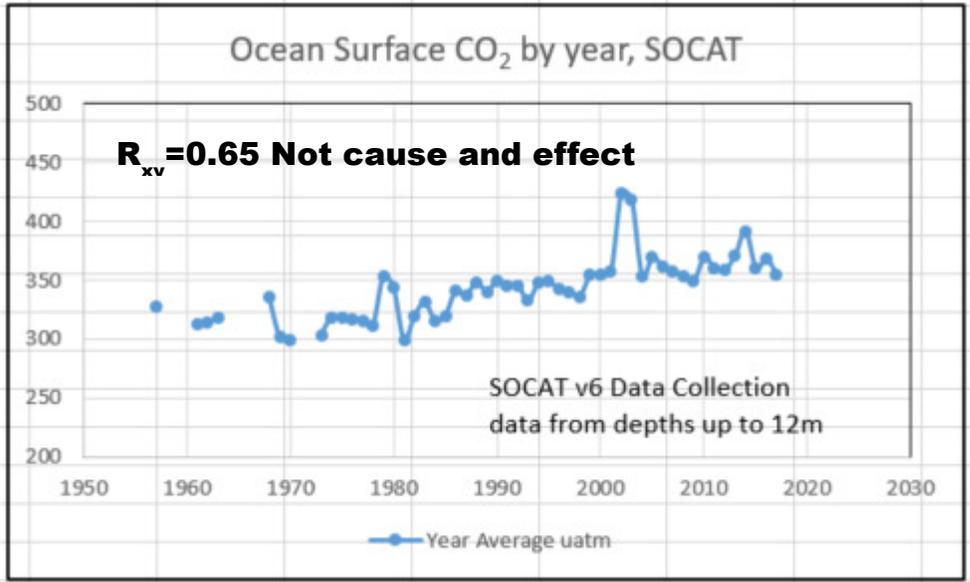
25gt of ECE/37.1 gt = 0.67 0.67 *120 ppm=81 ppm ECE. This confirms the correlation of fossil fuel burning at 83 ppm.

For Atmospheric CO₂ by photosynthesis. $R_{xy} = 0.98$ Correlates to 50 ppm of the rise. Deforestation of Amazon rainforest. Is cause and effect.

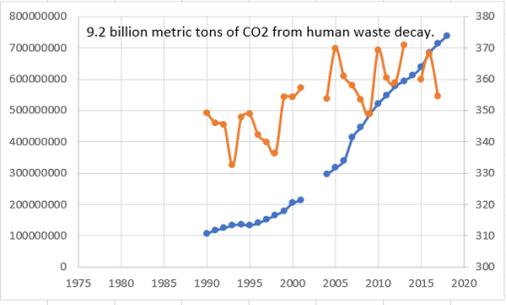


We **must not** say the rise since 1957 of Atmospheric CO₂ is emissions caused.

For Ocean CO₂ by Atmospheric CO₂: It is a binary system also. Either caused by atmospheric diffusion of CO₂ or decay from human waste from cruise ships and other organics. I analyzed all the SOCAT data and then did regression. Correlates to 285 ppm of the rise. R_{xy} is less than 0.90 so not cause and effect.



We **must not** say the ocean is a sink for Atmospheric CO₂



The R_{xy} of Cruise ship waste decay is 0.87. This is a much better cause then diffusion from the troposphere.

<http://cctruth.org/index.php/presentations/>

To put up a graph like it is cause and effect without proper statistics is pure deception.

Procedure:

I have talked with hundreds of scientists in the petrochemical, chemical, pharmaceutical and semiconductors industries. They all use regression to determine cause and effect just as I did. When I presented at the conference all the Climate Change scientists agreed with it and discussed how to get the industry rules into the Climate Change Industry.

Here are the rules:

For a binary system like atmospheric CO₂ caused by emissions or photosynthesis there needs to be better than a 0.90 correlation coefficient to say it is cause and effect. Just putting up a graph like it is a cause and effect is deceiving at best. The current Rxy value is 0.72 for emissions as cause of the rise since 1957.

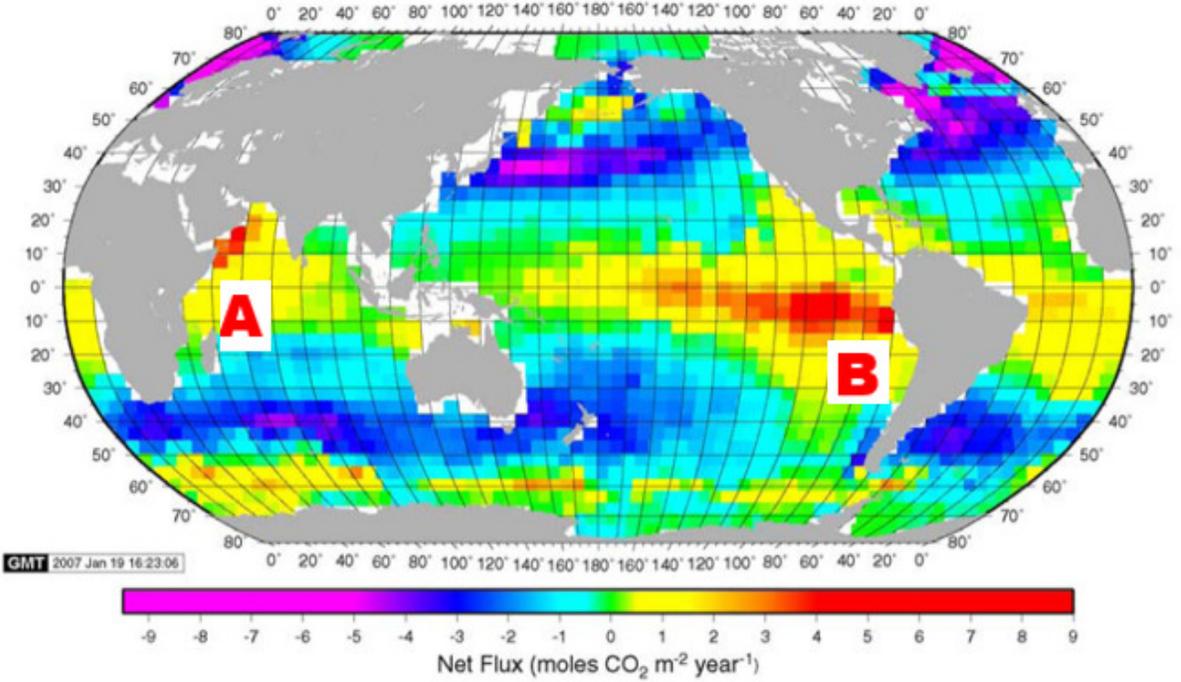
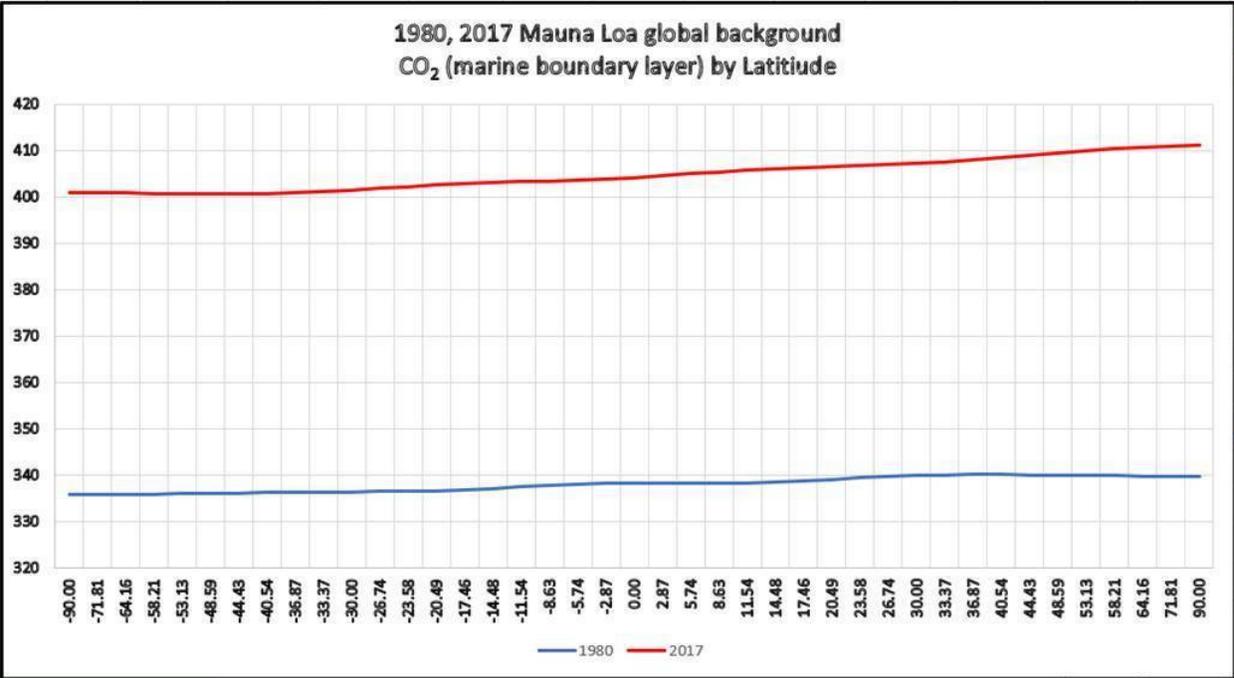
If the value is not greater than 0.90 a scientist must determine what the variable really correlates to. A good place to start is an inflection point in a graph.

Once this is determined then the remainder must have a cause determined in the same way.

If these rules had been in place, 20 years ago then atmospheric CO₂ would be 330ppm or less now. I am asking the IPCC working group to accept these rules and grow up Climate Change to industry standards.

All graphs of emissions vs. atmospheric CO₂ must have this label: **Rxy=0.63 Not a cause and effect.**

The diffusion of Atmospheric CO₂ in the troposphere is 2 cm per months toward the exosphere. Two years ago, the exosphere was 23 ppm. Now it is 40 ppm. The flux is away from the ocean. The atmospheric winds keep CO₂ concentration level throughout the latitudes. However, the ocean carbon dioxide is not at all level. There exists two hot spots. One where cruise ships are dumping human waste into the oceans and the other is polluted rivers dumping into the oceans; I calculated the effect from 1990-2018 Cruise ship passengers dumping 9.2 billion tons of carbon dioxide from decay.



Carbon dioxide diffusion		Welty Wicks and Wilson						
Ficks Laws								
$J = -D \cdot (dc(x)/dx)$ (Unit: D: cm ² /sec; J: number/cm ² /sec)						Flux	-7.51314E-08	
All the CO ₂ is extra over what photosynthesis can scavenge								
Boundary Conditions								
Earth's crust 410ppm x=0								
Exosphere 25ppm x=700 km								
Change distance to cm.		700000000 cm						
D= diffusion coefficient = 16 mm ² /s, (at STP)								
Change D to correct units		0.16 16 cm ² /s, (at STP)						
Ar 410ppm we have 3501 moles		At 25ppm we have 214 moles.						
$N(x,t) = n_0(1 - 2(x/\sqrt{2Dt}))$								
n ₀		3501						
D		0.16						
t		time (s)						
pie		3.14						
Boundary Conditions		year	n	t	ppm	moles	distance	$X = \sqrt{2Dt} \cdot ((N_x/N_0) - 1)$
year	co2 conc	2015	0	0	404.2	3446		
		2016	1	31536000	407.8	3477	23.52044983 cm ^{yr} ⁻¹	from earths surface to exosphere
							23.52044983 cm ^{yr} ⁻¹	
		2015	404.2				0.064439589 cm per day	
		2016	407.8					