

## Climate Change (Global warming)

A perspective from a none specialist person.

If you wish to take up a subject that is filled with confusing information on the internet then Climate Change has to be in the top drawer.

For me, this short sentence is a good starting point. We cannot stop change, but we can create change.

I hope that I demonstrate and prove the relevance of this.

Online information about Climate Change is a mess for two big reasons.

1. Out of date information still active online alongside new technology updated data. This accidentally (or conveniently) creates a lot of confusion. Search engines is another problem today as they prioritise dramatic words. So catastrophic get preference to severe and now media must use the most dramatic words to get seen. Yes, 💡!
2. Fake news originating from the oligarchy for financial reasons. They own all the important media and they target 💰 self interested politicians, etc, to help them keep their wealth secure.

Nothing new about that of course and there is much more than this, but we don't need to study all the messy minefields. We just need to understand why climate change is now unavoidable.

Studying our paleo (paleo means old) history, our long gone climates, this can give us an idea of just how extreme climates can get when something changes. Scientists are predicting some terrible stuff. I want to understand more about Paleo climates because it demonstrates what past climates have been like and therefore should be very capable of being again.

### We cannot stop change.

It is quite evident that our planet has had a very long history of massive changes. We can see the continental plates shifting, so we can map them in reverse with some accuracy, but of course, not everyone agrees on the exact detail.

So find your creative mind and indulge yourself into the very basic concept of our planets ever-changing dynamic paleo history.

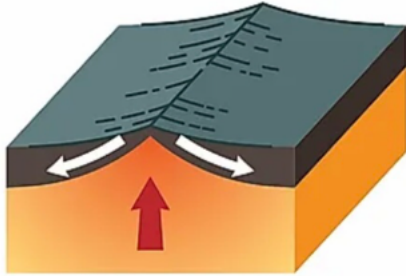
### Visual aids to this Paleo history.

Some continental plates go under and recycle back down into magma and some get pushed up into new mountains. These changes take up very long periods of time. So we even end up with old ocean floors being pushed high up and they can end up at the top of a todays mountain. Fossils are in the this ground, so they give visible proof.

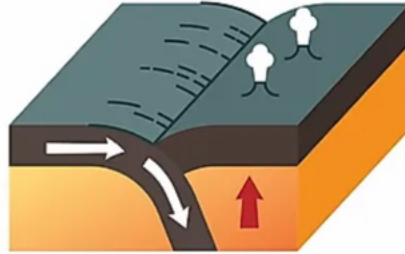
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# PLATE BOUNDARIES

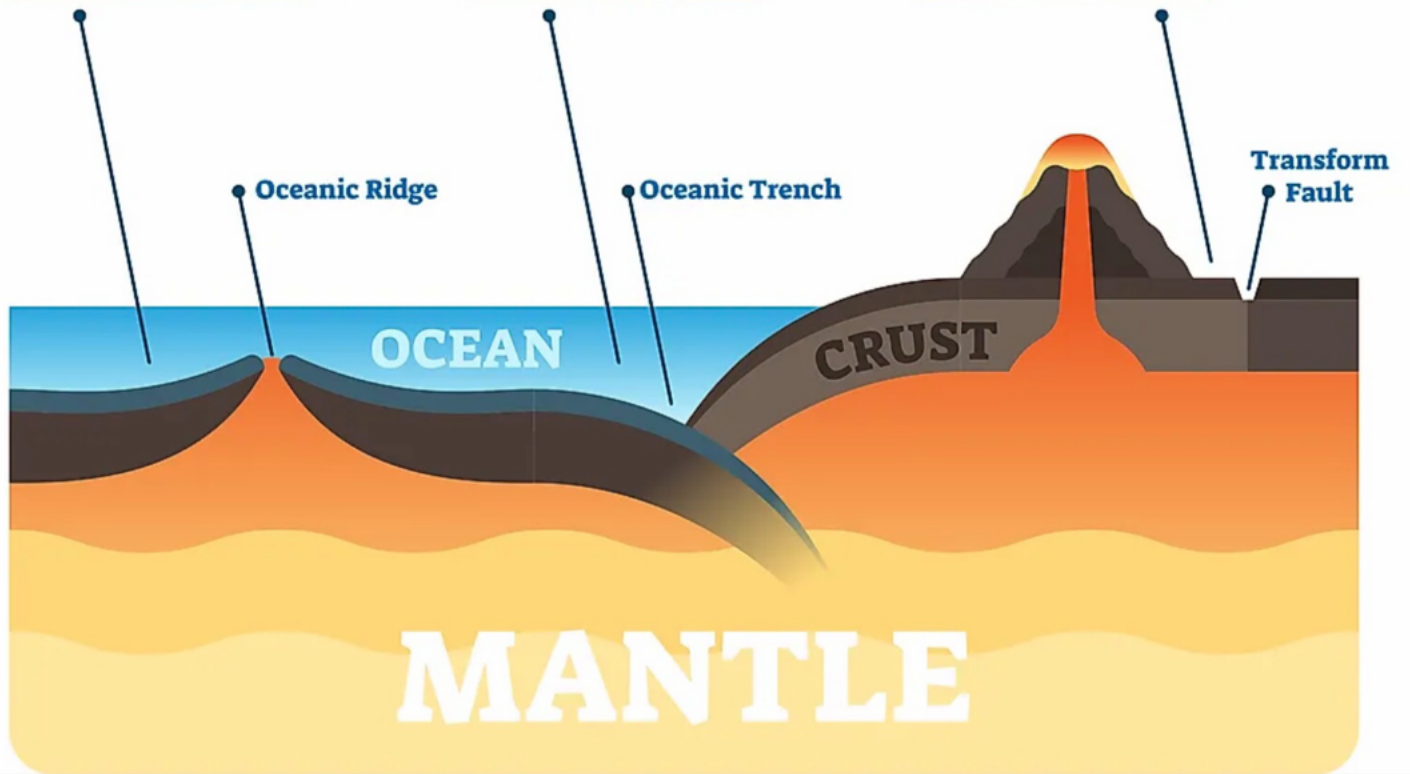
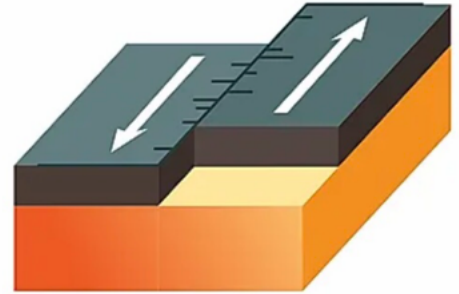
**DIVERGENT  
PLATE BOUNDARY**



**CONVERGENT  
PLATE BOUNDARY**



**TRANSFORM  
PLATE BOUNDARY**



We can easily see the huge scale this is on. Imagine the forces at work here. 🤯

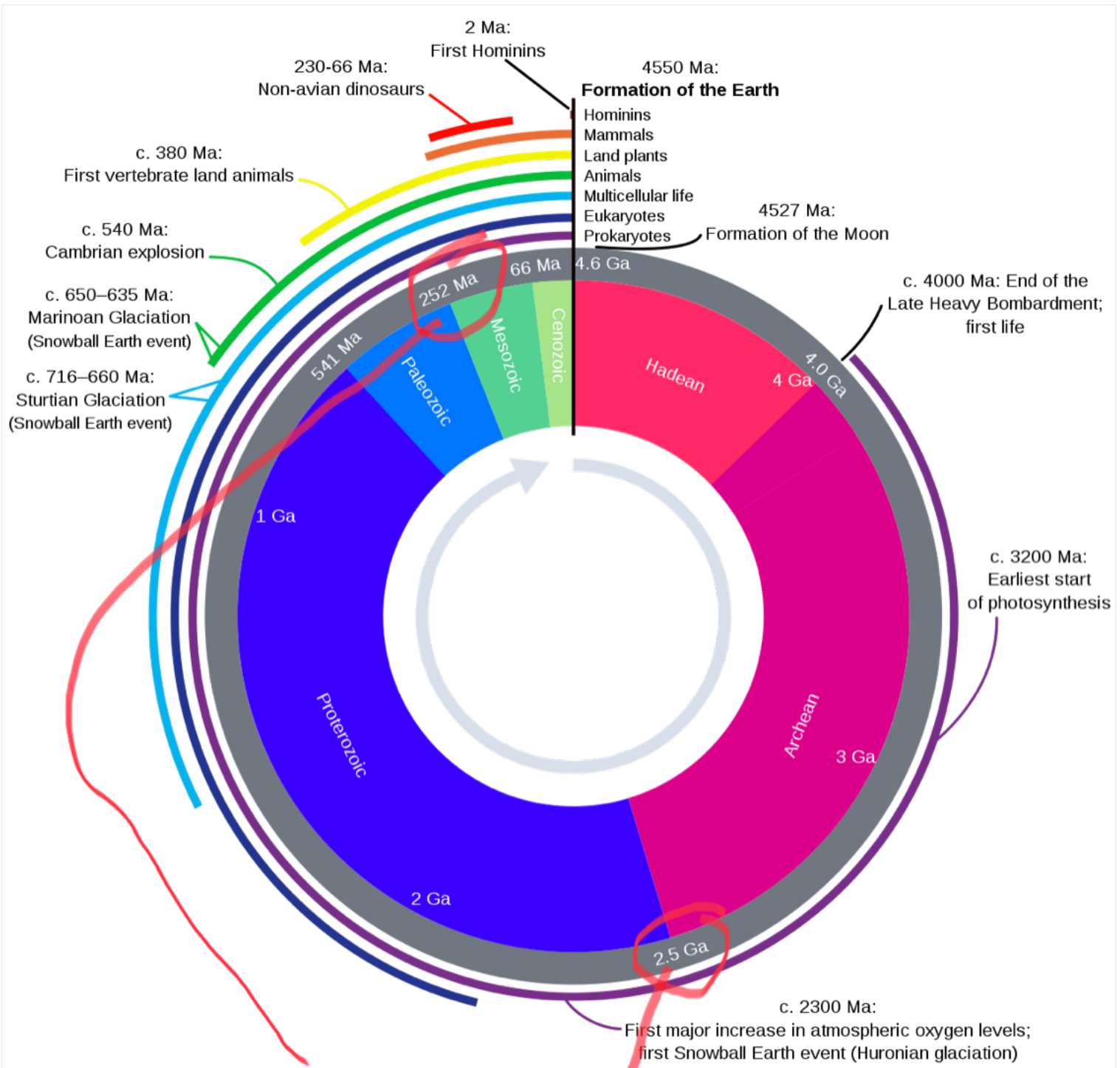


Continental plates shift a lot over millions of years. At today's speed some tectonic plates shift about 26 kilometres per million years, so any 10 million years will create big changes to the Paleo map with its ever changing climates. While this is happening, Ice ages come and go and the oceans constantly expand and shrink as a result.

**This means sea level rise is nothing new.** It's just us that are concerned about this. Oceans leave sediment and glaciers leave scars as evidence. Our planet only needs to warm or cool a few degrees to create huge changes. This bit we can trust to be fact.

The below chart hopefully demonstrates what a really long time is. 🤪

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On this chart, 252 Ma is 252 million years and 2.5 Ga is 2.5 billion years.

We have to stretch our imagination well out of our very short human life mind boxes to visualise all this slow moving drama. Our primitive ancestors have been around for a few million years. But we, modern Homo sapiens have existed on Earth for only around a third of a million years, no time at all. As individuals, it is not easy to fully appreciate the true dynamics of Millions and Billions of years. If a million seconds were 12 days, a billion seconds is 32 years. This can be really mind boggling.

Imagine platonic plates drifting like icebergs having crashed round the world forever till they arrive at 25 million years ago. We are now roughly half ways between the dinosaurs extinction and today.



Europe around 25 Million years ago c

At 25 million years ago, although it is the same planet, it is certainly a different world to live in. CO<sub>2</sub> may have reached 1000 ppm, and global average temperature was probably about 10°C warmer than today. Under those conditions, Earth had little ice, and sea level was at least 60 metres higher than current levels.

Speed on towards today, the below map changes to what it would have looked like about 5 million years ago. It is yet another very different world compared to today and shows that a few million years always makes big changes. We cannot stop change.





Land rises as a result of less weight from ice.



### Europe during the last ice age.

The map shows the continent of Europe during the last glacial period roughly 20,000 years ago. Mean temperatures 4 to 8°C lower than those of our century caused massive advances of Alpine glaciers and movements of Scandinavian inland ice masses toward the South. These profound climatic changes resulted in a shift of climate and vegetation zones toward the Equator. Tundra became predominant in Western and Central Europe, while boreal coniferous, deciduous and mixed forests covered much of the Mediterranean region. Fine calcareous dust composed of a variety of minerals substances and referred to as loess was blown from inorganic deposits created by the ice, such as moraine and gravel fields and periglacial rubble accumulations. Despite the inhospitable living conditions, human communities of hunter and gatherers lived in Europe during this period of the Stone Age.

Above two maps show the last ice age 70 to 20 thousand years ago. And then it started to shrink to today's reality. The detail of when it came and shrank is not important. What is important is....We cannot stop change.

But we can create change.

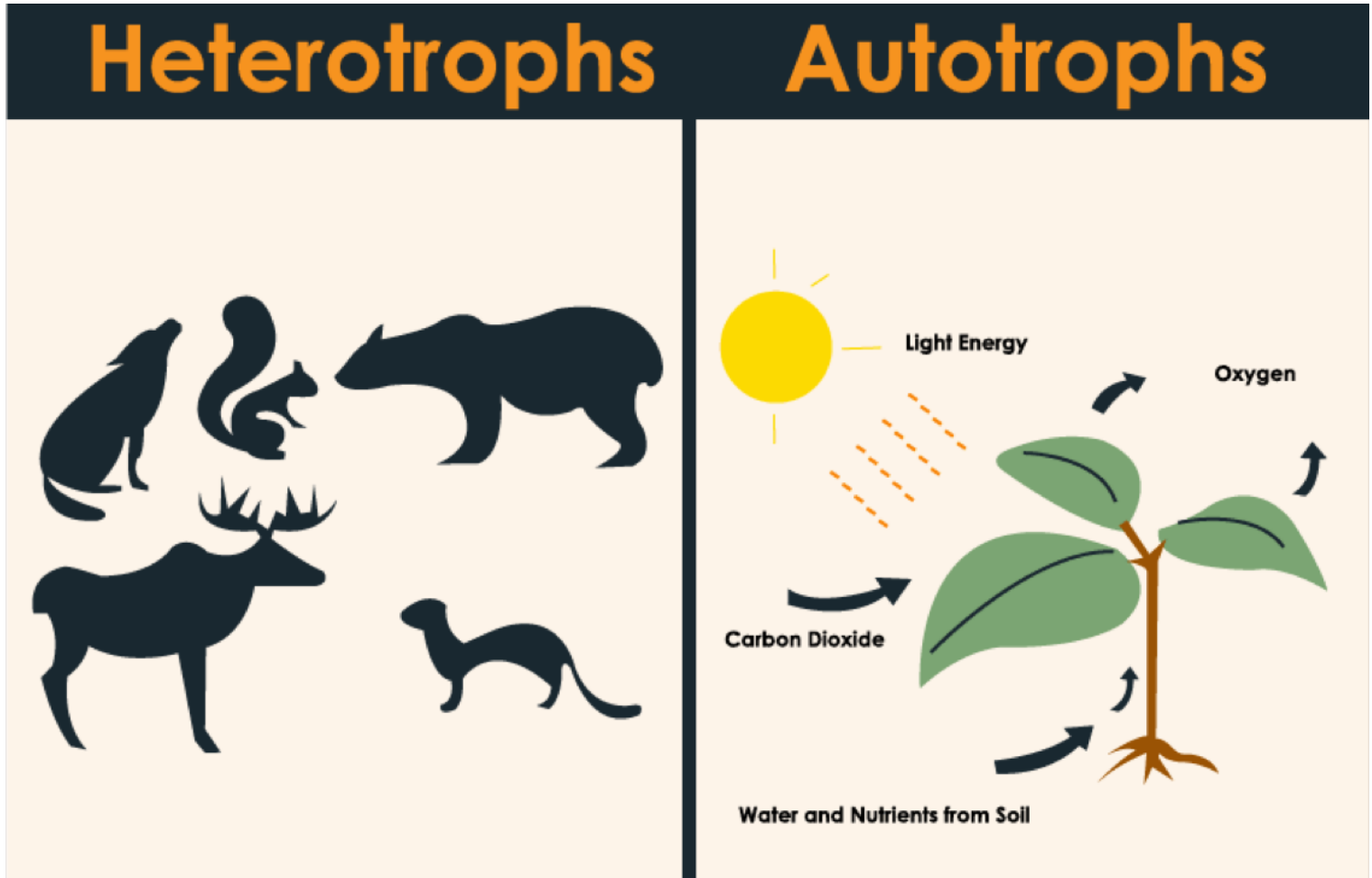
With all that in mind I want to highlight the basics on what the Carbon Cycle is really about. The actual story within our Carbon Cycle debate is not so openly spoken about, but it is very important to understand.

The Oligarchy controlled media debates the use of fossil fuel a lot now, but it does not demonstrate the scales of balance regarding how it works and the implications of making change to the delicate nature of our Carbon Cycle. I hope to clarify this point as it would mean you would also understand the big picture.

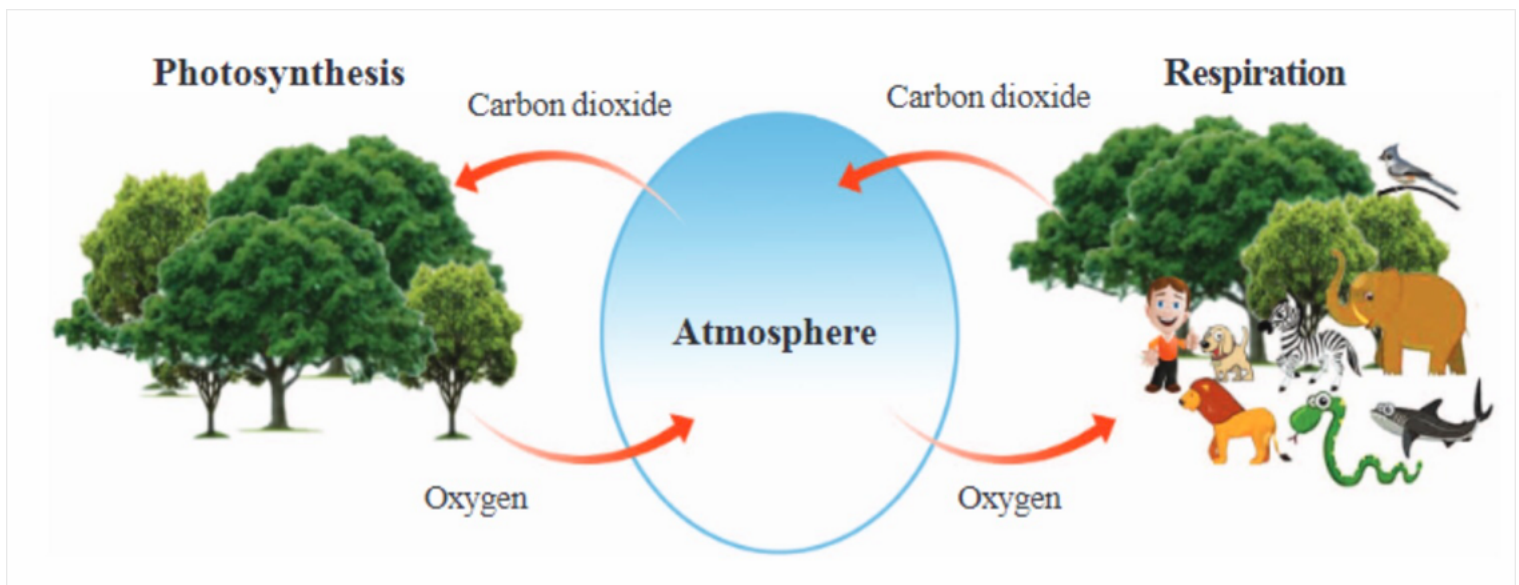
The delicate nature of our Carbon Cycle.

The whole thing about life on Earth is an incredibly diverse and extremely reactive organic system of

recycling Carbon and Oxygen as it creates and consumes life forms. There are two main players in this. Heterotrophs and Autotrophs.

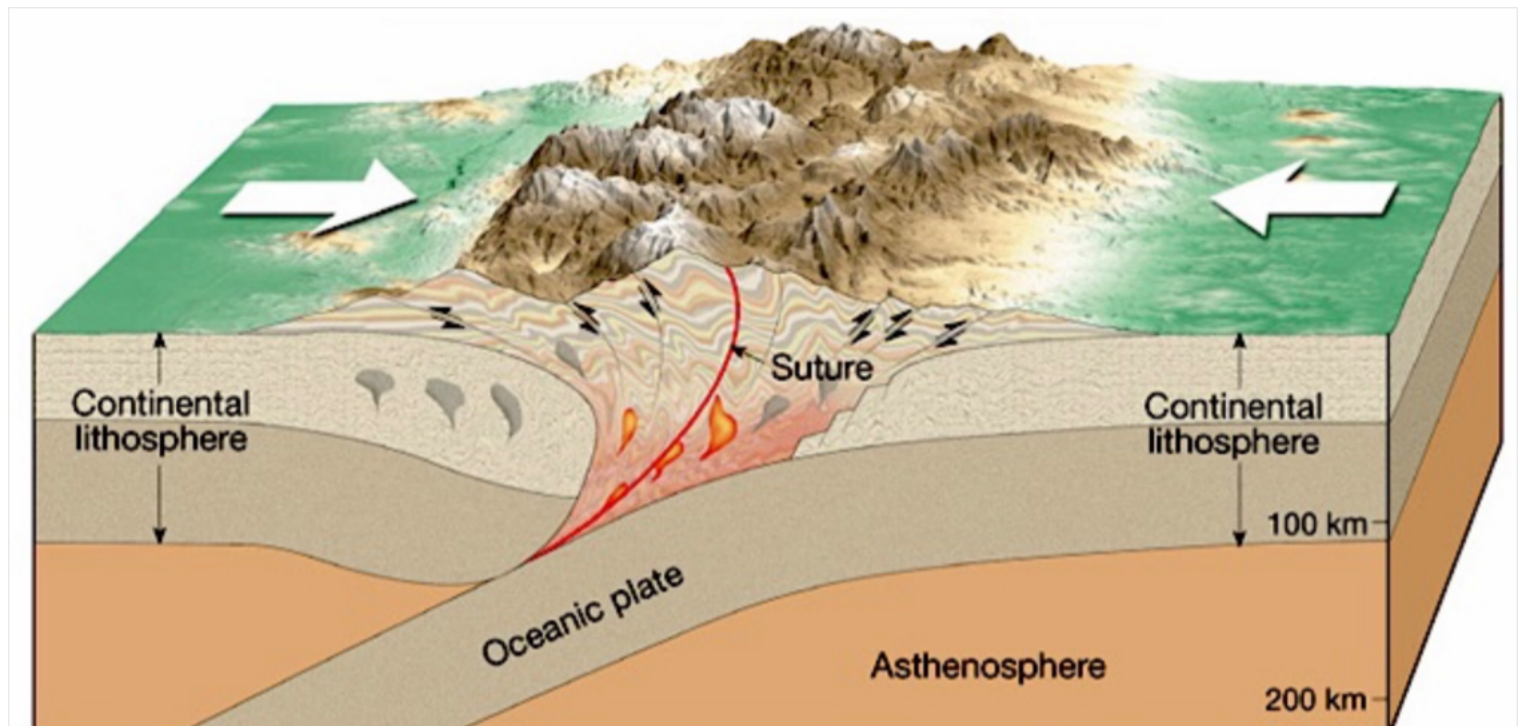


The real world is beautiful but brutal. It is like heaven and hell on Earth with the only rule being eat till you are eaten. Lust, hunger and risk, there is no morals and the strongest takes anything they want and do what they like. You may think you are important, you may think you have power, respect. There may be some empathy, care, whatever. Well regardless of every possible scenario, everything always gets consumed and everything always gets replaced. This is also a fact.





This is what the Carbon Cycle is really all about. Today's Carbon Cycle is our world of life forms where we are all being born to consume till we die and in death we are recycled back into the organic soup of food. Our world of life forms stays this way till something changes. This could be the result of an asteroid impact, sudden mega volcanic activity, such as the overdue Wyoming Caldera awakening, or the consequence of the long time (on a human concept of time) effect of the Milankovitch Cycles which explains Ice Ages, or even longer time effect of Platonic movement.

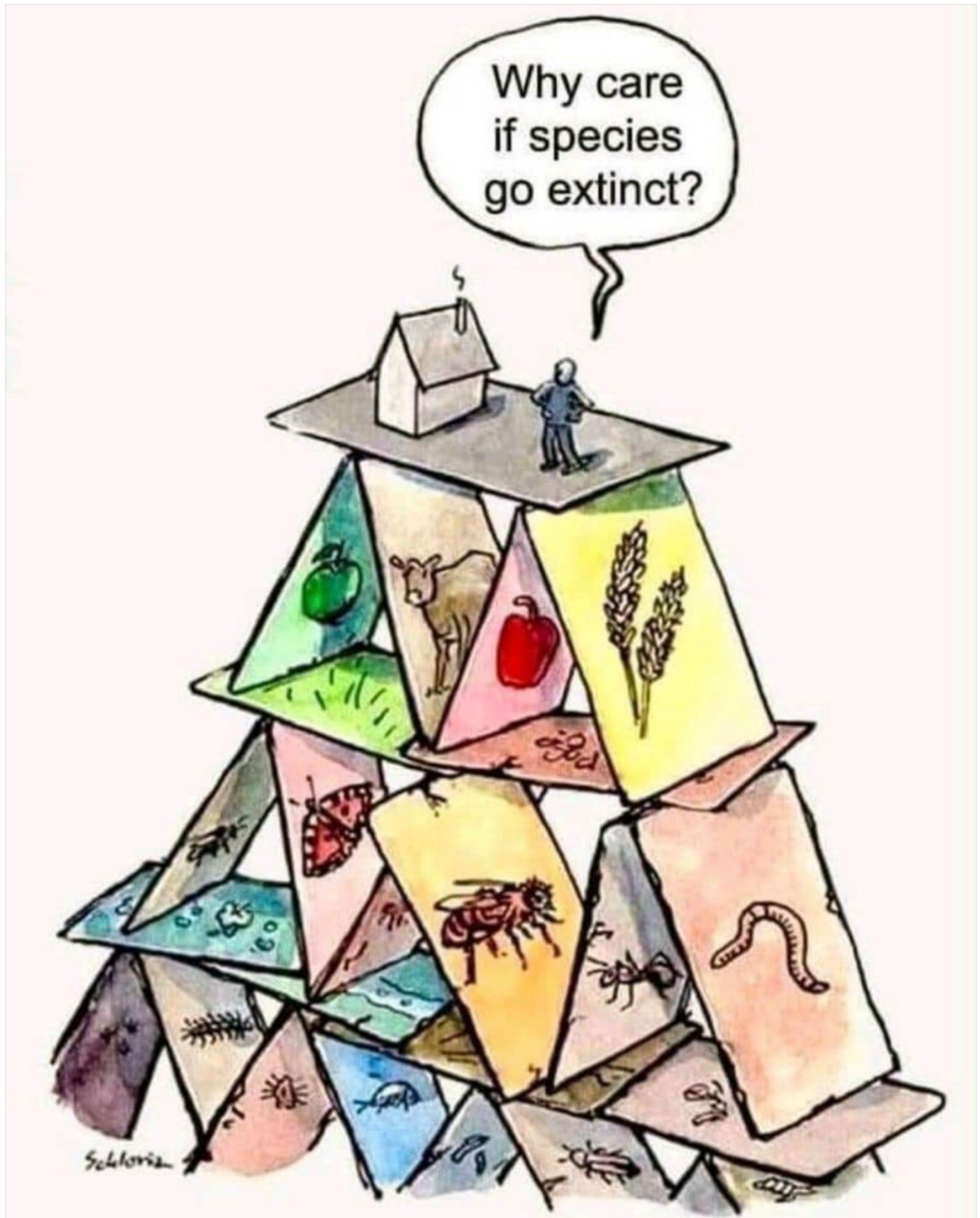


When a tectonic plate does a few million years of walkabout a lot happens. You can have (for example) a new sea or mountain range, creating a new climate with some changes to the order of life. Unless there is a huge sudden event, these changes are a long slow process taking in many thousands of years. But for a very sudden change such as Homo-Sapiens carbon addiction, a quick change is guaranteed!

### We can create change.

A few hundred years is a nano-second in nature's timescale. And guess what? In just a few hundred years we have created a really big change to today's carbon cycle. Google "Milankovitch Cycles" for details. For the past million years, we have been going through a 100,000 year cycle of ice ages. When in the ice age the carbon in the sky went down as far as 180ppm. (parts per million) When out of it, it went up to 280ppm. In our brief few hundred years of carbon guzzling, today it is over 420ppm. This is a very significant change.

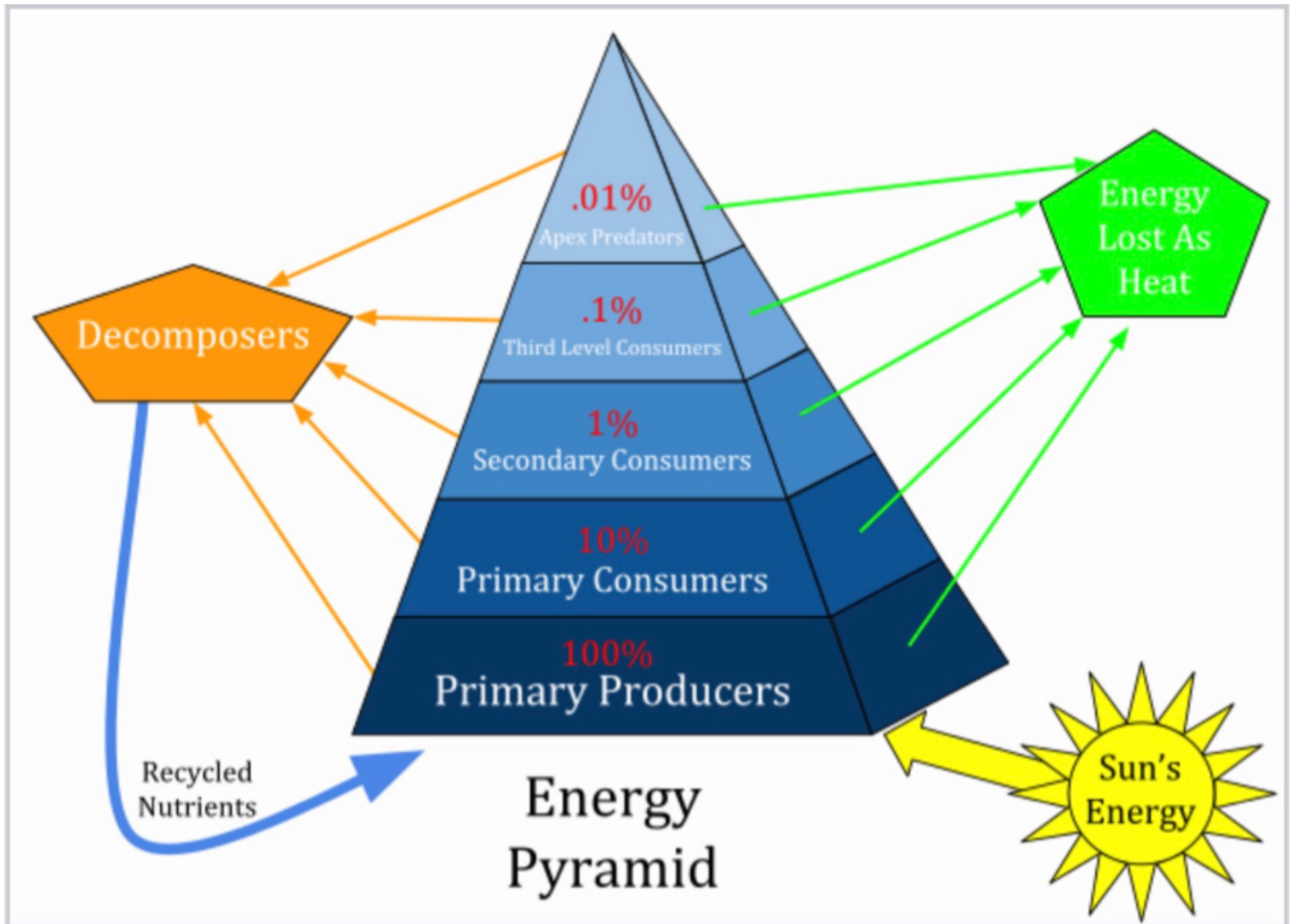
According to Google, today we are using 5.6 billion pounds of pesticides worldwide per year to ensure we can keep the supermarkets stuffed with food. This is more than 1/2lb of pesticide for every human being on the planet. It is not a little sum. Our agricultural land is now just a big factory farm and nature is being sterilised out of existence, an extinction event by itself and a perfect example of, we can create change. We are bringing the whole pack of cards crashing down.



So life normally just trundles on for millions of years without any real noticeable change and all these (paleo short) periods of stability or turbulence are named as an Epoch, a unit of geological time lasting a few million years.>

I now look for what hopefully is reasonably true in size, some illustrations of what today's Carbon

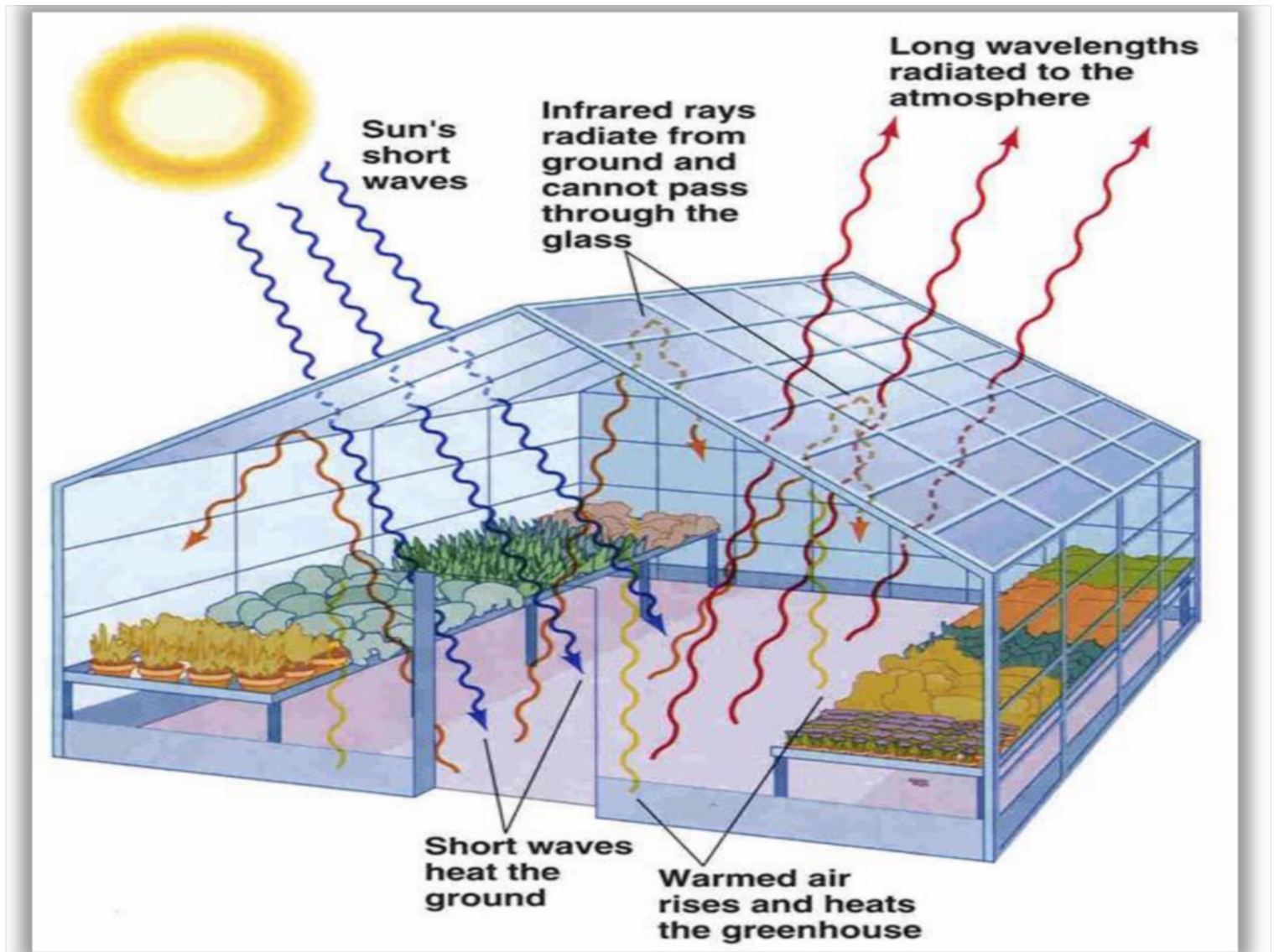
Cycle contains.



An [energy pyramid](#) illustrates how much energy is needed as it flows upward to support the next trophic level. Only about 10% of the energy transferred between each trophic level is converted to biomass. □

Then along comes the human race, us!

There is not a lot of us in today's huge Carbon Cycle but we are creating a big change to it. According to Google, almost 2,500 billion metric tons of carbon dioxide (GtCO<sub>2</sub>) has been emitted into the atmosphere from fossil fuel combustion and land-use change since 1850. Shoving 2,500Gt of CO<sub>2</sub> into our thin layer of atmosphere is being really really stupid. Doubly stupid because we know the consequences, we know it is suicidal. It is like lighting a peat fire in a room without a chimney. You are fine for the first minute or so till you feel the effect.

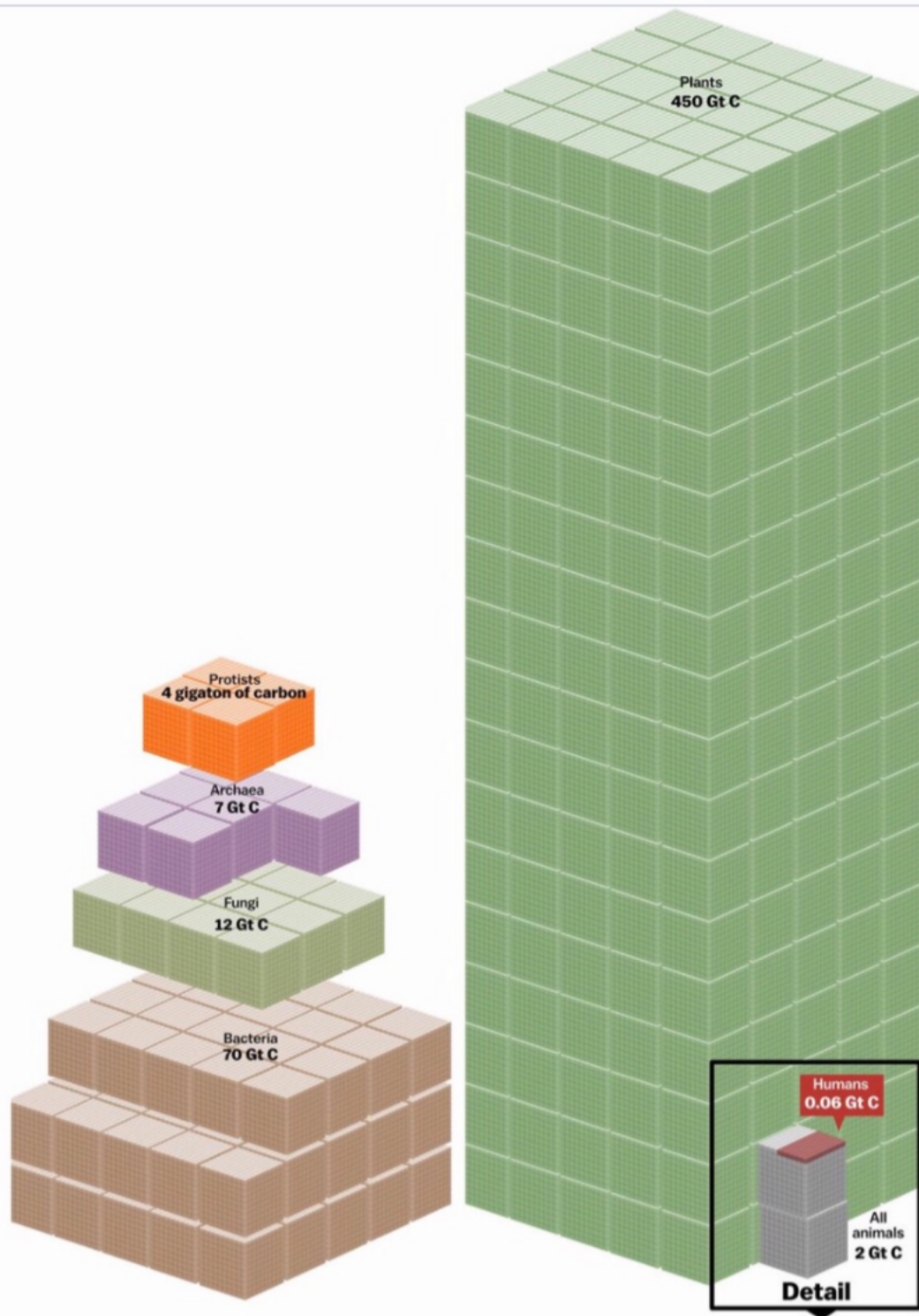


All this carbon that we have put into the sky does not disappear up there without a reaction and consequence. In this case it acts like glass round a greenhouse. This is why it sometimes gets called the greenhouse effect.

This is what I mean by...

We cannot stop change, but we can create change.

The below graphs are taken from the internet. They do not need to be very accurate, just good enough to get the message across.



The above orange square of Protists shows 4 Gt of carbon. Look how little we are as a total of 0.06 Gt of carbon in comparison.

Examples of protists include algae, amoebas, euglena, plasmodium, and slime moulds. So there is more slimy algae stuff than there is of us, interesting!

We are an insignificant Heterotroph. We consume till we get consumed and no different from any other heterotroph that has been created during the last billion years. We are simply unimportant crumbs of food. The Earth hungrily awaits us on to the dinner table. We have no other function beyond our tiny self importance.

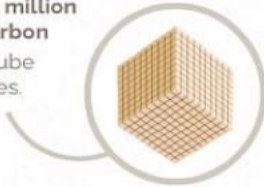
# Visualizing the Global Biomass of Mammalian Life

Humans share the living world with ~6,495 other mammals. We break down and compare the total composition of mammals in terms of their biomass.




## The Measure of Biomass

Biomass is measured by the amount of carbon an organism contains. Carbon is a component of all known life on Earth, used in complex biological molecules and compounds.

1 cube represents 20 million metric tons (Mt) of carbon  
Each individual, tiny cube weighs ~20,000 tonnes.



Ratio of cattle to other mammalian life:

-  **1.06 : 1**  
Cattle and humans
-  **10.4 : 1**  
Cattle and marine
-  **20.8 : 1**  
Cattle and terrestrial

## Humans

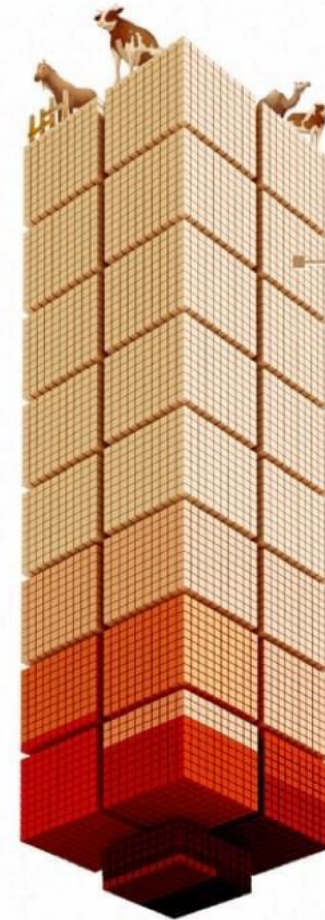
394 Mt

## Marine Mammals

40 Mt



23 Mt Baleen whales



## Domesticated Mammals

651 Mt

Cattle 416 Mt

Buffalo 68 Mt

Sheep 39 Mt

Swine 38 Mt

Goats 32 Mt

Dogs 22 Mt

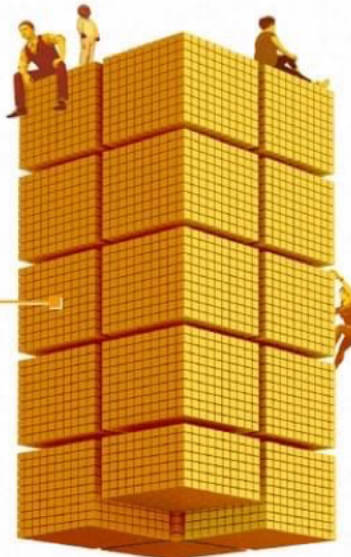
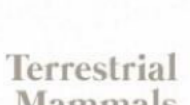
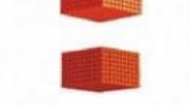
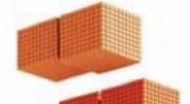
Horses 16 Mt

Camels & camelids 9 Mt

Donkeys & mules 8 Mt

Cats 2 Mt

Other 1 Mt



## Terrestrial Mammals

24 Mt

Rodents 4 Mt

Even-hoofed mammals 11 Mt

Elephants 2 Mt





The global mammalian biomass is **completely dominated by humans and domesticated mammals**, including livestock and pets.

SOURCE Greenspoon, L. et al., 2023. The global biomass of wild mammals. Proceedings of the National Academy of Sciences 120. <https://doi.org/10.1073/pnas.2204892120>



RESEARCH, WRITING & DESIGN Mark Belan



Not only are we changing the content of Carbon in the sky by burning fossil fuels, we are changing the order of life on Earth as well.

We are literally (a need for fish quotas) emptying the Oceans of fish, emptying the Forests of trees, spraying chemicals to rid (kills all insects) the insect competition, it is moronic suicidal stupidity. Fossil fuels are buried carbons from long gone Carbon Cycle climates. Everything was different from today back then. The world maps were all different, the climates, the life forms, everything has been forever changing and for any period of that history, all required their specific carbon cycle to survive!

None of that long gone and buried carbon should ever have been dug up and put into today's Carbon Cycle. Just doing that alone has already changed the balance.

We cannot stop change, but we can create change and we are in the process of making a very big change.

If you are still a little bit unsure, have a think about this...

Our very existence is totally dependent on six inches of soil. Now that is so scary. Most agricultural land is very susceptible to drought and flood events and we are always at risk to world famine events as well.

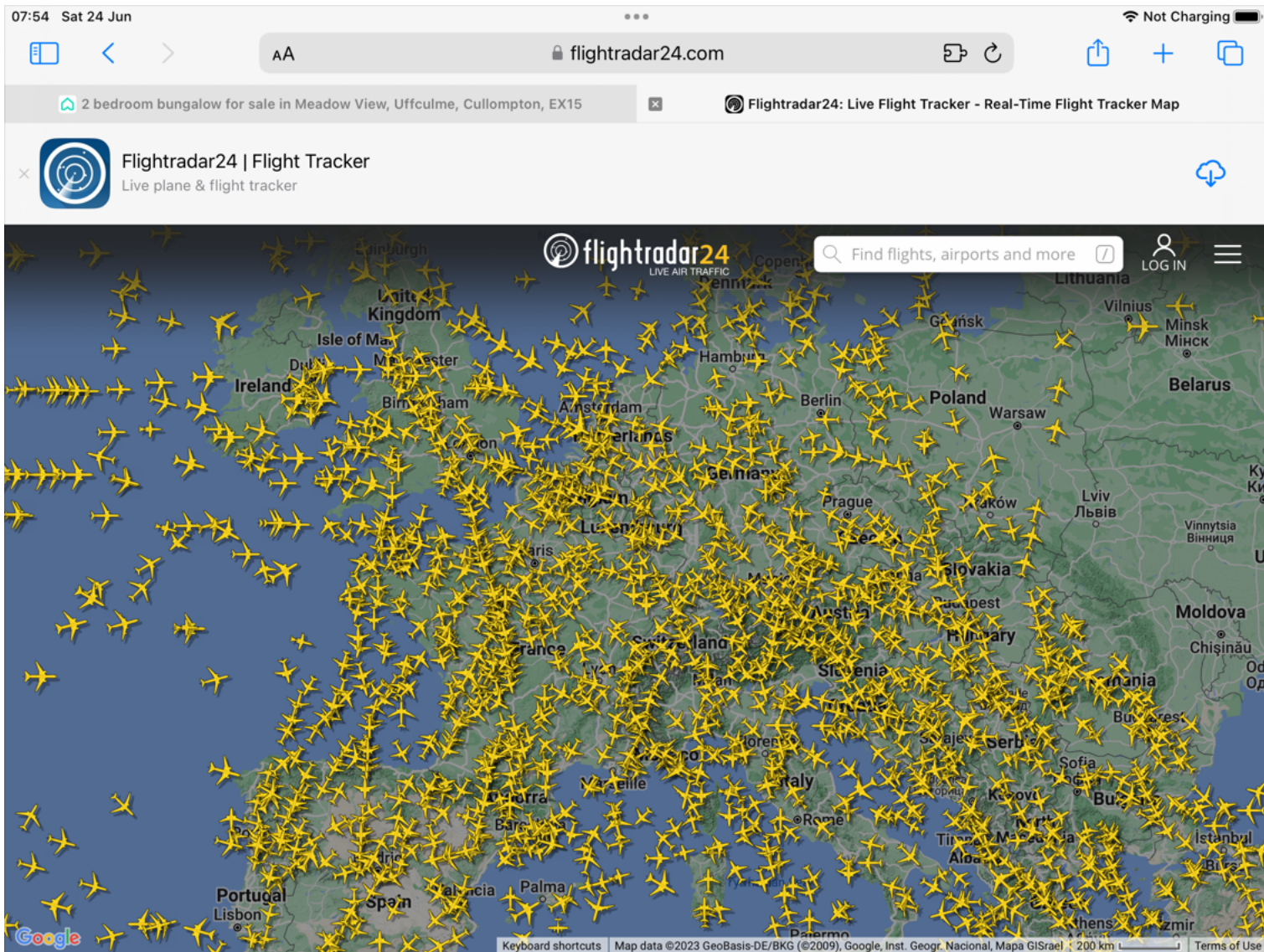
Destabilising the weather (climate change) will wreck havoc upon food production. Photosynthesis stops working for many food crops when the temperature goes over 40 degrees.

Increasing the temperature by one degree makes 7% more moisture in the sky. There has been a 10% increase of moisture in the sky since us old timers were born and we wonder why we get bigger deluges of rain nowadays.

The strong spinning wind of the jet stream has in recent few years become fragmented allowing heat into the Arctic and cold out of the Arctic more often. It also makes the weather events last longer because the jet stream is not so reliable to push them on. Weather conditions stay longer making them more extreme, and making extreme events the norm.

Go on Google Earth. It is like being in a space ship where you can instantly zoom to anywhere on the Planet. See for yourself the ongoing Amazon jungle destruction, etc. The jungle of the Amazon is the oxygen bearing lungs of the planet. Chopping it all down is a terrible madness just so a few

greedy politicians and billionaires can stuff even more money into their pockets.

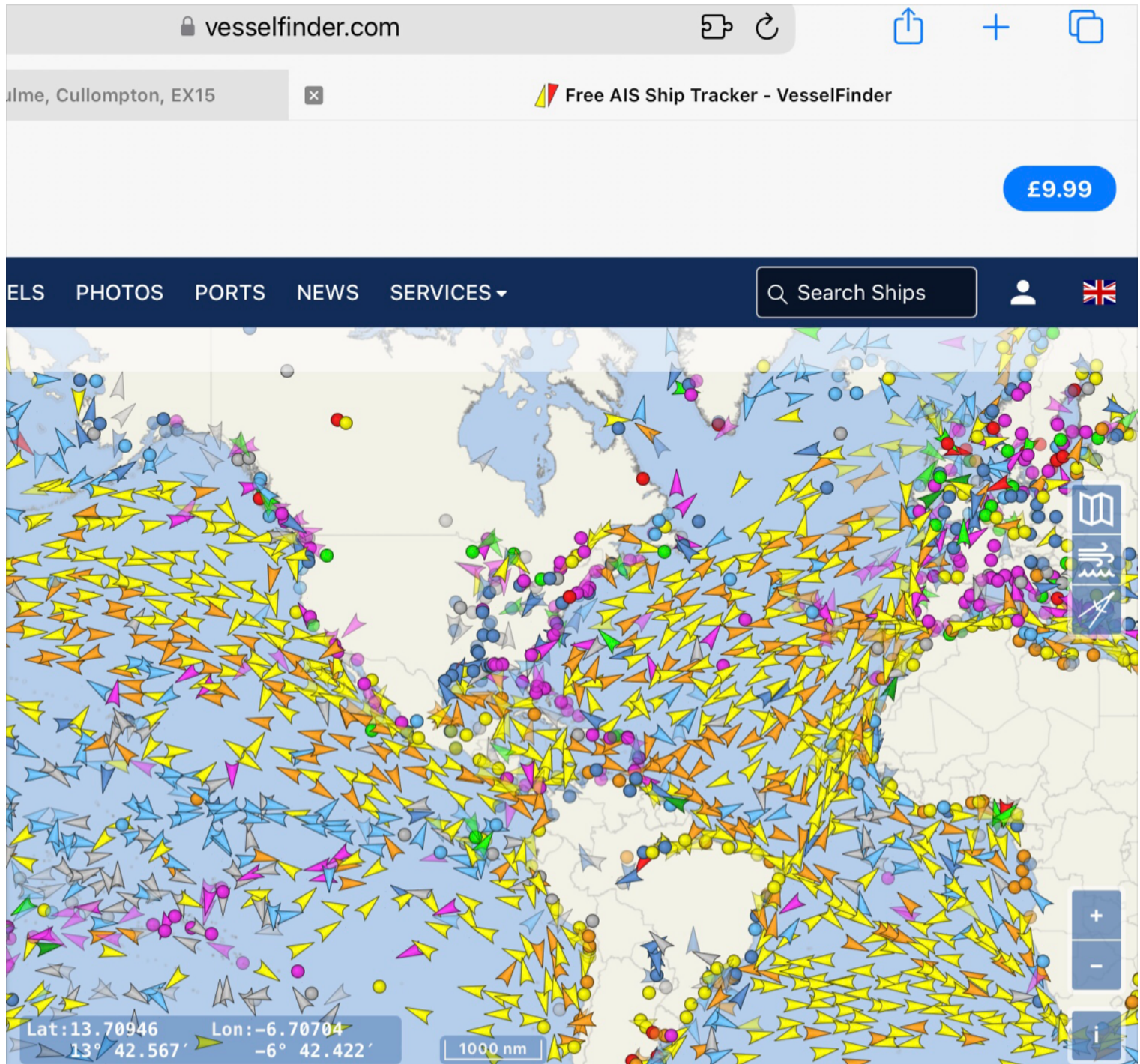




**13 July — another record day for commercial flights. Yesterday we tracked 137,225 commercial flights, surpassing last Thursday's total of 134,396.**



Check things out for yourself. This is like a virus infestation when you see all these planes and ships on the flightradar24 and vesselfinder apps.



Our effect is everywhere. Do you really think this activity can last much longer? Transporting people and goods worldwide feeding an ever increasing demand by the privileged. It is just a huge party, a world playground, but only **for some!**

Most people are trapped in poverty to feed this demand and their world has very little to offer them. A lot of the poorer are as enslaved as the poorest by a rather cunning slavery. Today's slavery does not require physical chains, financially burdened will suffice! So it will just be the wealthy that will lose this privileged lifestyle. 💰

The planet has been recycling life for nearly four billion years. Life is very stubbornly durable, but for all individual participants, it is an extremely short lived fragile experience. That may be a surprise to some of you because you are far too important to be unimportant. 🤔

## Chaos

Chaos in evolution is the creator at work, it is the busy energy of recycling life and evolution thrives on it. This goes hand in hand with Oligarch Disaster Capitalism. Chaos is their creator of wealth and they also thrive on it. While we bleed in pain, they laugh and gain.



So regardless of all their media spin on renewable energy, wind farms, solar panels, battery cars, today's Ukraine war, the many other conflicts, etc, it is still all very much business as usual for them and we still all feed their chaos by still being very demanding consumers and fodder for their wars. Climate change for us is not in full swing yet as with the fire started in a room without a chimney. There is always some delay to effect, but it is coming.

The climate every year will now get a little more extreme for us! Worsening weather events will bring increasing chaos. Today's wealthy jet setting people, their lovely jolly world is far too important so they laugh and trivialise climate change..... "we couldn't possibly stop Ascot or Wimbledon. Of course EVs are green and we are all busy doing absolutely fantastic work for charity. What a ridiculous idea this climate thing is. You are one of those are you! Don't be so stupid. It's all hyped up fake news and I heard that we are actually heading into an ice age. So I wouldn't worry too much about it all. Pay attention darling, my glass is empty!" 🤔

What happens next? That's simple, we just enjoy what's working and avoid being where the worst problems are going to be. Yes, we all know our systems are now crumbling. All basic services are increasingly getting overstretched. It only gets worse. Yes, shout doom and gloom, shout anything you like. Do you see things improving, be honest!

### The bottom line.

No generation lives in the same world conditions as their parents lived in. At the end of the day, we cannot stop change, but we can adapt with it. Every generation has to deal with a lot of chaos, yes some more than others. Today's youngsters, they have arrived at the end of our party and will simply adapt to live their lives in their changing world! Climate change is not the end of the world. Far from it, it will just put an end to some of our selfish greed.

### At a much later date.

We are not without resilience, so a percentage of homo-sapiens may continue into the next epoch. It will be a new climate, a new normal and just like any other epoch, it will also last a while and today's cold blooded lizards will love it.

100 million years into the future there might be a new smart species looking at a trace plastic layer and they may be puzzling as to what that non-organic cocktail was all about. 🤔

There will be in a very distant future, the end to everything on Earth, even Earth itself and we will never know what everything was all about. We needed to create a sustainable future to have a hope to do that. 🧐

The End

Thank you for reading my story.

If you enjoyed the read, please share the link with your friends.

<https://www.grumpygeorge.biz/climate-change-explained>