PROBLEMS IN CLIMATE SCIENCE

A destructive trail left by climate models

Presentation

to

The Petroleum Exploration Society of Australia

Dr Howard Brady

Boutique Hotel, Sydney 13 the September 2022

2008
A visit from climate science models

The Shoalhaven City Council looks at IPCC guidelines

Sea level rise predictions are placed on beachfront properties

Banks start revising downwards mortgages on beachfront homes

Beachfront property prices plummet

But there are problems behind this climate science

Here is a problem list!!

PROBLEM 1

Dramatic sea level rise was predicted by the models

I could find no local evidence—there was only

Seaward movements of beaches due to foredune vegetation trapping sands

Landward movements of beaches due to destructive storm surges

This also seemed true for Mid-Pacific islands

I've been looking everywhere man!

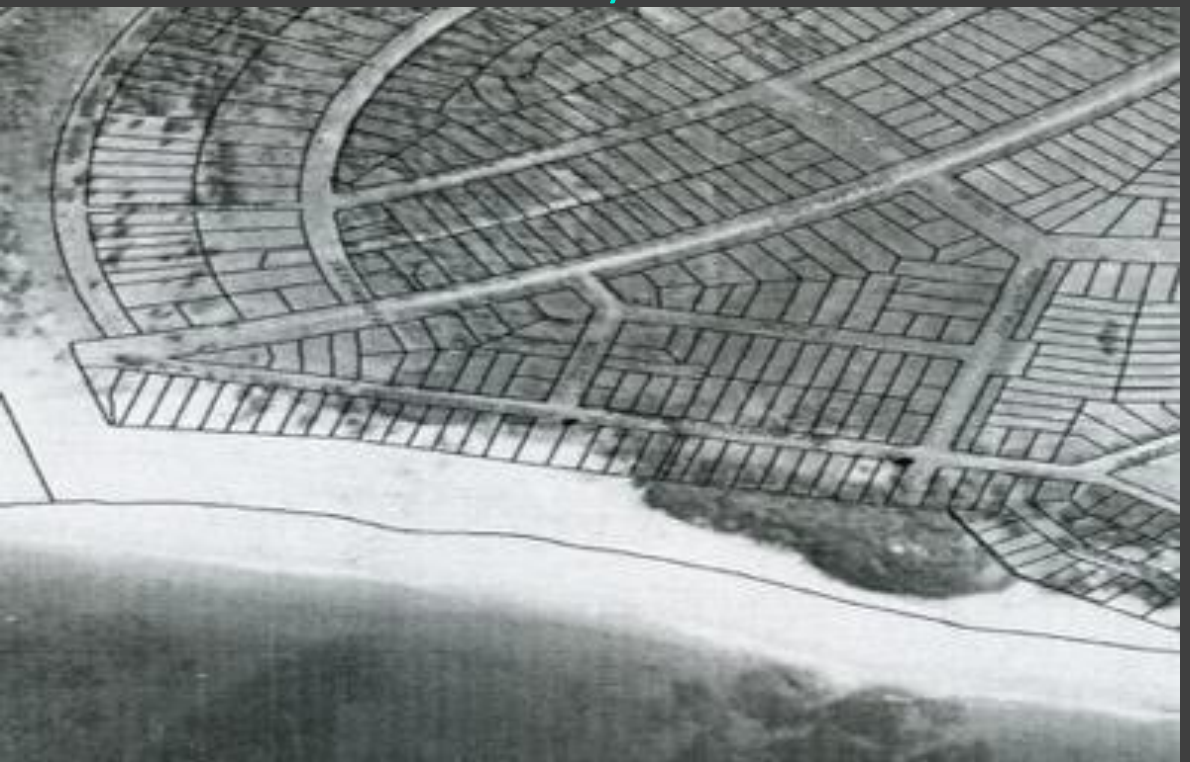
The local photographic evidence

(NSW Gov Archives)

There was considerable evidence of beach advance due to vegetation growth!
There was no evidence of any significant sea level rise

1948

Culburra Beach was a very sandy place.
The curved town plan was attributed
to Walter Burley Griffin 1918



2008

Foredune vegetation growth traps
sand. The beach has advanced
seawards over the last 60 years

More evidence at Kinghorn Point

3 kms south Culburra Beach

An advancing wave of sand trapped by vegetation!

On reaching the high tide mark the foredune just gets thicker!

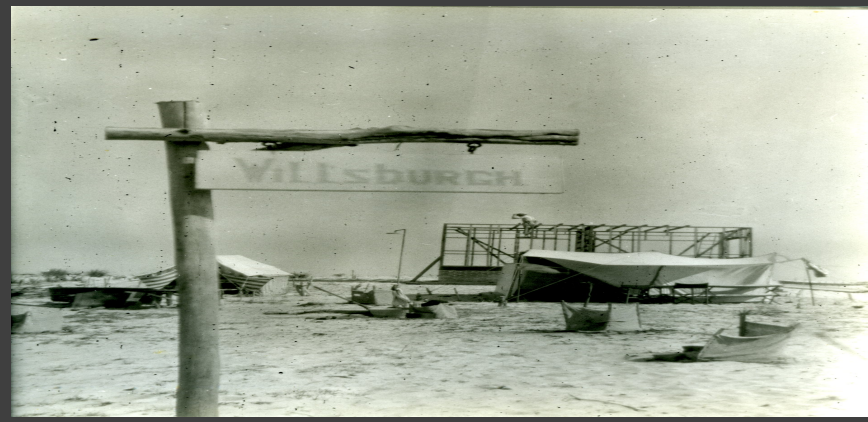
The storm surge evidence

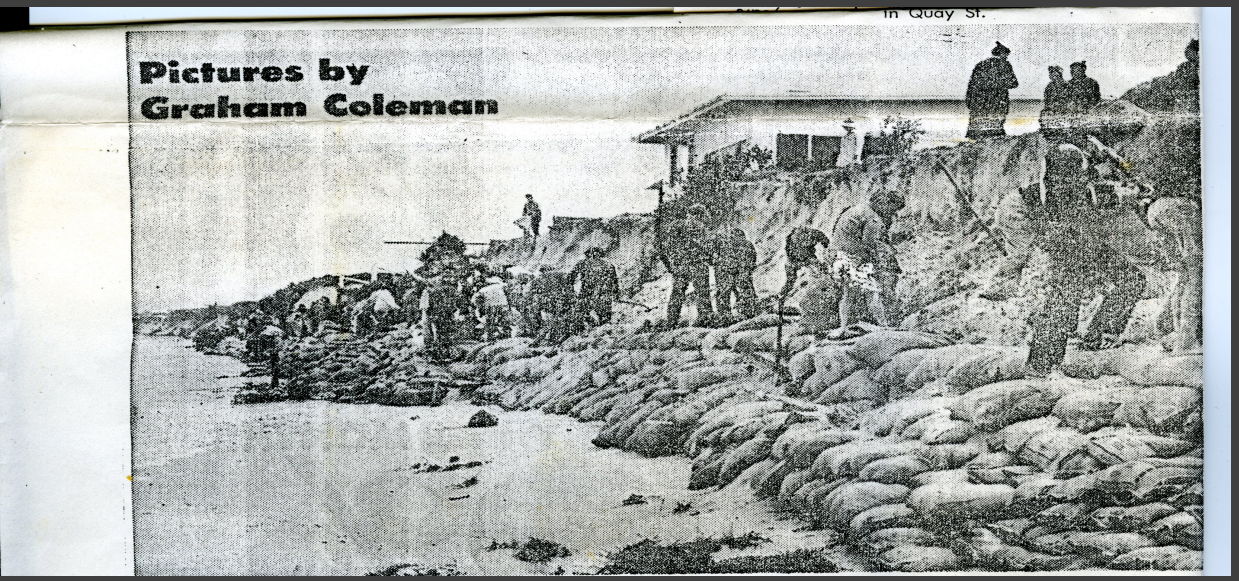
Beach foredunes are destroyed during storm surges

The beaches recover afterwards

Callala Beach, Jervis Bay

The early development of the 1950s & the storm surge of May-June 1974





The 10 days storm surge in 1974
Navy personnel and locals
try to arrest the storm surge
with sand bags
Offshore wave height was ~ 6.4 m
for 60 hours & the 2nd peak wave height was ~ 6.8m on the 10th day!!

Callala, Jervis Bay

The beach recovers after the storm surges of 1974, 1986 & 2012

1986 storm surge
Callala Beach

2012 storm surge
Callala Bay

Photos 2021

The beach has completely recovered—there has been no seaward advance since development in the 1950s

The false predictions of the Shoalhaven City Council sea level lines

Callala Beach -Jervis Bay

The sea is predicted to advance ~10 metres by 2025 (blue line)
The sea is predicted to advance ~21 metres by 2050 (orange line)
The sea is predicted to advance ~58 metres by 2100 (pink line)

By 2025
the foredune & front of some
houses should be gone

By 2100
all beach front
properties are destroyed

But none of the below
is happening!!

The Shoalhaven Coast is not unique

Professor Kench - University of Auckland
Arthur Webb-United Nations Development Programme

The land areas of Tuvulu Islands have increased in eight of nine atolls!

Constant dynamic shoreline change in an atoll

Yellow 1971: Blue 1984: Red 2014

The South Sea Islands coastlines
and
The Shoalhaven region coastlines

Sea level rise has not been a major factor in their recent shoreline history

Around Tuvulu 74% of the local islands have increased in size during the last 40 years

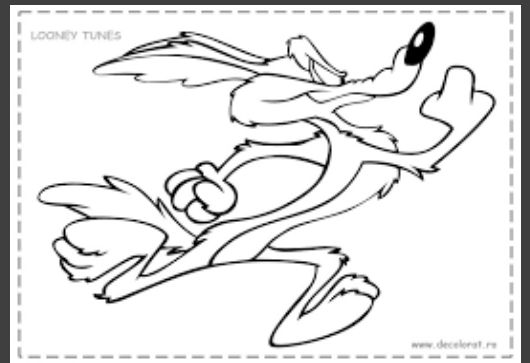
In the Shoalhaven region foredune vegetation has advanced the beaches seaward

PROBLEM 2

The models have predicted sea level rise is accelerating

But that is not true!!

There is no evidence for the pedal on the metal!!



The world-wide tide gauge database

(National Oceanographic Centre Liverpool, UK)

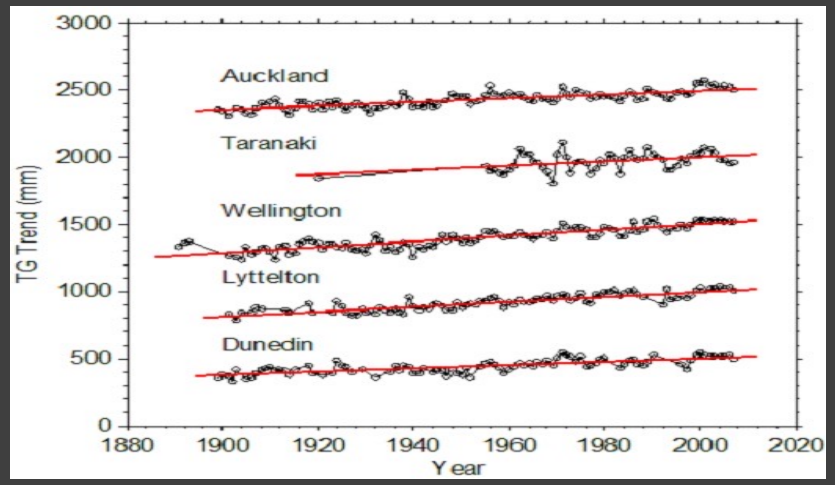
20th Century sea level rise rate ~ 15 -17 cms/100 years

"There is as yet no evidence for any acceleration of sea level rise this century,
nor would any be expected from the observed climate change to date". IPCC 1995 .Chapter 7. Climate Change. pp366.
Also IPCC reports- 1990, 1997, 2001

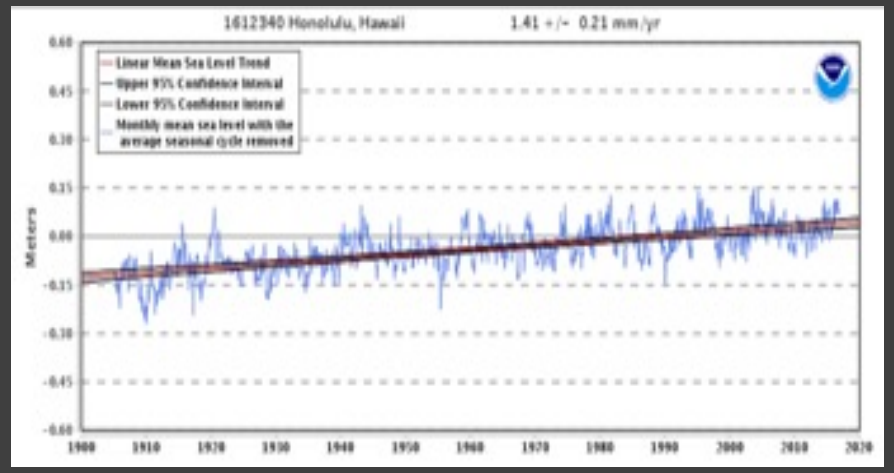
A ~ linear trend is obvious in tide gauges

There is no acceleration in sea level rise as predicted by climate models

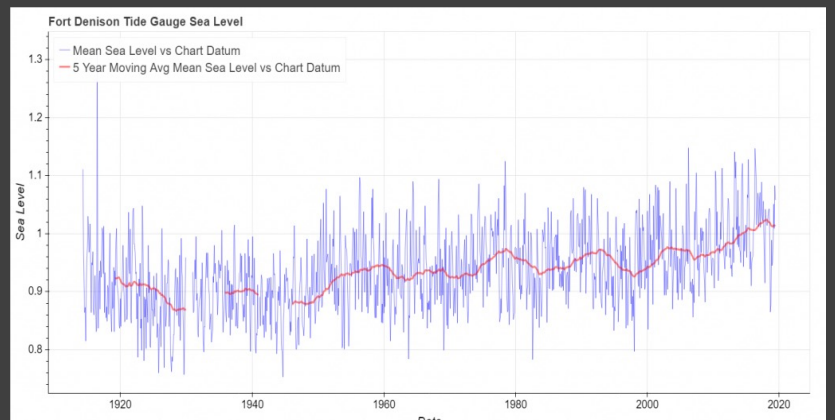
NZ tide gauges



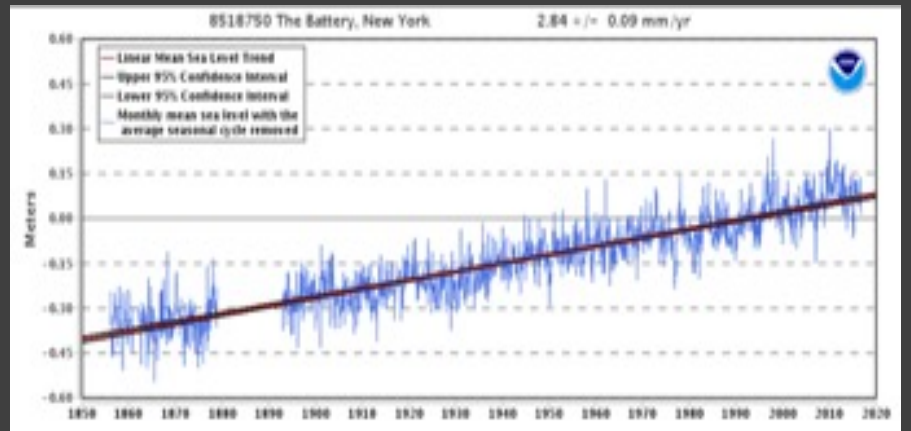
Honolulu



Fort Denison



New York –The Battery

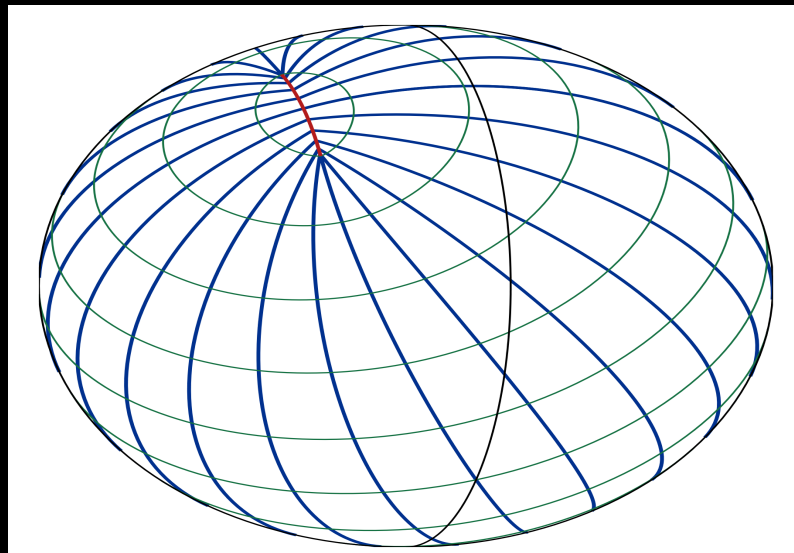


Another data source - NASA Satellites (1992 onwards)

Database-University of Colorado

Satellite sea level monitoring started in 1992

The satellites have been Topex, Poseidon, Jason 1, 2 and 3

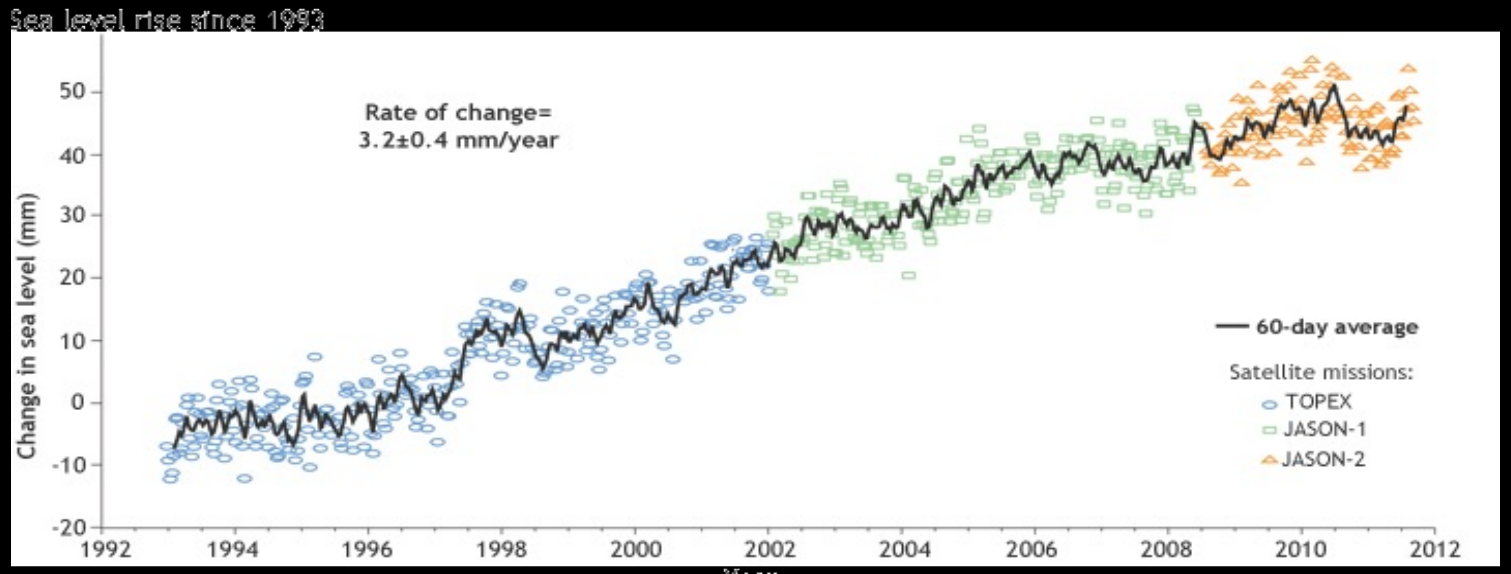


The satellite system has serious design and instrumentation problems

James Houston - US Army Corp Engineers and R.G. Dean – Florida State (2011)

Satellite data on its own while higher than tide gauge data show no acceleration and some deceleration

Despite carbon dioxide levels rising 45% in 120 years
There is no evidence anywhere of acceleration in sea level rise trends
There is still a ~linear trend
in tide gauge and satellite sea level rise data



In 2012, NASA admits satellite altimetry problems

The tide gauge data are the most reliable

200 years of tide gauge data show sea level rise 15-17 cm/100 years

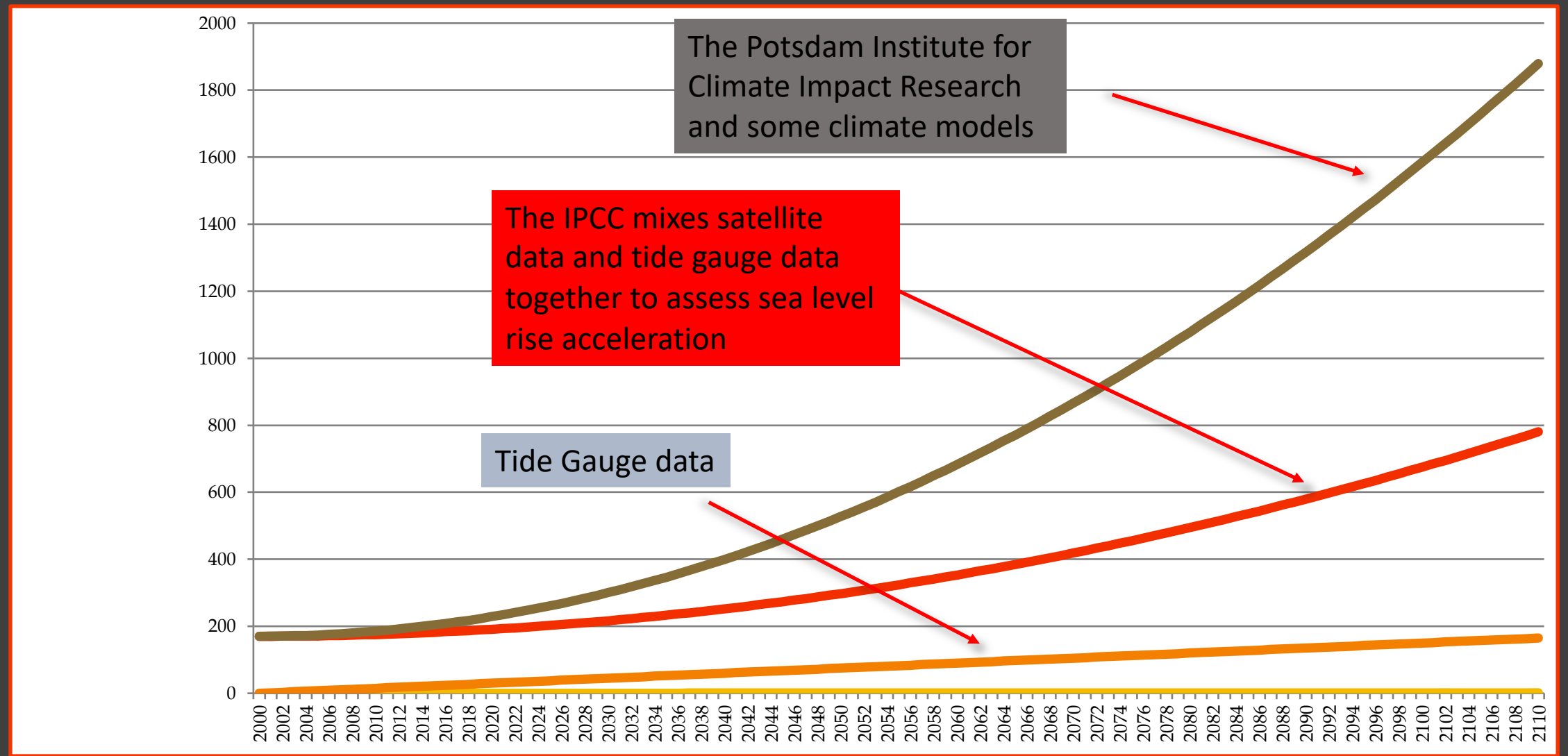
25 years of satellite data from 1300 km orbits show sea level rise 30-33 cm/100 years

The satellite data show relative sea level changes but do not provide accurate absolute numbers

Dr Yoaz Bar Server, Principal Engineer
NASA Jet Propulsion Laboratory

The Sea Level Mess

The climate models predict sea level rise acceleration despite evidence to the contrary

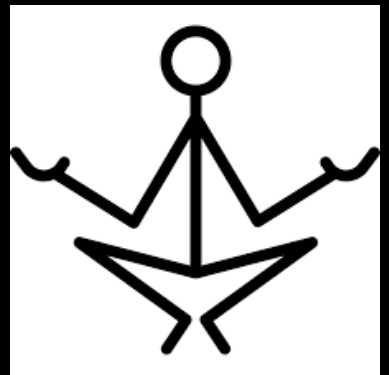


So

With no acceleration of sea level

Dramatic sea level rise predicted by climate models for this century is impossible

There is no need to panic



PROBLEM THREE

In the models carbon dioxide levels control the Earth's historic atmospheric temperature

BUT

Ice ages have occurred with high C02 levels

Recent equal warming gradients have had very different C02 levels

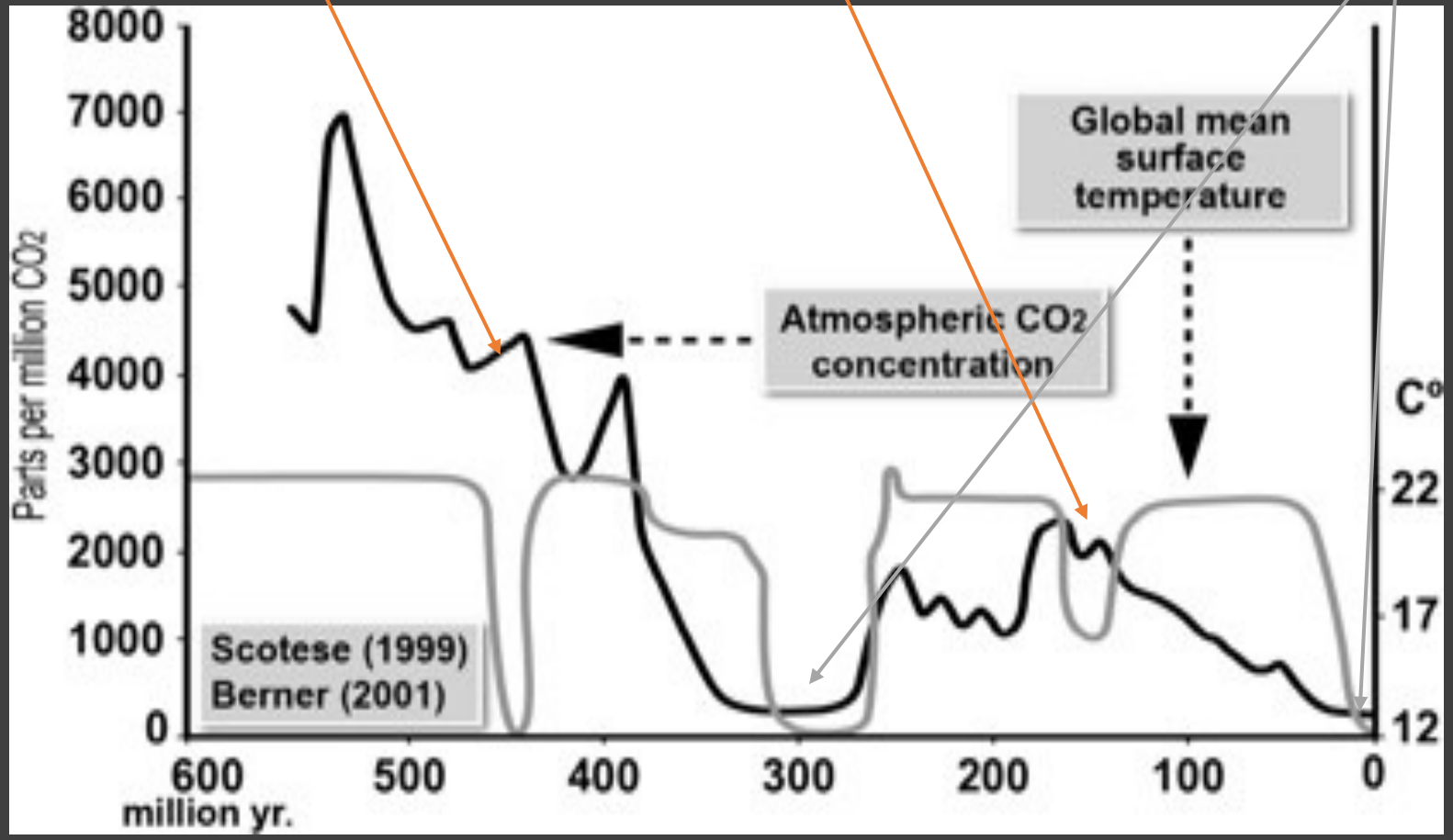
It takes two to tango

Global mean surface temperature & atmospheric C02 levels over 500 million years

Robert Berners (Yale) 1990, Christopher Scotese (Northwestern) 1999

Ice ages 400 million and 170 million years ago had high C02 levels

The recent ice age & the ice age 300 million years ago had low C02 levels

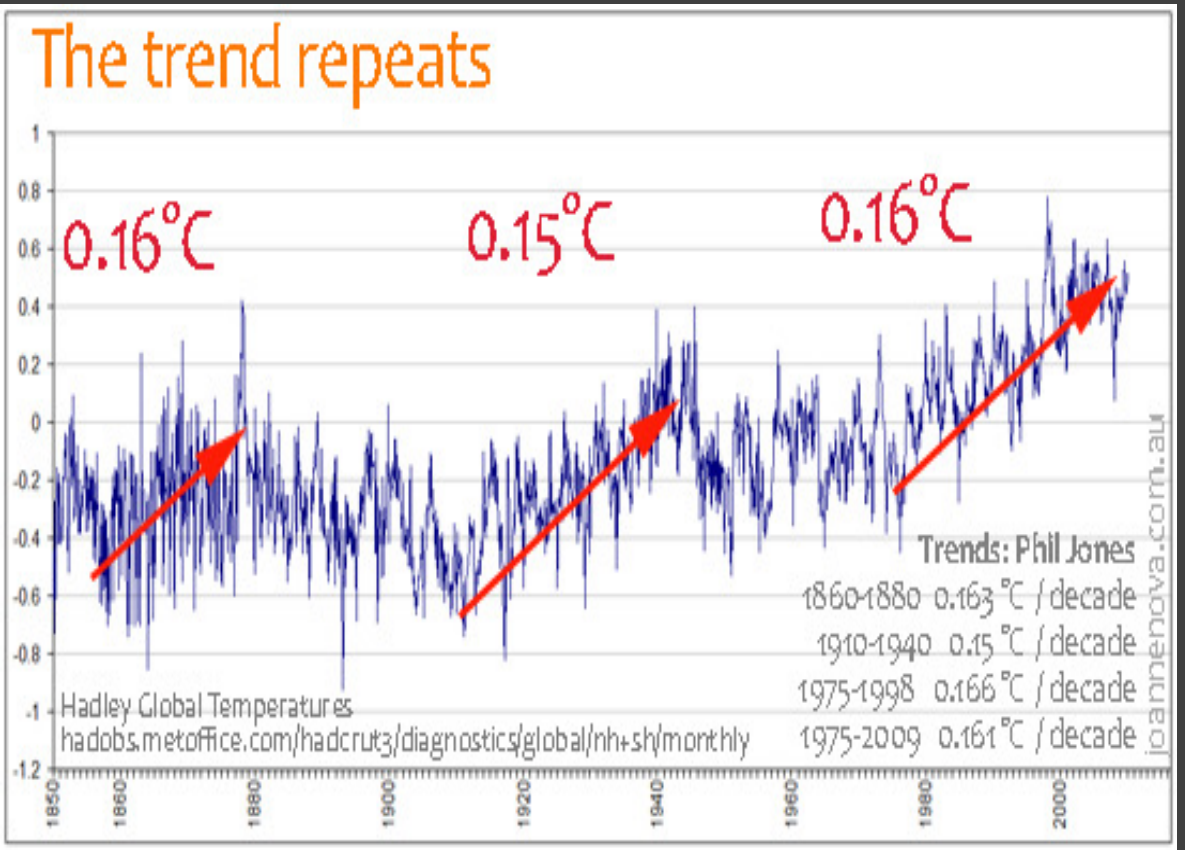


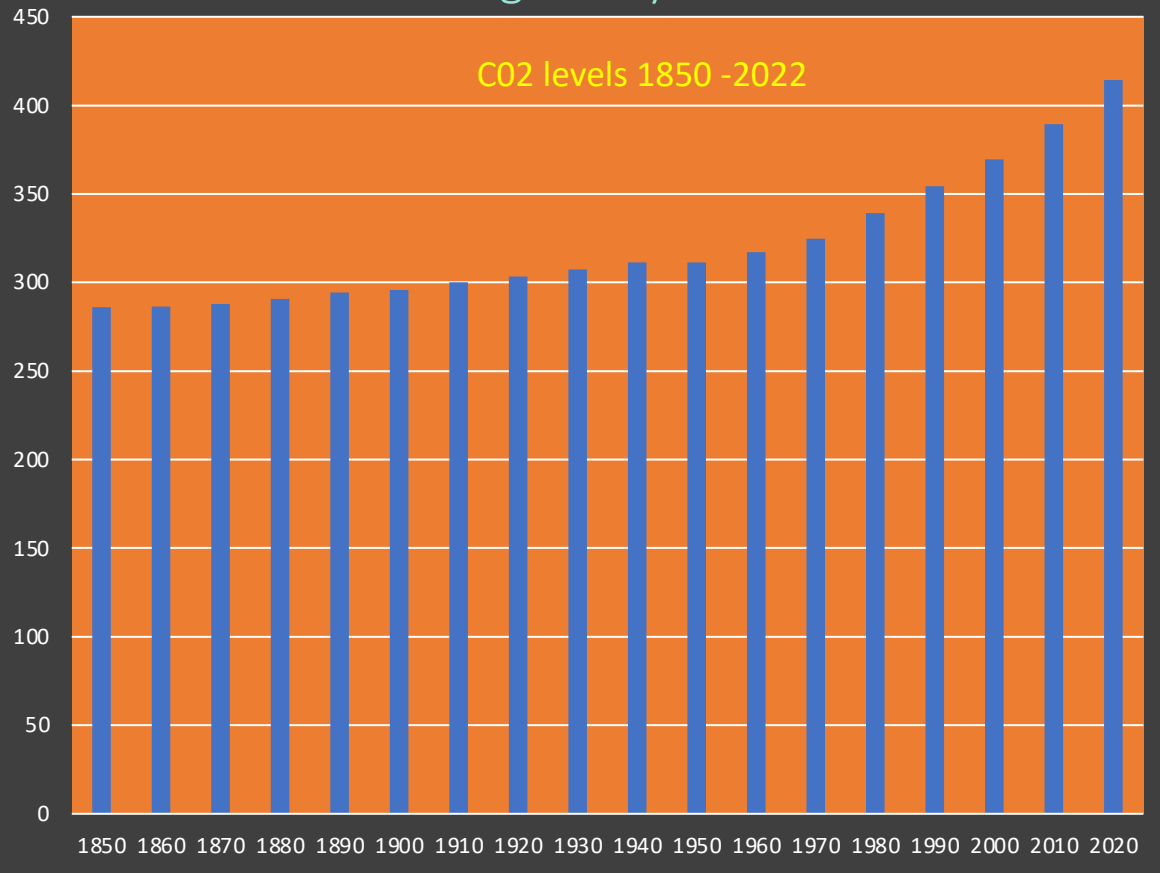
So where is the correlation…It does not exist!

Atmospheric global warming trends since 1850 ≠ carbon dioxide trends

Warming graph from the Phil Jones -Hadley Centre, UK
Atmospheric carbon dioxide estimates from NASA 1850-1957, and observatory data from Mauna Loa 1957-2022

Any warming effect of carbon dioxide cannot be the main factor driving this system





Carbon dioxide levels and recent atmospheric temperature changes

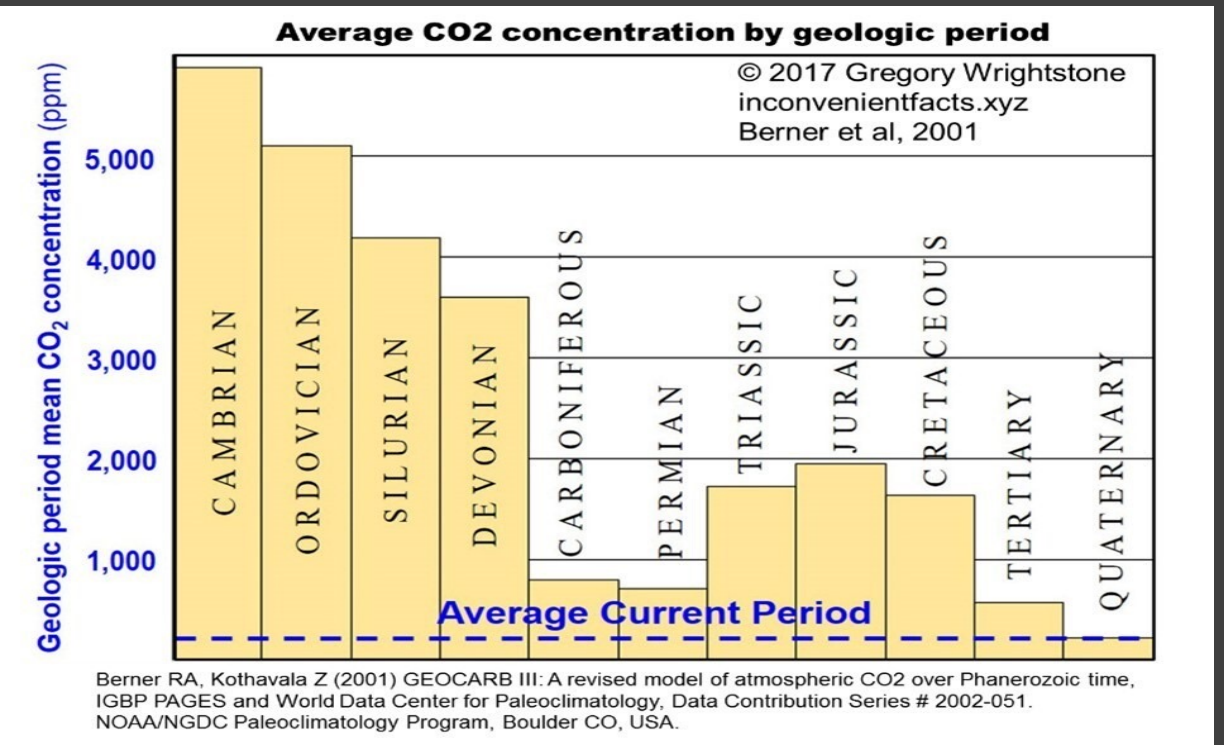
There is no correlation between recent C02 levels and temperature gradients

Period	Carbon Dioxide	Temperature	
1860-1880	2 ppm/decade	Warming	0.16°C/decade
1880-1910	3 ppm/decade	Pause	
1910-1945	3 ppm/decade	Warming	0.16°C/decade
1945-1975	7 ppm/decade	Slight cooling	
1975-2000	15 ppm/decade	Warming	0.16°C/decade
2000-2022	20 ppm/decade	Pause	Slow Down

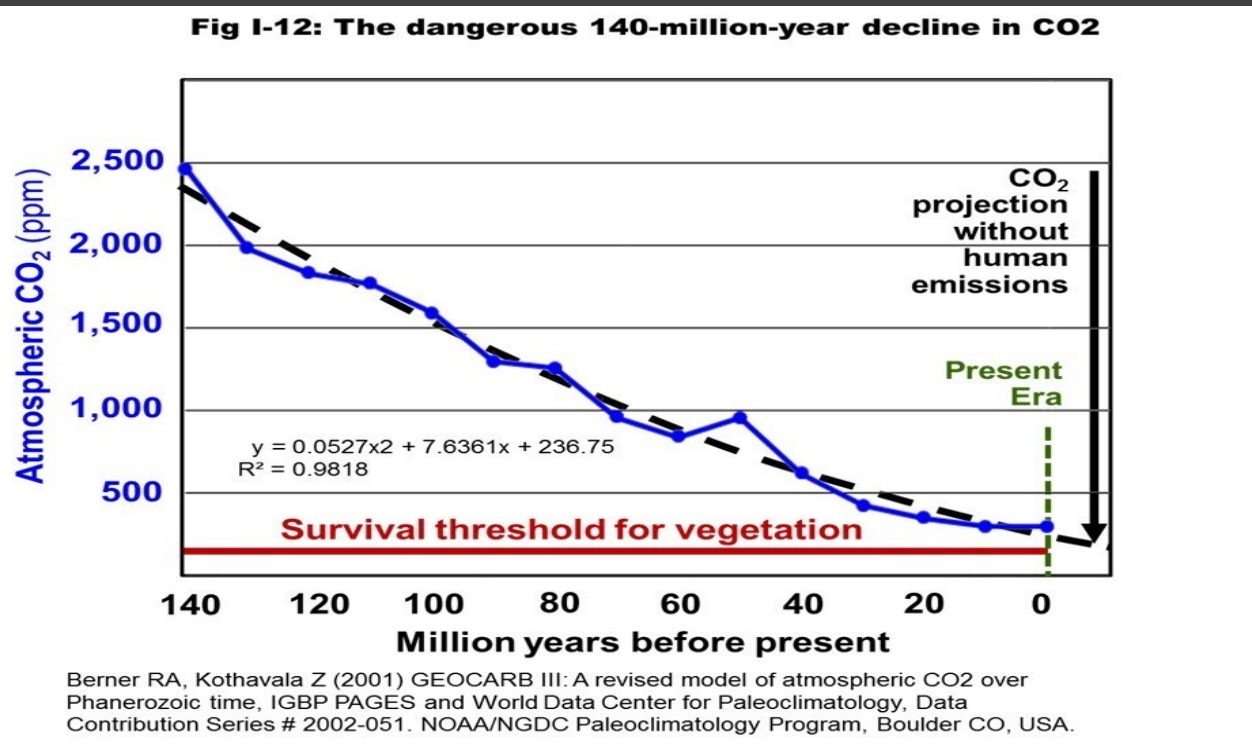
The Earth's atmospheric C02 levels have normally been much higher

We are at an historic low point with regards to the Earth's atmospheric C02 levels

How can rising atmospheric C02 levels be a crisis?



Berner RA, Kothavala Z (2001) GEOCARB III: A revised model of atmospheric CO2 over Phanerozoic time, IGBP PAGES and World Data Center for Paleoclimatology, Data Contribution Series # 2002-051. NOAA/NGDC Paleoclimatology Program, Boulder CO, USA.



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PROBLEM FOUR

The climate models ignore the picky radiation diet of carbon dioxide

Water vapour competes with all minor greenhouse gases

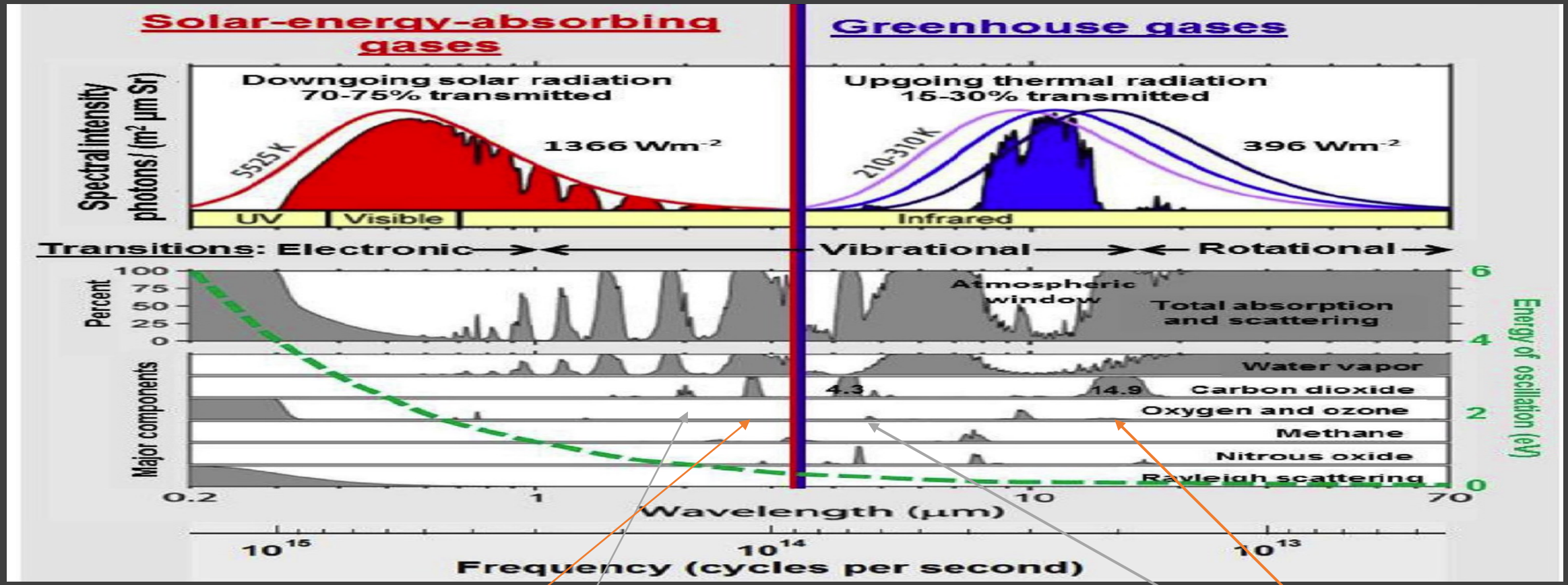
Water vapour is > 80% of the greenhouse effect

I can't make a pig of myself

Atmospheric C02 absorbs radiation at certain wavelengths

Atmospheric C02 absorbs Solar radiation around 2 microns and 2.7 microns

Atmospheric C02 absorbs Earth radiation mainly at 4.3 microns and 14-16.5 microns (peak 14.9 microns)



C02 absorbs some Solar radiation around 2 - 2.7 microns

C02 absorbs long wave radiation from the Earth
Effective absorption at 4.3 microns
C02 competes with water vapour at 14-16.5 microns

Selective absorption of the heat spectrum by atmospheric C02 & various greenhouse gases

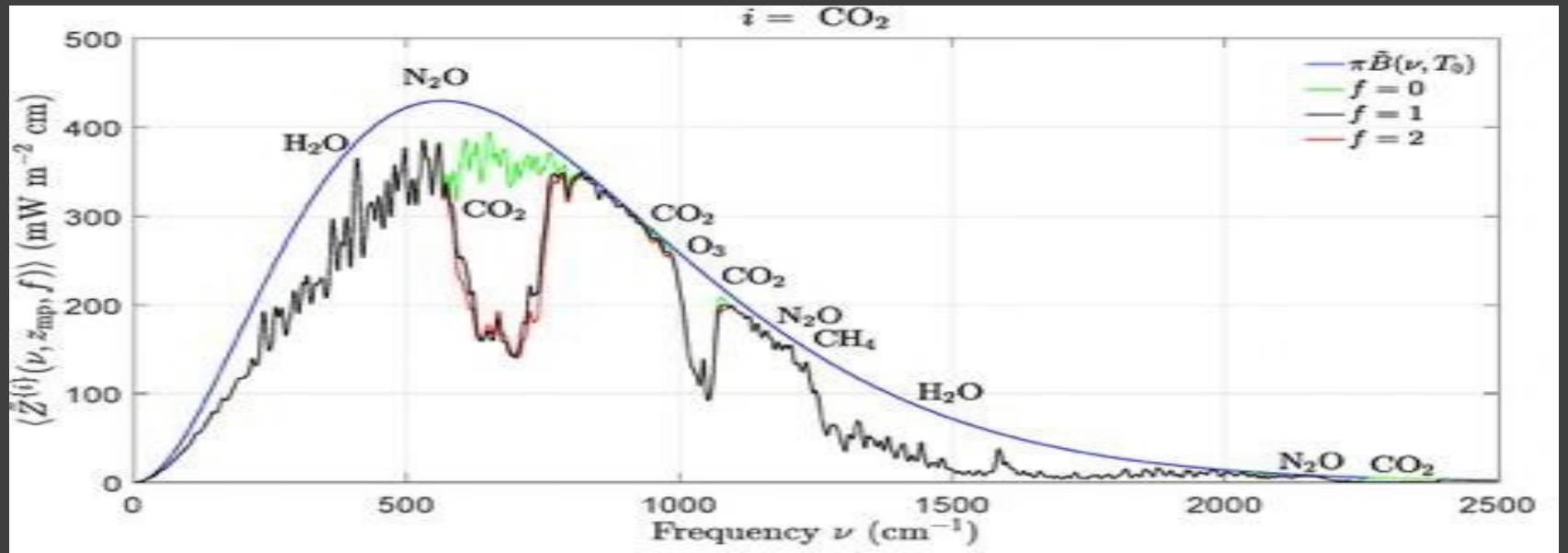
Will Happer-Princeton University, William Van Wijngaarden –York University, Canada 2020.

No C02 (green line)- there will still be significant absorption by water vapour

C02 at 400 ppm (black line)

C02 at 800 ppm (red line) –the gain from 400-800 ppm is small (1%)

- The levels of atmospheric carbon dioxide need to double each time to have the same warming effect
- Each doubling of carbon dioxide only decreases radiation to space by 1%
- Water vapour is the main greenhouse gas by far (>80% effect)
- There is not much more warming from carbon dioxide if carbon dioxide levels continue to rise



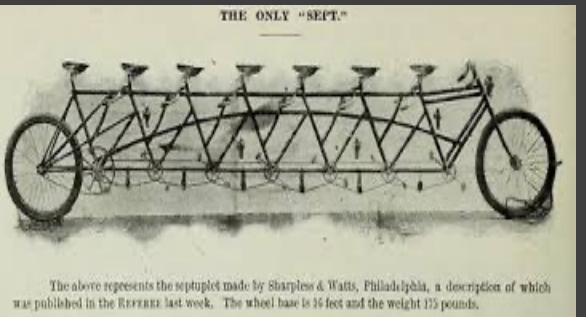
PROBLEM FIVE

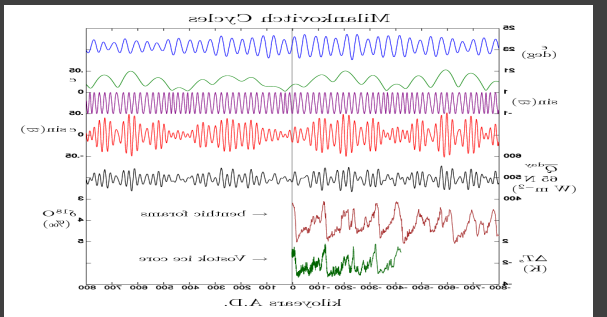
Historical studies uncover many climate cycles

The computer climate models cannot replicate these cycles

The newly created "Anthropocene" cycle ignores these natural cycles

How can these cycles disappear?



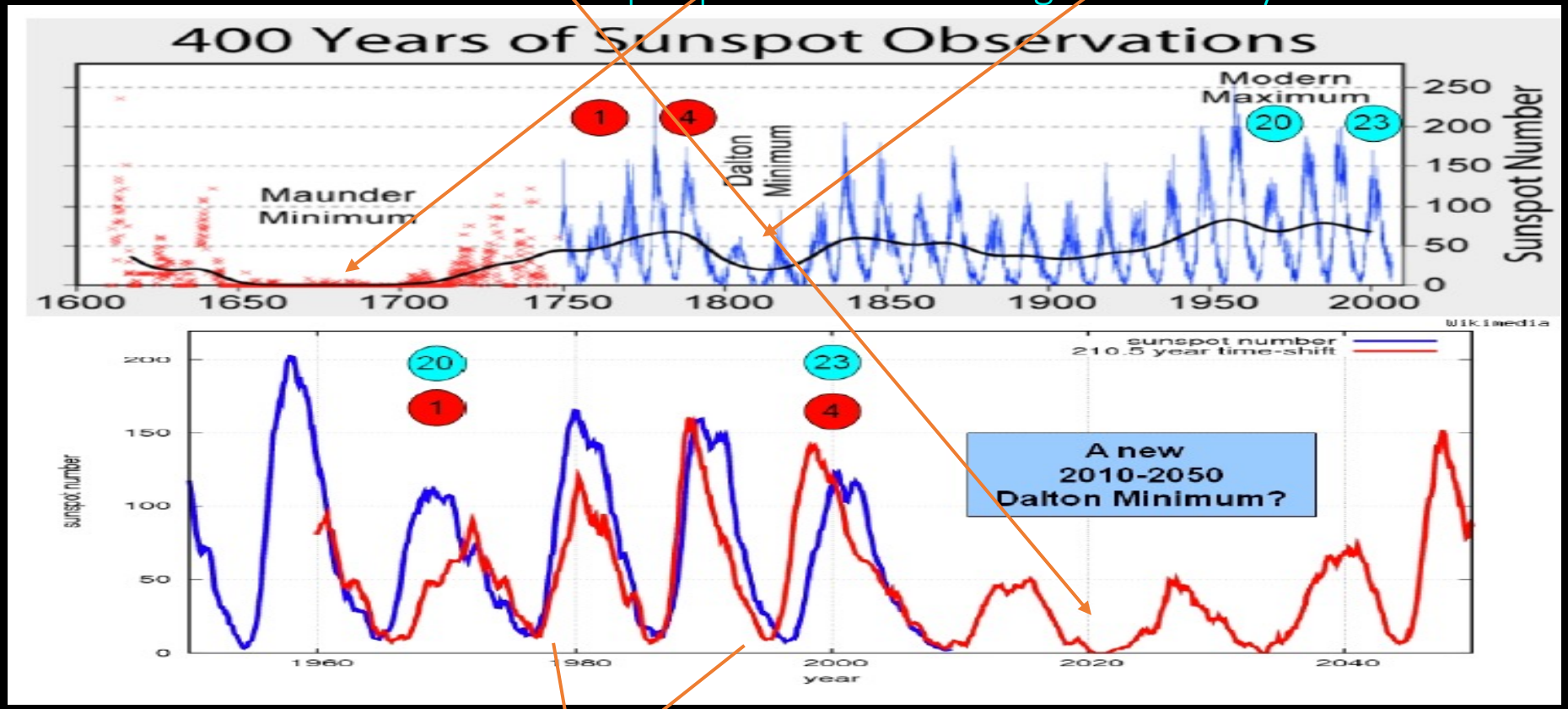


The sunspot record from 1600 to today

Cold periods occurred during low sunspots periods ~ the Maunder Minimum & the Dalton Minimum

How can these patterns be meaningless?

What will a low sunspot period mean during this century?

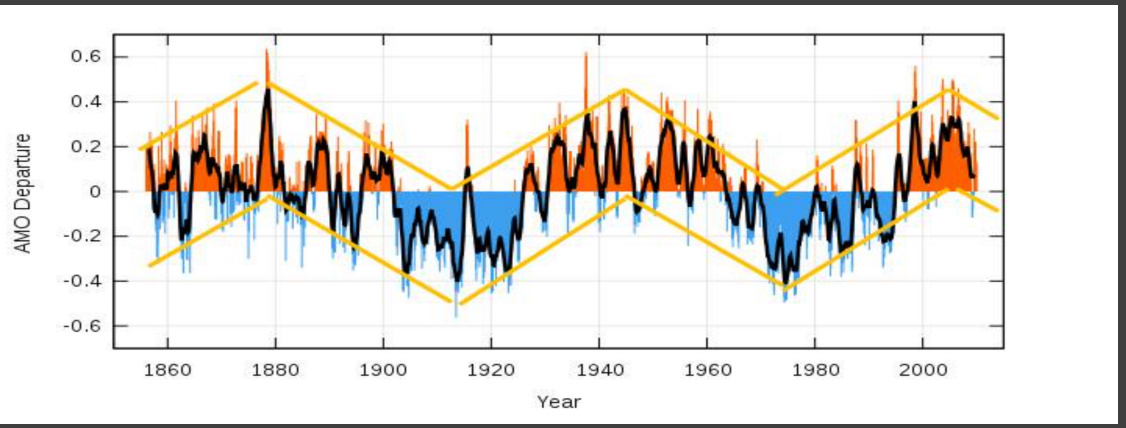


The temperature patterns between 1750-1840 & 1960-2040 are similar

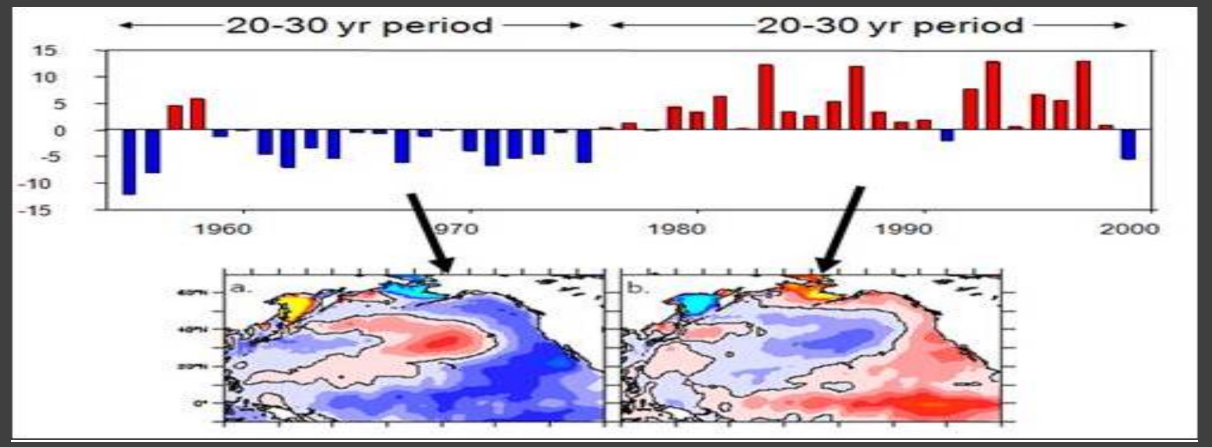
The ~ 60 year cycles are everywhere

Why should these cycles stop!

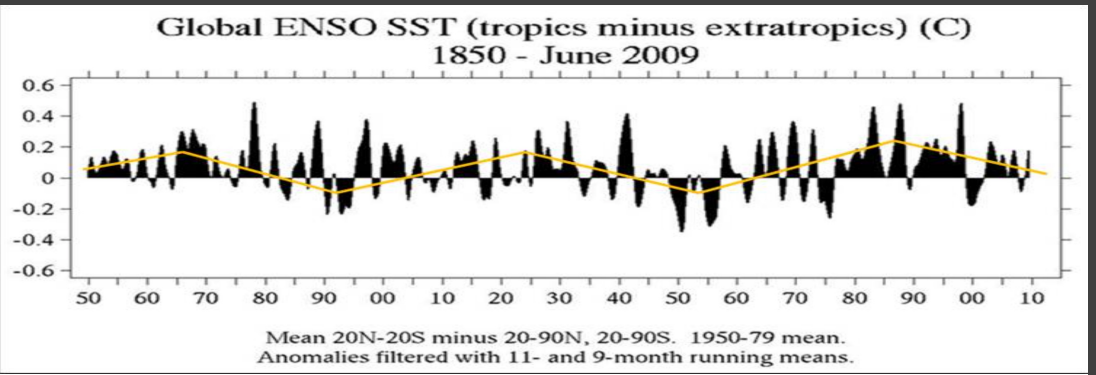
The Atlantic Ocean Meridional Circulation



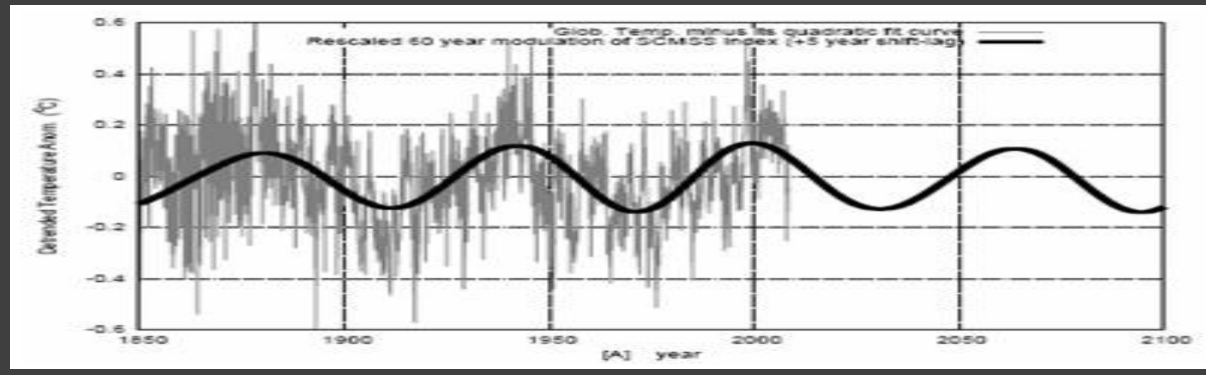
The Pacific Ocean Decadal Oscillation



The El Nino South Oscillation Index



The Centre of the Mass of the Solar System

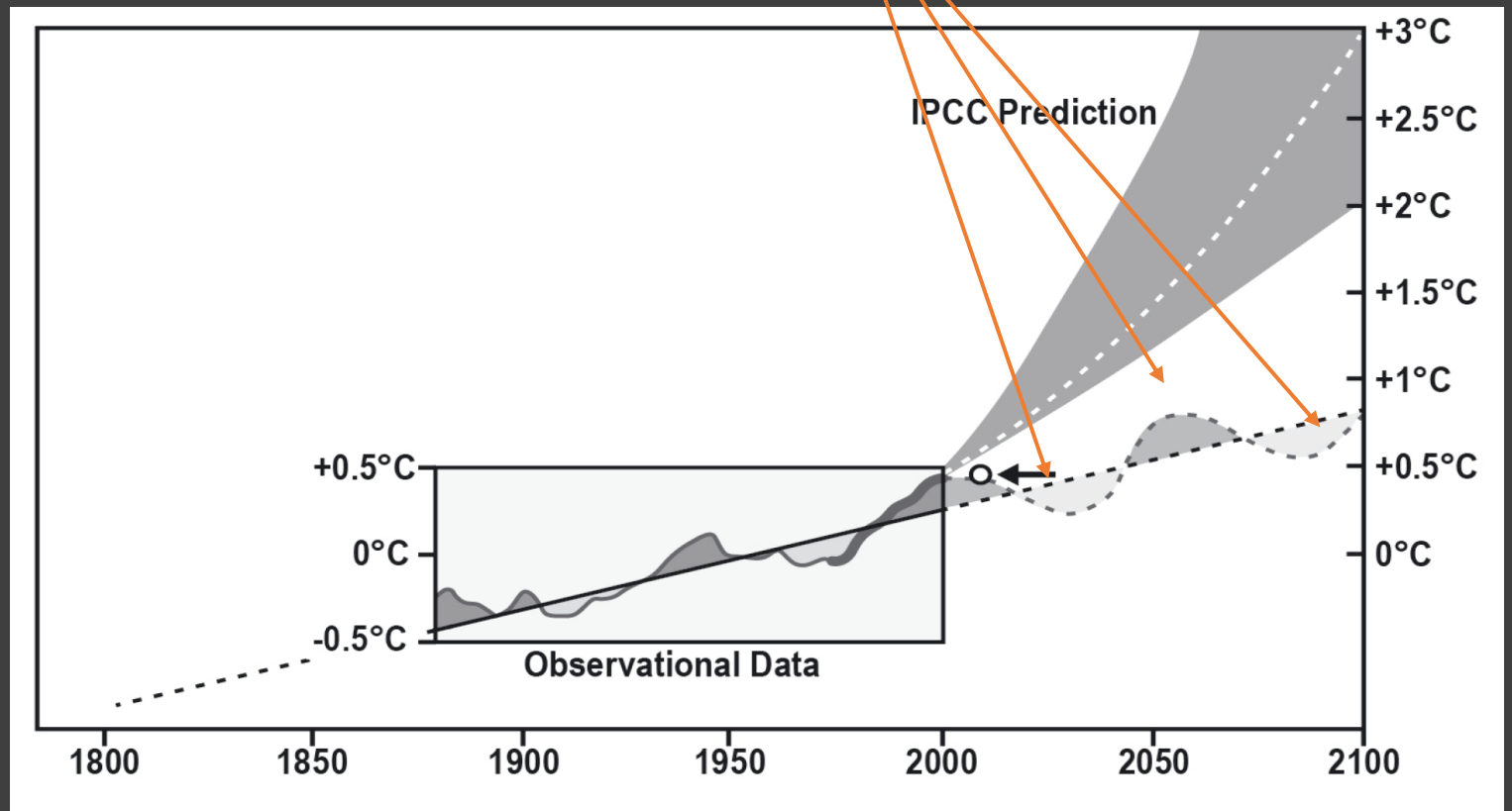


Akosofu shows ~60 year oscillations between 1880 & 2000

Syun-Ichi Akosofu – Arctic Research Centre, Alaska (2009)

Akosofu predicts a cold period ~ 2020-2040

Why shouldn't these oscillations continue?



PROBLEM SIX

Have computer climate models made ‘unprecedented’ – the new truism!

Today’s warming is not unprecedented, it was much warmer 8000-5000 years ago

Recent storms, recent polar ice melt and and recent weather events are not unprecedented?

Go and tell that story to the marines!!

The warmest period since the last ice age was 5000-8000 years ago

Atmospheric carbon dioxide levels did not rise

Sea levels were 2 metres higher for a few thousand years

The Greenland ice cap melted to be much smaller than today-Glaciers retreated in West Antarctica

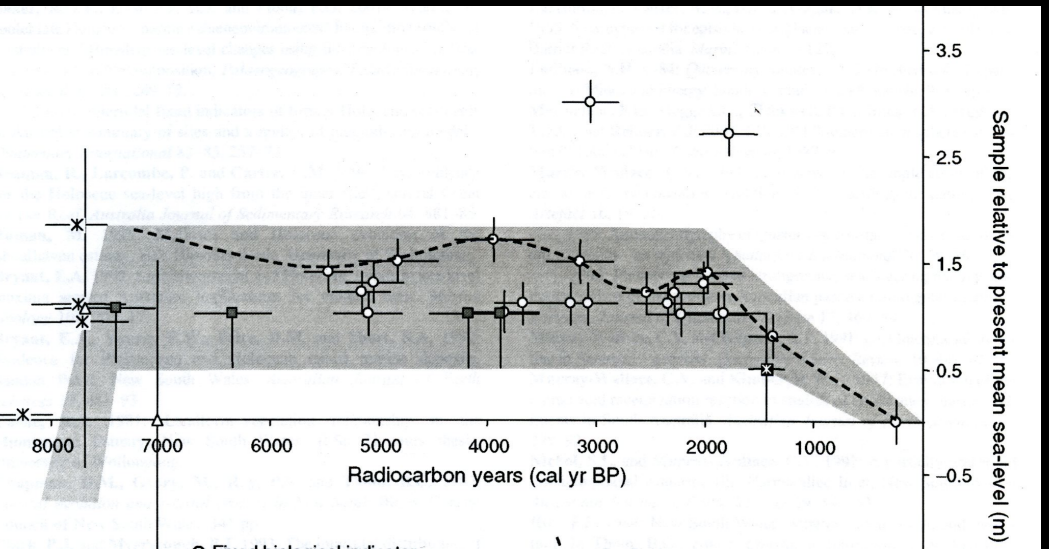
The present bare mountain tops in Scotland were forested

So much for recent climate change being unprecedented!!

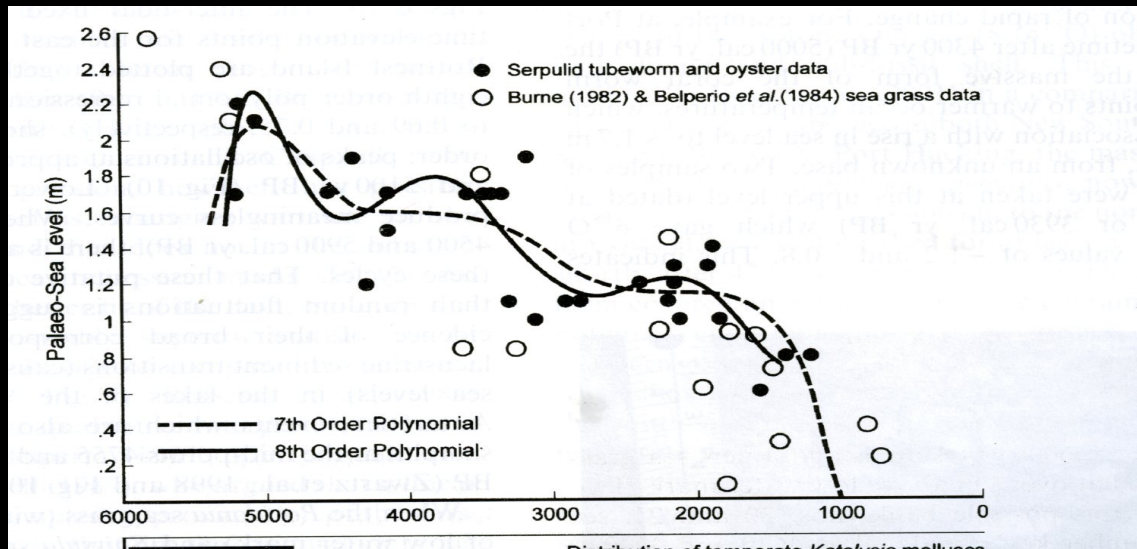
Evidence along the **NSW South Coast** shows high sea levels 8000-5000 years ago

Carbon dates of fossil barnacles and tubeworms attached to cliffs indicate high sea levels two metres higher than today 8000-5000 years ago that dropped down to present levels around 1000 years ago

University of Wollongong research
Dr Peter Sloss



University of New England research
Professors Robert Baker and Peter Flood



The Climatic Optimum 5000 -8000 years ago

Wave Notch - Red Point, Jervis Bay, NSW. Rock Platform- Head of the Crookhaven River, NSW

The ‘relic’ wave notch and the ‘relic’ rock platform
were formed when sea level was 2 metres higher than today

Windows into the past

The storms ‘getting worse’ and ‘unprecedented’ narrative does not make sense

In warm periods there is less cold air in mid-latitudes ~ so fewer storms!

In Ice Ages there is more cold air in mid-latitudes ~ so more storms!

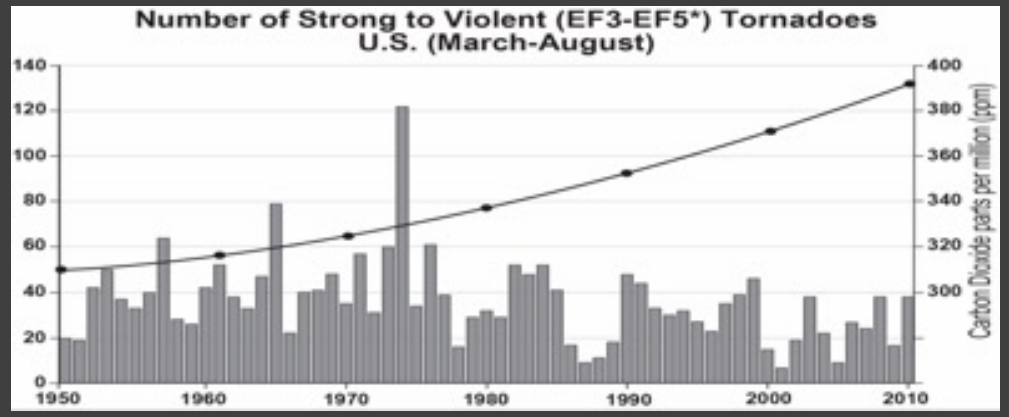
You are pulling my leg!

Data shows no correlation of storm frequency and storm severity with C02 levels

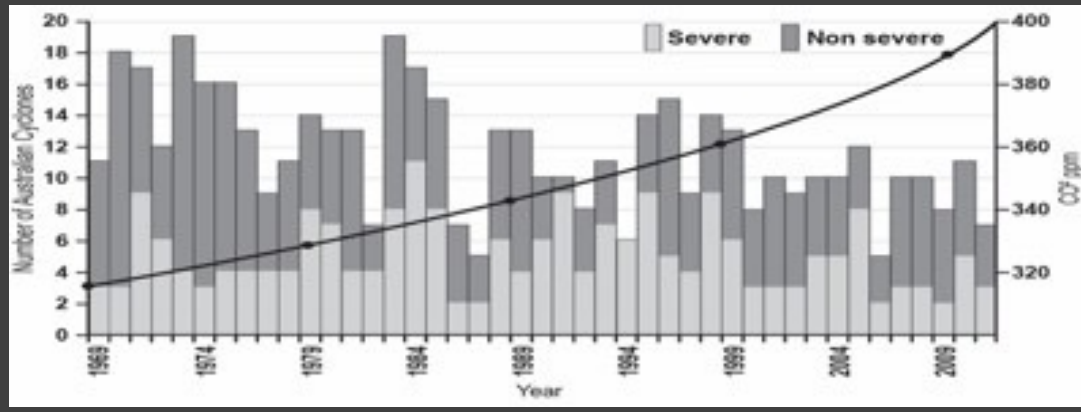
Storm, tornado, cyclone, & tropical wind data are taken from the databases of National Weather Bureaus

The graphs support the opposite!!

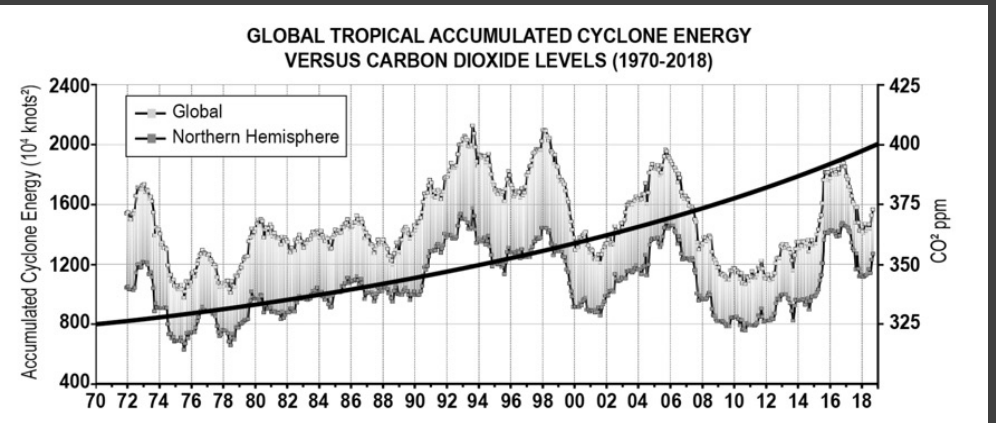
USA tornadoes



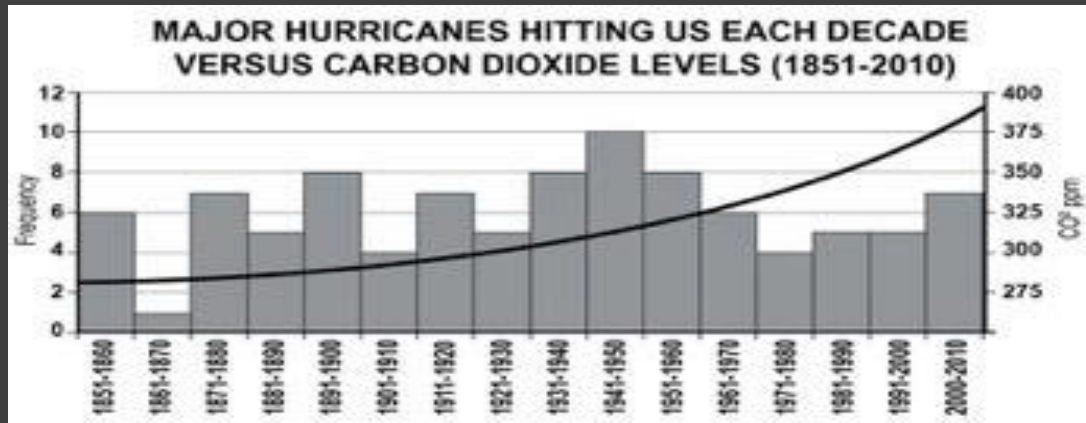
Australian cyclones



Tropical wind energy



USA hurricanes

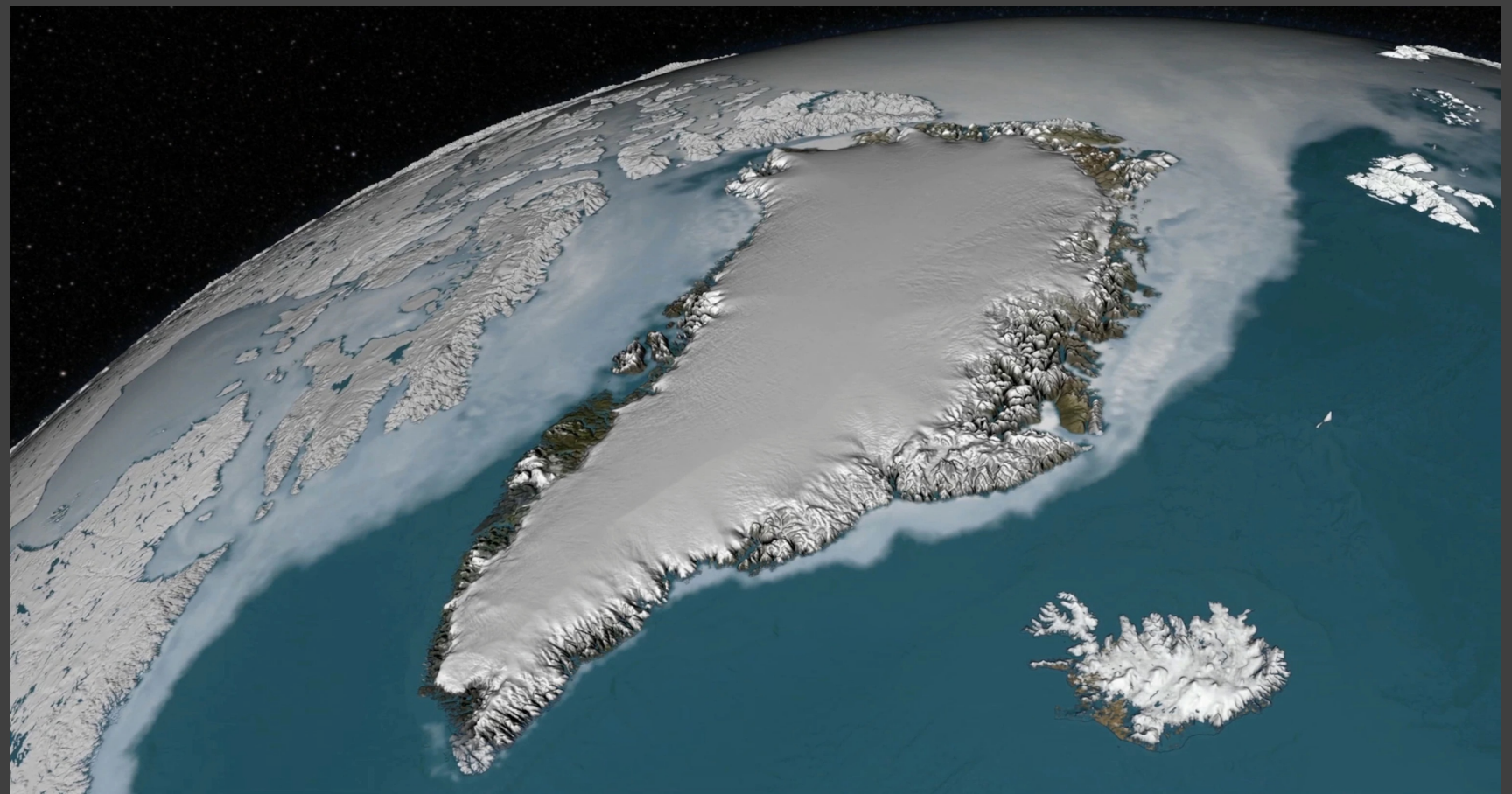


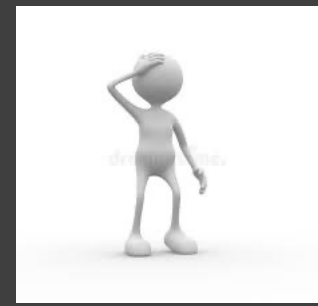
The ‘unprecedented’ Greenland ice loss of 400 giga tonnes/year

But it takes 360,000 cubic kilometres of water to raise the Earth’s sea level 1 metre

Oh...I forgot to tell you those 400 gigatonnes of ice will raise sea level 1mm/year!!

Oh... And there has been no change in the rate of sea level rise despite the models!





The “Unprecedented” Flood

Regatta Hotel Toowong – Brisbane

The Brisbane River Floods of 1841, 1893, 1974 and 2010-2011

The 1841 flood before the hotel was built was higher than the 1893 flood

The 1893 Brisbane River flood

The 1974 “unprecedented” Brisbane River flood

The 2010 -2011 “unprecedented” Brisbane River flood

The Australian “Unprecedented” Indian Dipole events

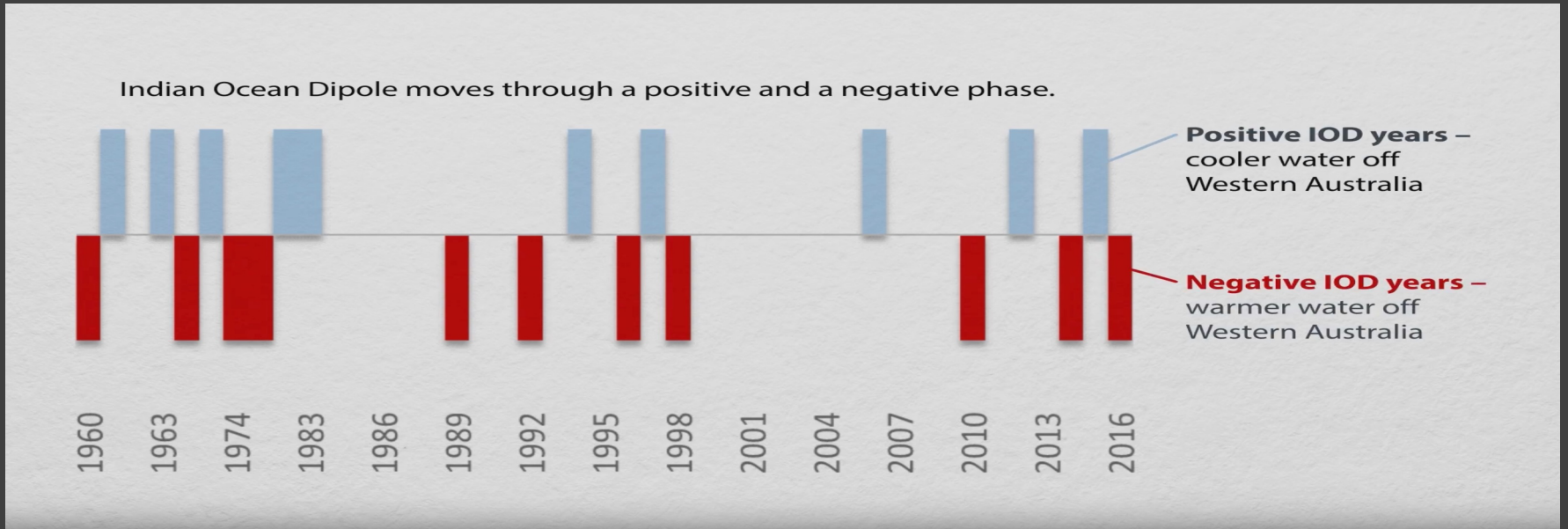
(Diagram from the Australian Bureau of Meteorology)

11 negative phases and 10 positive phases ~ 1960-2016

12 negative phases and 11 positive phases ~ 1960-2022

)

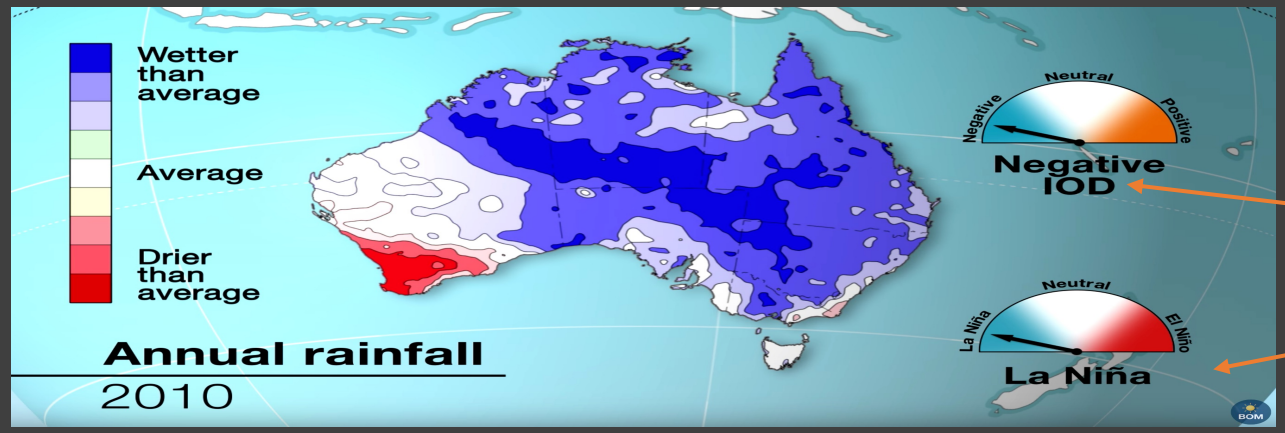
There is nothing abnormal here, just normal unpredictability!



The ‘Unprecedented’ Australian weather when cycles coincide

(Diagrams from the Australian Bureau of Meteorology)

A negative IOD dipole with a La Nina event - a wet period

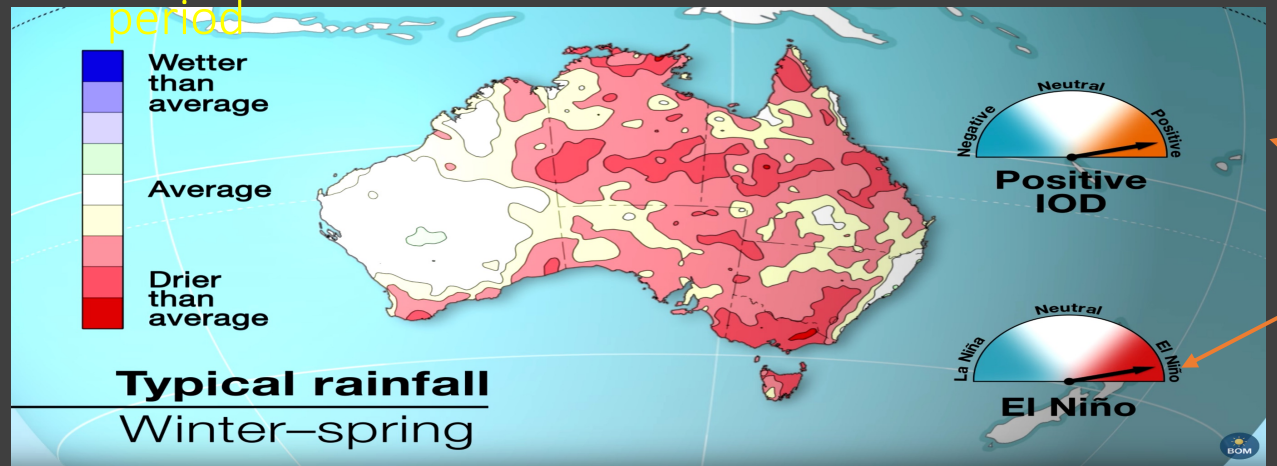


WET

Warm water off Western Australia

Warm water off Eastern Australia

A positive IOD dipole with an El Nino event - a dry period



DRY

Cold water off Western Australia

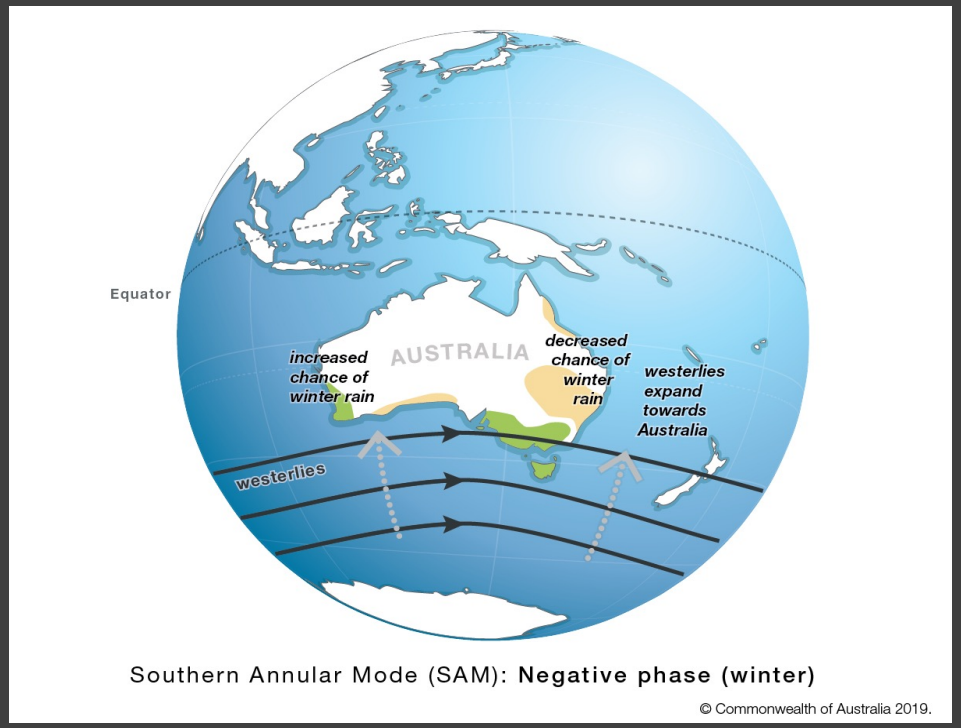
Cold water off Eastern Australia

The Southern Annular Mode is not that ‘unprecedented’

(Diagrams from the Australian Bureau of Meteorology)

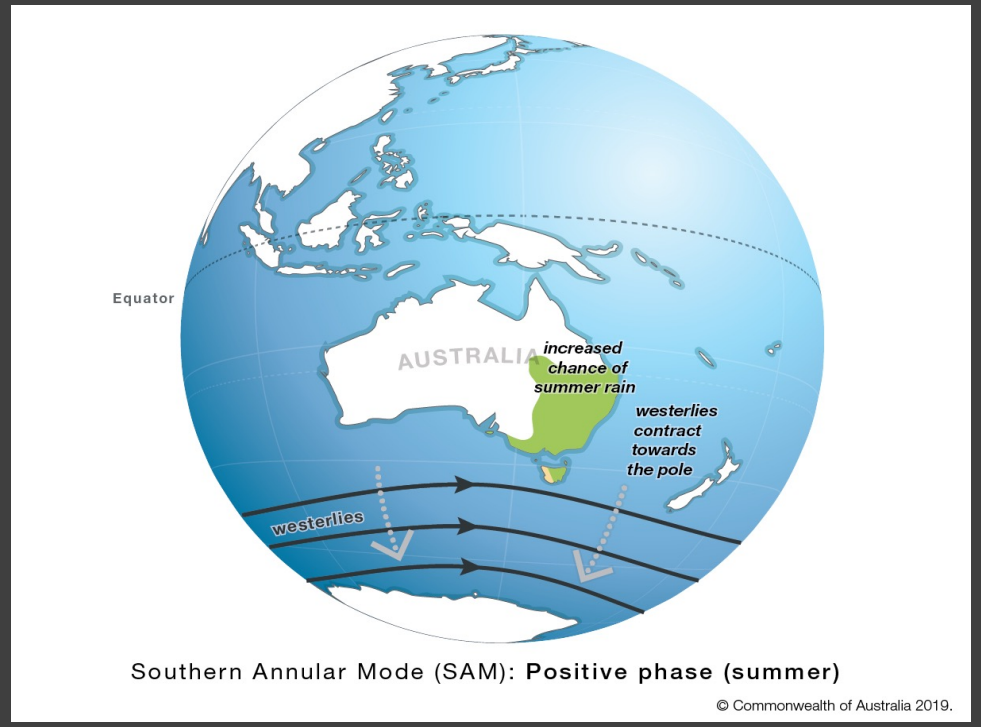
North-South movements of the cold Southern Ocean westerly wind belt

Negative and drier
cold winds shift northwards



Southern Annular Mode (SAM): **Negative phase (winter)**

Positive and wetter
cold winds shift southwards



Southern Annular Mode (SAM): **Positive phase (summer)**

La Nina and El Nino cycles

Positive and Negative Indian Dipole cycles

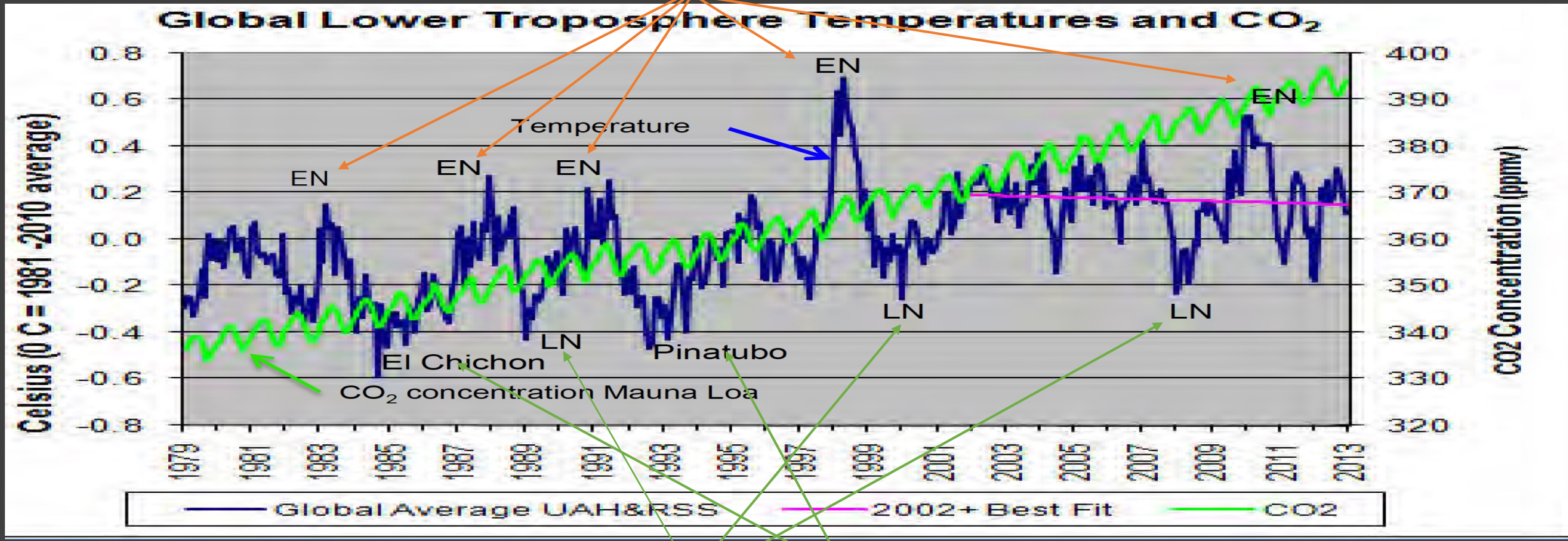
Southern Annular Mode events

These ‘unprecedented’ cycles contribute to Australia’s normal history of Floods and Droughts

The influence of ENSO and volcanoes is clear!!

El Ninos (EN) , La Ninas (LN) , Volcanoes (1979-2013)
(Peter Zeigler – University of Basel (2013)

El Ninos warm



La Ninas and volcanoes cool

PROBLEM SEVEN

A climate computer model is not a predictive tool

A climate model shows how some forces may interact

A climate model cannot make predictions for a non-linear chaotic system

The climate computer models are as useless as chocolate teapots!

The first climate computer models

Syukuro Manabe - Kirk Bryan Model –Richard Wetherald - Princeton University (1967-1975)

- The models were of 120 degrees of longitude with 50% water and 50% land
- The models had cells of 250,000 sq kms with 7 levels, each 1 km high
- The models tried to replicate atmospheric circulation and convection

Manabe's first computer had 500k of RAM & his program took 50 days to run

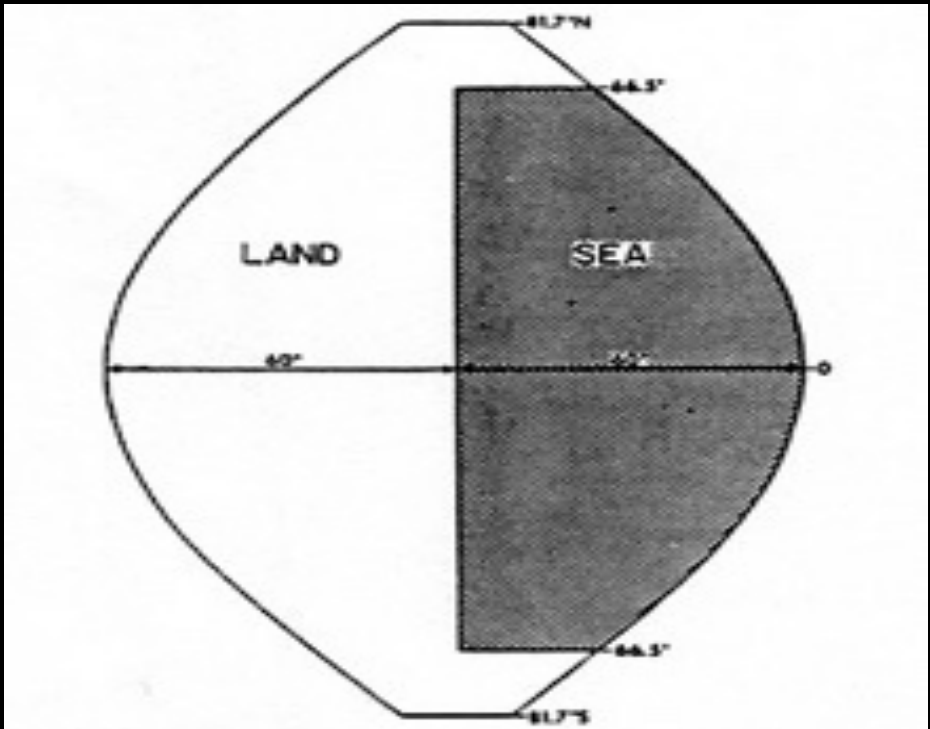
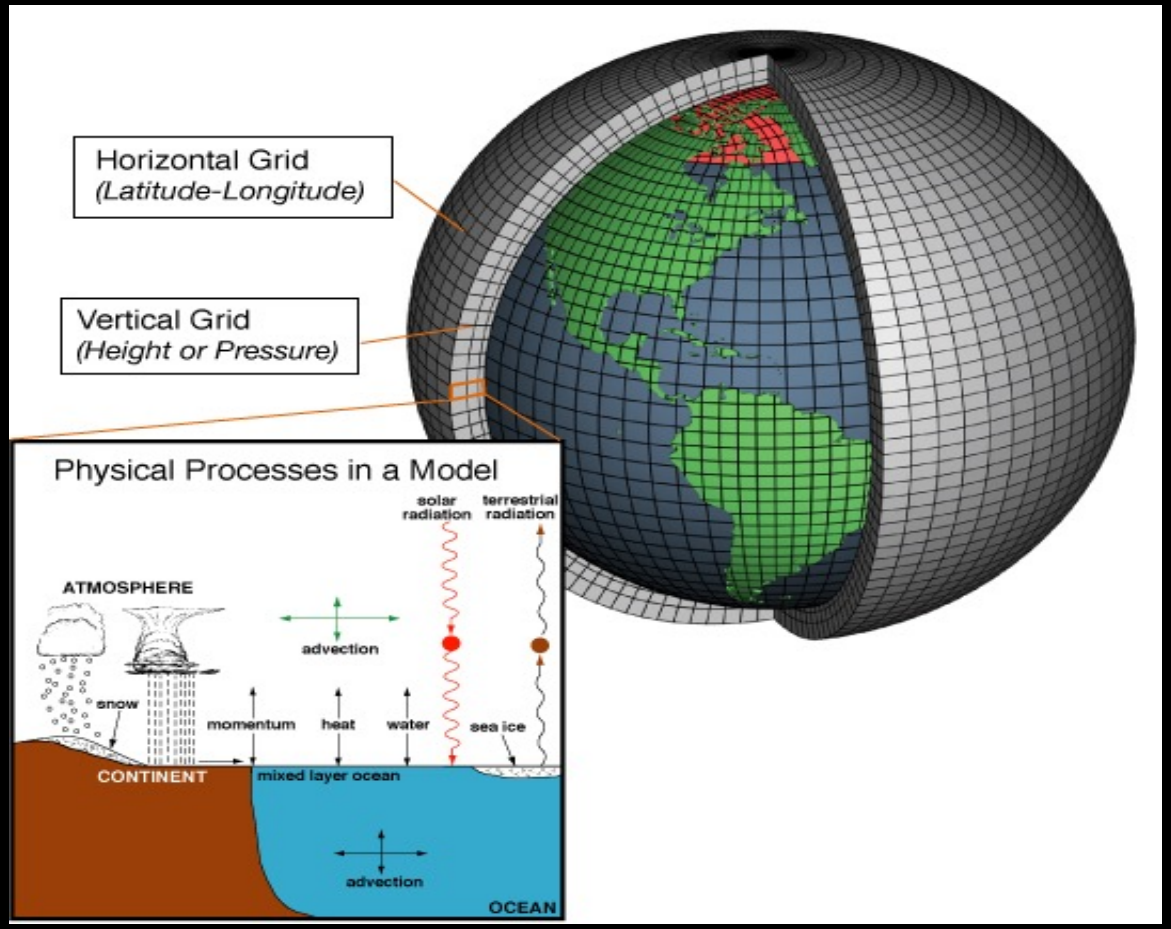


FIG. 1. Ocean-continent configuration of the model.

The climate computer models

- Cell size is getting progressively smaller but there are limits to cell size
  - A small cell box of one cubic km is impossible

A computer model run-time on one cubic km grids would take millions of years!!



The climate computer models have to be tuned

But tuning only makes a climate computer model look right!

Tuning produces an artificial agreement between non-linear variables!

The heart of climate model land
The Equilibrium Climate Sensitivity Index

Jule Charney – MIT (1979)

The famous meeting of the American Academy of Science in 1979
The meeting looked at the main factors driving climate models
The group defined the Equilibrium Climate Sensitivity Index (ECS)
The ECS was a range of temperature rises from a doubling of carbon dioxide levels
The 4 key factors of the ECS are STILL central in each IPCC report
The ECS has been between 1.5ºC - 4ºC but for some now is *2ºC* - 5ºC

Key Factors in the ECS

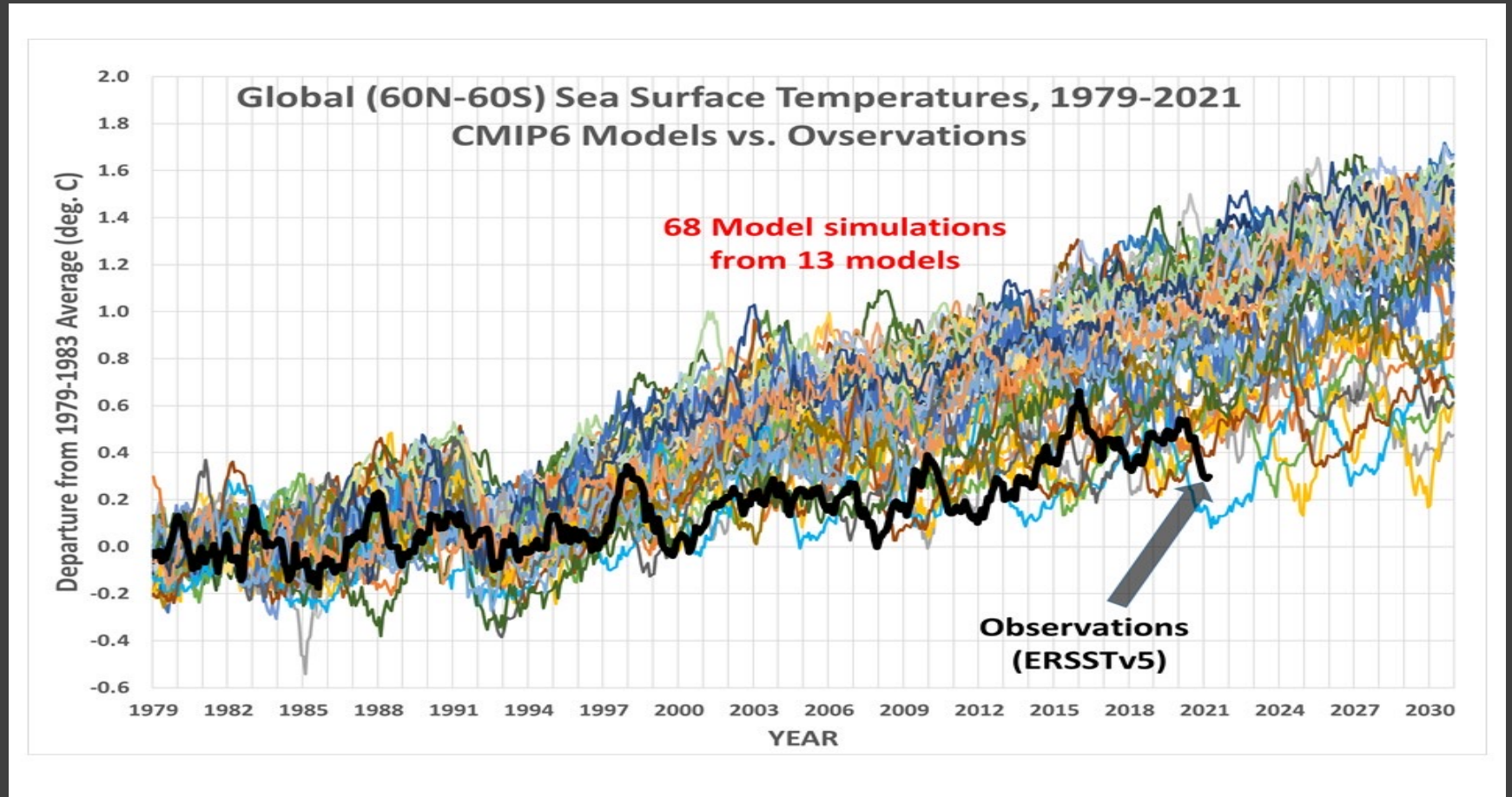
1. Carbon dioxide levels
2. The reflectivity of the Earth (Albedo)
3. The amount of water vapour in the air
4. The role of clouds

Sea surface temperature predictions versus real data

(Professor Roy Spencer - University of Huntsville, Alabama)

Since 1999 the sea surface temperatures have been recorded by 4000 drifting Argo buoys

The models are on steroids there cannot be a high ECS

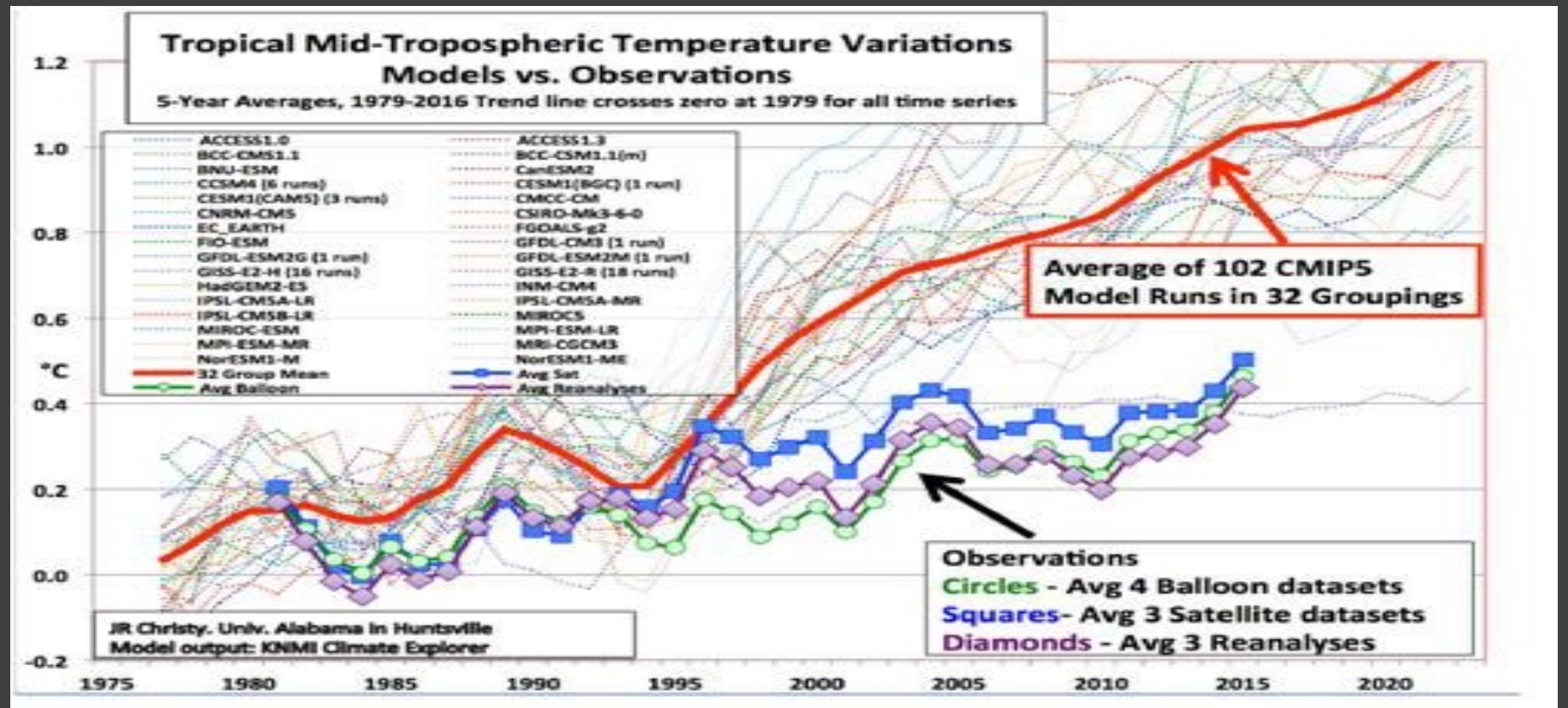


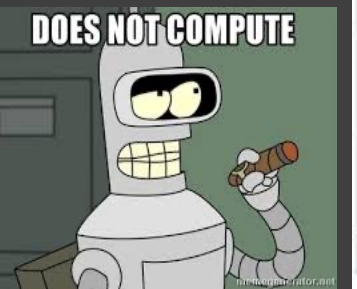
The atmospheric temperature predictions of 102 computer climate models compared to actual atmospheric temperature datasets from satellites & balloons

(Professor John Christy - University of Huntsville, Alabama)

NASA satellite atmospheric temperature data – 1979-2016
Worldwide balloon atmospheric temperature data – 1979-2016

The models are on steroids there cannot be a high ECS

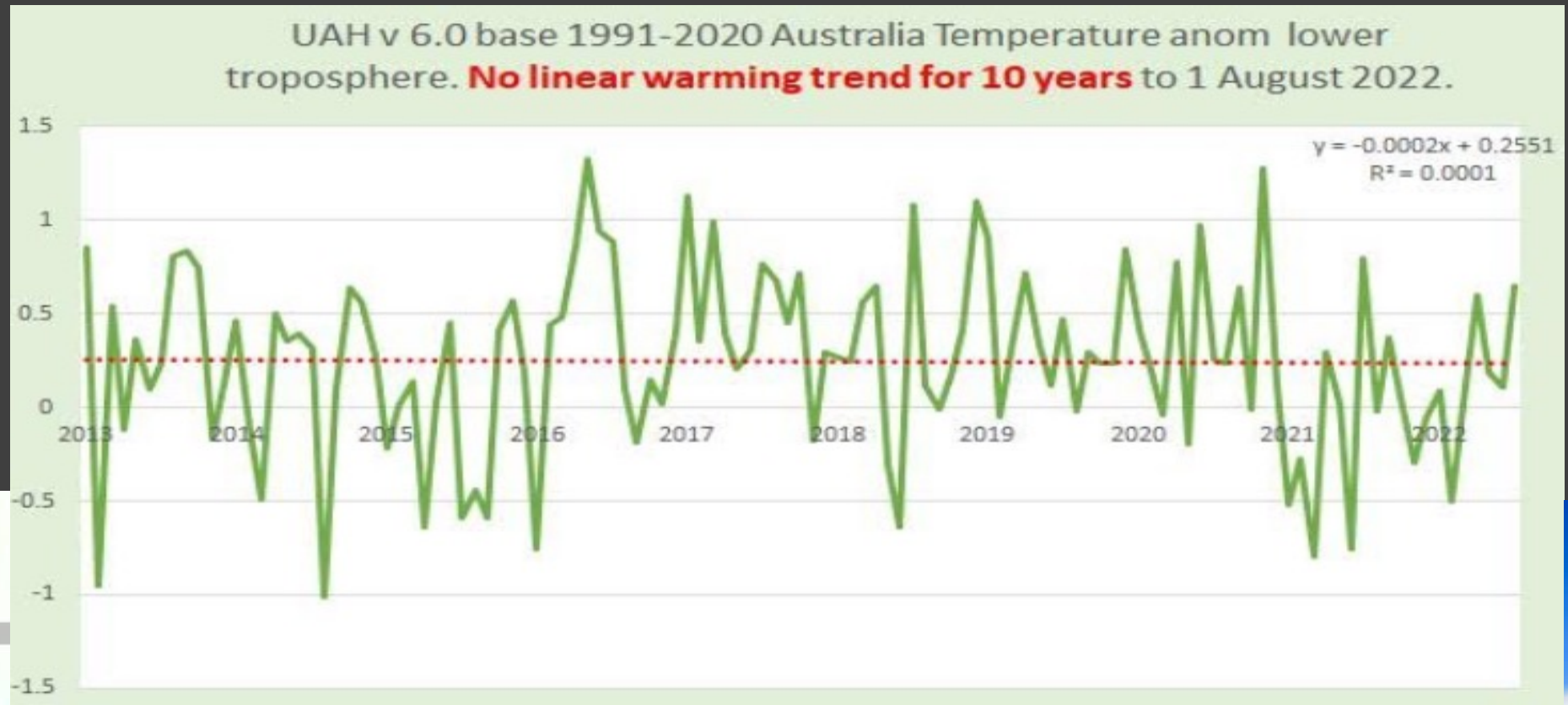




Oh ~ and by the way – just to finish off!

NASA satellites show no increase in Australian atmospheric temperatures since 2013!!

Data from the NASA temperature database- University of Huntsville
January 2013- August 2022



So much unsettling caused by climate model land!!

Significant beach movement cycles are occurring but show no evidence of significant sea level rise

There is a worldwide linear sea level rise trend but no acceleration of that sea level rise

Dramatic sea level rise predictions for this century do not make sense

Carbon dioxide and temperature do not dance together

Increases in atmospheric carbon dioxide from present levels will not do much more warming

Storms are not getting worse nor more frequent

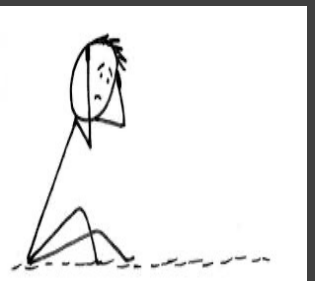
Our present Australian weather is not unprecedented

Australian average atmospheric temperatures have not increased in the last decade

Climate computer models are on steroids and their predictions do not approximate real data

The present reliance on climate computer models as predictive tools is misplaced and dangerous

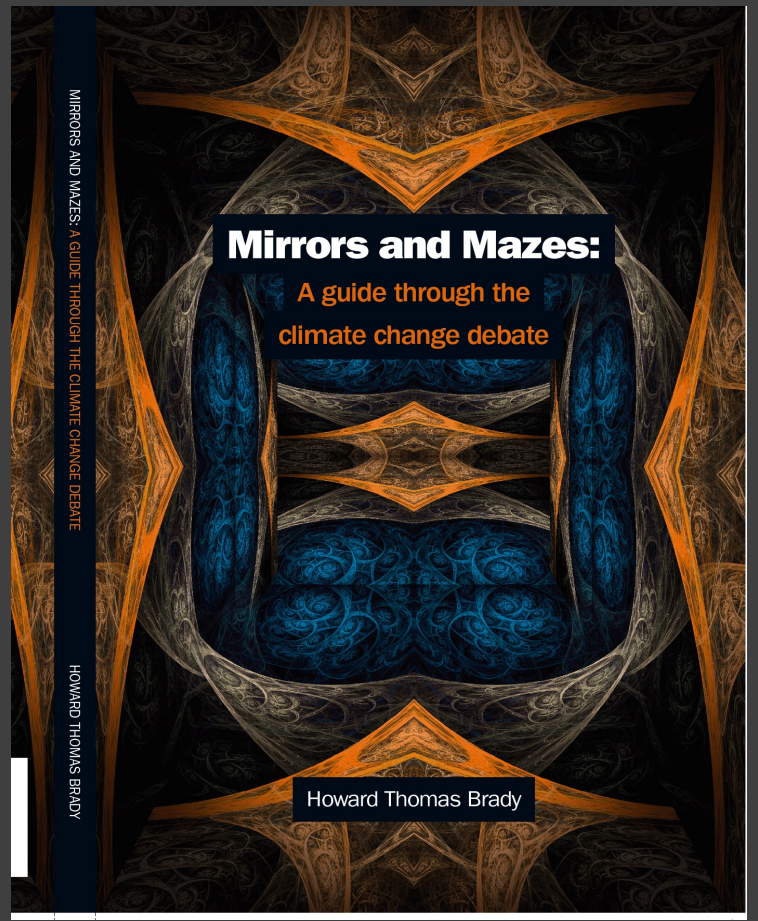
It is not a time to scream in panic



The results of all this unsettling!

A book is born

A new edition would stress even more
that increasing C02 levels are beneficial and pose no danger to mankind



The thrill of printing

The hassle of posting!!

The book is available for $25.00 at www.mirrorsandmazes.com.au

PROBLEMS IN CLIMATE SCIENCE

A destructive trail left by climate models

Presentation

to

The Petroleum Exploration Society of Australia

Dr Howard Brady

Boutique Hotel, Sydney 13 the September 2022