

**Review: John Abbott et al., *Climate Change-The Facts 2017*,
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Pages: 380

The Facts Still Don't Matter

Fast forward two-and-a-half years from *Climate Change-The Facts 2014*, and the religious fervour over global warming surprisingly seems worse than ever.

Since interpretation of the facts (i.e., only a three percent scientific consensus, broken climate models, an eighteen-year warming 'pause', Michael Mann's fraudulent hockey-stick graph, expanding arctic ice, millimetre sea-level rises, flourishing Great Barrier Reef, etc.) falsifies the whole Catastrophic Anthropogenic Global Warming (CAGW) artifice, religious forces have opted to create a 'post-science' world.

Once again, over twenty one short chapters, twenty-three contributors combine to debunk CAGW, this time with specialised attention given to topics such as reef biology, fraudulent weather station measurements, and recent satellite monitoring.

The information on coral biology is very interesting, how organisms have a wide pH-level adaption of 7.5 to 9.

Clive Jame's closing chapter is quite prophetic; CAGW proponents, attached to the twin teats of pride and government funding will prefer death rather than admit error.

The loss of one star is again due to frequent reference to the religion of evolution. Ian Plimer is again wheeled out as its

promoter, this time retreating to his unassailable ‘fortress’ of the geologic timescale (the Phanerozoic epoch and its ice ages).

While Plimer would in no wise trust climate modelling a hundred years into the future, by divine fiat he claims the earth is precisely 4,567 million years old, there was no oxygen until ~2.2B years ago, and all the water (~1.4T km³) had already hitched a ride from asteroids (notwithstanding the water on earth has been proven alien to that sampled on asteroids!).

His sole reference is a 1978 paper by M Hart; supposedly when earth was finally in its elliptical form, the atmosphere was 35% CO₂, 55% CH₄, and about 10% N₂.

He is right in one respect though, in the past, before Noah’s flood (which for example buried and instantly fossilised all the carboniferous matter we are now mining out of rocks, carved out the Grand Canyon, and created cross-continental sandstone and limestone rock layers), the atmospheric ¹²C content was much higher. This high CO₂ ppm caused life to flourish.

Plimer concludes by refuting his field of geology with the reversal of Charles Lyell’s sacred dogma that ‘the present is key to the past’. Nowadays, the ‘past is key to the present’, although one shouldn’t ask what magic tools he uses in the present to know the past.

Given evolution in all its forms (cosmic, geologic, and biologic) is fraudulent and inherently unfalsifiable, attempting to use it to refute another unfalsifiable theory (CAGW) is folly. Both edifices of non-science will eventually collapse; only if one gambles that evolution will survive longer will it be useful in contributing to CAGW’s demise.

Introduction (pp. 1-7)

In less than twenty years, the number of published papers on ocean acidification has increased to 800 p.a. Assumed pH reduction are from computer simulations, and some might have even added HCl to their experiments!

Some CAGW sceptics consider homogenisation techniques as unscientific; others that only a focus on the satellite data is necessary (records, however, only begin in 1979).

D) The Extraordinary Resilience of Great Barrier Reef Corals, and Problems with Policy Science (pp. 9-23)

There is a claimed imminent peril faced by the Great Barrier Reef.

Every decade abnormally high seawater temperatures can cause corals to bleach, as corals expel their symbiotic algae (*zooxanthellae*) that generate (via photosynthesis) their required energy.

Zooxanthellae live inside individual coral polyps (a few millimetres in width) which make the CaCO₃ structures of the animal. Once coral consists of millions of polyps. Hotter seawater makes the algae poisonous to the coral; it begins to run low on energy and turn white, dying up to a month afterwards.

Scientists erroneously believe mass bleaching did not occur before 1970s as a hundred years ago the reef was 0.5-1°C cooler.

Most coral also live closer to the equator where the water temperature reaches 29°C.

Corals have the remarkable ability to select a ratio of high-growth/high-sensitive to low-growth/low-sensitive symbionts. However, if the former and temperatures rise they will die.

Coral spawn also drift hundreds of kilometres and so must be able to cope with large temperature variability.

Most bleached corals fully recover in time.

Sir Charles Maurice Young discovered the first bleaching in 1930, and there are twenty-six recorded events before 1982.

In the 1960s, the Crown-of-Thorns-Starfish (COTS) threat was born. Reefs also recover from these.

Mass spawning of floating white-pink eggs and sperm across 2,000km of reef occur annually late in the year after a full moon. This was not discovered until the 1980s.

CO₂ lowers ocean water's pH of eight. Claims of a 15% drop in calcification rates from 1990 to 2005 have been attributed to CO₂.

The Australian Institute of Marine Science has monitored the last few hundred years of calcification changes by drilling three hundred coral samples. They consistently reduced the depth of the surface layer to exaggerate carbonate loss! There was also an 'age effect' where a large coral sample from the 1980s was spliced with a smaller one from the early 2000s.

Since the 1940s there has actually been a 10% increase in calcification rates.

Australian governments will spend over a billion dollars on the reef in the next few years!

Medicine Professor John Ioannidis (2014) estimates 85% of science resources are wasted due to exaggerated findings.

Dr John Horton (editor of *The Lancet*) says that over half the scientific literature may simply be untrue.

There are now calls for ‘organised scepticism’ in reef studies.

II) Ocean Acidification: Not Yet a Catastrophe for the Great Barrier Reef (pp. 24-38)

CO₂ uptake can imbalance inorganic chemicals, in turn affecting photosynthesis and reef calcification rates.

Acidification has been termed ‘the evil twin of global warming’ and from 2000-2015 over 4,000 articles have been published on the subject.

CO₂ is present at 400ppm and has been measured at an observatory in Hawaii since 1959 (when it was 312ppm). Pre-industrial levels were estimated at 280ppm.

Higher atmospheric CO₂ flows into the ocean and becomes CO₂ (aq.), CO₃²⁻ ions, or HCO₃⁻ ions. A small amount becomes H₂CO₃. These reactions liberate H⁺ ions which decrease pH.

Calcification is controlled by interaction of Ca²⁺ (aq.) and carbonate ions. Carbonate saturation is called Ω. If it falls below one the carbonate (aragonite or calcite) dissolves.

Atmospheric CO₂ resides about a year [seven?] before entering the ocean.

The ocean has three layers: upper, mixed, and deep. CO₂ can reach the deep over millennial timescales.

Some reefs go from 9.4 pH during the day to 7.5pH at night.

Ocean water pH is estimated using boron isotopes and over the last three centuries is thought to range from 7.9 to 8.2 in the reef.

The Great Barrier Reef has 2,900 individual reefs and 900 islands stretching across 2,300kms.

Catastrophic warnings come under six main headings: publication bias; relevant timescales and exposure levels; extrapolating single organisms to ecosystems; considering CO₂ and pH variability (ambient 400-450ppm, moderate 550-600ppm, high 900-1200ppm); extrapolating from the laboratory (Free-Ocean CO₂ Enrichment [FOCE] is a high-tech *in situ* acidification experimental protocol); methodological issues.

True acidification (i.e. pH under 7) is impossible due to the ocean's limitless buffering capacity.

III) Understanding Climate Change in Terms of Natural Variability (pp. 39-58)

Natural climate has cycles, spanning 9.1, 10.5, 20, 60, 115, 900-1000, and 2,100-2,500 ('Hallstatt oscillation') years related to solar luminosity variations and tidal effects, and gravitational and electromagnetic heliosphere oscillations.

Electromagnetic forcing regulates cosmic ray flux and dust.

CIMP5 is "Coupled Model Intercomparison Project Phase 5 General Circulation".

GCM forcing functions rely on CO₂ and CH₄, volcanic aerosols, land use changes, and solar irradiance. Water vapour is missing!

Albedo is the solar energy proportion reflected back into space and is increased by clouds.

GCM over-sensitivity is on average 1.5°C.

The 9th to 14thC was the Medieval Warm Period, and 5th to 8th Dark Age and 14th-18thC Little Ice Age were cooling periods.

60-year observed oscillations include the Atlantic Multidecadal Oscillation (AMO), Pacific Decadal Oscillation (PDO), and North Atlantic Oscillation (NAO).

Half the 1970-2000 warming is attributable to 20 and 60-year oscillating cycles due to the combined orbits of Jupiter and Saturn.

The eleven-year sunspot cycle has three oscillations: 11-yr between a 9.93 Jupiter-Saturn spring, and 11.86 Jupiter orbital.

IV) Understanding Climate Change in Terms of Natural Variability (pp. 59-74)

The moon drives deep ocean currents, which in turn set wind direction, anticyclones and depressions. It also causes pressure changes, creates volcanoes, earthquakes, and tornadoes.

The three cycles are phase, perigee, and declination.

Phase takes 29.5 days and is a product of the changing angle of the sun's illumination on the moon's surface. Before the full-moon, the left side of the moon is towards the sun (lit) for southern hemisphere viewers.

At new-moon, the moon is between the earth and sun (so little moon-light is reflected to earth and it is small), and at full moon the earth is between the moon and sun. In both cases this alignment causes more gravitation.

The moon rises ~fifty minutes later each day.

Rain is more likely when no moon is in view and new moons are usually very dry.

During last quarter the moon rises at midnight and sets at noon.

The perigee cycle is 27.5 days. The elliptic orbit is slower on the longer than the shorter axis. Perigee increases wave and sea turbulence (~20%) and soil germination electrical effects. A total perigee cycle is 8.85 years.

A cyclone requires a sea temperature of ~28° to form.

Apogee comes two weeks after perigee and this maximum distance is 50,000km. Apogees reduce winds.

Declination is a 27.3 day period. This happens as the earth is tilted 21-23° on its axis which the moon crosses. This moves huge volumes of water across the equator and helps circulate warm air. Of each cycle, declination has the greatest impact on weather.

It changes slowly over 18.6 years.

A new moon raises oxygen levels to higher altitudes and is the best time to climb mountains.

The Moon has nineteen-year “Metonic” cycles, which many cultures noticed (e.g. Stonehenge has the number nineteen designed in it).

The moon causes the atmosphere itself to rise (perigee) and fall (apogee) ~25% via atmospheric tides. It increases the volume of air beneath it which acts as insulation.

Pressure falls within two days of the lunar equinox.

The Greeks had a nineteen-year Metonic cycle.

Ancient stone circles may have been long-range weather calculations.

Weather systems advance in an easterly direction.

V) Creating a False Warming Signal in the US Temperature Record (pp. 75-91)

There is no universally-accepted definition for the Earth's average temperature.

UHI is the Urban Heat Island effect due to daytime solar radiation retention in concrete, brick, and asphalt.

Thousands of daily high and low temperature readings are taken around the world and submitted to a database.

NOAA's 'homogeneity algorithm' smoothed stations by the single 'pristine' Mohonk station.

GISS (Goddard Institute for Space Studies) consist of the daily maximum temperature, and daily minimum. Most trending occurs in the overnight minimums, and minimums are most affected by the UHI.

Missing temperature data is often 'infilled'.

Homogenisation has created an inflated long-term temperature.

VI) It Was Hot in the USA - in the 1930s (pp. 92-100)

GISS publishes continental temperature charts.

In 2012, 49 former NASA employees protested to NASA on its CAGW advocacy and close relationship with GISS.

The USHCN (US Historical Climatology Network) consists of 1,200 thermometers which record daily minimum and maximum temperatures. The NCDC (National Climate Data Centre), a subsidiary of NOAA, compiles this. NOAA adjusts the data and passes it to GISS, which is entered in a global database to be used by the UN's IPCC.

Time Of Observation afternoon reset adjustments used to double count hot days.

Since 1935, average days reaching 35°C has halved, and during the 1930s, 7% of readings were over this, in 1960 it dropped to 5%.

Record changes deny the hot years in the 1930s.

VII) Taking Melbourne's Temperature (pp. 101-116)

The Australian Bureau of Meteorology adjusts Australian Climate Observation Reference Network-Surface Air Temperature (ACORN-SAT) official records.

Melbourne's temperature record stretched from 1856 to the present. Due to the 1850s gold rush it could afford its own observatory and the Great Melbourne Telescope.

An AWS is an Automatic Weather Station which utilises a temperature-sensitive electrical resistance or *thermistor*.

Maximums are measured when the atmosphere should be well mixed; in summer there is about fourteen hours of solar radiation to reach this.

The Chow Break Test is whether a single time series is better considered as two independent ones.

The 1996 break is likely due to construction of very tall buildings across the road which blocked cooling winds.

Weather station box screening could increase temperature by 1°C for a 10m-high shelter enclosure.

From 1944, while Melbourne has increased by 2°C, Laverton 20km south-west only rose 1°C.

VIII) Mysterious Revisions to Australia's Long Hot History (pp. 117-131)

ABM maps of the eastern Gibson display temperatures during WWI even though the first thermometers were placed there in the 1950s!

There are a thousand days where the coldest point of the day was warmer than the hottest.

Electronic sensors can pick up higher temperatures than Hg or Pb.

The ABM has a \$340m budget.

Thermometers accurate to 0.1 degree were getting two-degree adjustments.

Temperatures above 50°C have been recorded in most states.

Thermometers were invented 400 years ago. Stevenson Screens which housed them were rolled out in Australia from 1889.

The ABM changed the hottest day on record +7°C to 51°C in Albany in 1933.

The ABM cannot fully describe its method.

IX) The Homogenisation of Rutherglen (pp. 132-146)

Rutherglen is part of ACORN-SAT and had a Stevenson Screen since 1912. Its 0.3°C per century was changed to a 1.6°C warming.

Lower rainfall results in higher temperatures.

The ABM subtracted 0.61°C from all temperature minima at Rutherglen from inception to 1/1/1974, and 0.72°C from then to 1/1/1966.

It would be absurd to change the 'in-control' Rutherglen based on 'out-of-control' Beechworth station.

The ABM does not use control charts to locate discontinuities, does not use satellite measurements, and relies on ACORN-SAT (112 stations of which 109 are being homogenised).

X) Moving in Unison: Maximum Temperatures From Victoria, Australia (pp. 147-162)

Usually a simple average is taken of the maxima and minima.

The Great Federation Drought was 1895-1902.

Any trend is sensitive to the series start date.

Cooling since 1980 is a result of adding the alpine data series.

XI) A Brief Review of the Sun-Climate Connection, With a New Insight Concerning Water Vapour (pp. 163-177)

TSR is Total Solar Radiance.

The idea more sunspots lead to a dimmer sun is now rejected.

Solar forcing and climate response are non-stationary and non-linear in nature.

Cosmic rays are important.

Sulphuric acid biogenic emissions are particles >1.7 nanometres.

Total atmospheric H₂O vapour is not measurable for the past hundred years.

TSR-induced changes on surface heat amplified by water vapour best explain the climate record.

XII) The Advantages of Satellite-Based Regional and Global Temperature Monitoring (pp. 178-188)

Regional and global temperatures are monitored in three ways:

- i. Surface-based thermistors.
- ii. Radiosondes (weather balloons).
- iii. Satellites.

Radiosondes have been operating since the 1950s.

Satellites have been measuring temperature since 1979 (using microwave radiometers that measure thermal emission of microwave energy by oxygen. Microwave energy is directly proportional to air temperature.

Only a dozen monitoring satellites are active, each one measuring average temperature of 25,000km³ of atmosphere every 0.05s. They have 98% coverage due do difficulties measuring the poles.

Satellite measurements are adjusted for the 2.7°K CMB. They can measure from the surface up to 10km altitude.

Since 1979 there has been a +0.14°C warming trend per decade.

Of the 102 climate models, 95-97% have overestimated the warming trend.

XIII) Carbon Dioxide and Plant Growth (pp. 189-200)

If current fuel consumption trends continue atmospheric CO₂ concentration may reach 800ppm by 2100.

A 300 ppm CO₂ increase raises herbaceous plant yields by 33%. It has a positive response in all three major biochemical pathways of photosynthesis (C₃, C₄, and CAM).

Higher CO₂ also reduces plants' rate of water loss by transpiration, greatly increasing their ability to withstand draught. With fewer stomatal openings, plants are less susceptible to damage by noxious air pollutants.

Optimum growing temperature rises when air is enriched with CO₂.

95% of plants are of the C₃ photosynthetic variety.

CO₂ is the elixir of life.

XIV) The Poor Are Carrying the Cost of Today's Climate Policy (pp. 201-215)

California had a forced sterilisation program in the 1920s, India a partial one in the 1960s, and China a one-child policy in the 1980s.

Ethanol has displaced 0.5% of world oil use yet in requires 5% of the world's grain crop. This is one of the causes of the spike in food prices in 2008.

Diesel engines emit less CO₂ but more nitrous oxides. In 2012, there were 5,000 deaths caused by these emissions.

Burning wood produces more CO₂ than burning coal.

A wind turbine is a 120m steel tower with reinforced concrete bases equipped with electric dynamos. These dynamos utilise two-tonne magnets which are 50% rare earth metals, usually neodymium. Rare earths are mined in China with toxic and radioactive by products.

Turbines also kill thousands of birds of prey.

Farmers cover good agricultural land with solar farms.

Britain's climate policies are on track to reach £1.8T.

Satellites suggest global sea levels are rising at 34cm per century.

XV) The Impact and Cost of the 2015 Paris Climate Summit, With a Focus on US Policies (pp. 216-234)

Paris promises from 2016-2030 will reduce the temperature increase in 2100 by 0.05°C.

China was burning 17% more coal per annum than was thought.

Almost every nation has signed up to reduce temperature increases to 2°C.

The most likely global cost estimate is USD1.8T p.a.

XVI) Re-Examining Papal Energy Climate Ethics (pp. 235-250)

Climate alarmists dominated the Vatican's 2015 climate workshop.

Nearly all of the Chicago-based Heartland Institute are Roman Catholic.

Developing countries supported the Paris agreement as they have no reduction targets, and get free climate ‘reparations’ and new technologies.

XVII) Free Speech and Climate Change (pp. 251-267)

The Mann case established that official scientific bodies can quash dissent by effectively declaring research unimpeachable.

Australian academics believe “There is some merit in the idea of a ruling class of philosopher kings...people of high intellect and moral virtue.”

XVIII) The Lukewarm Paradigm and Funding of Science (pp. 268-281)

Surface warming theory from increasing gases requires a compensatory drop in stratospheric temperatures.

The IPCC says lack of warming may be due to sulphate concentration increase which are a byproduct of coal combustion. These scatter light and increase the Earth’s albedo (radiation reflection).

Maximum albedo estimates are 0.4°C but the IPCC models use 0.8°C.

In the US academic structure revolves around graduate school, with five years required to achieve the first ‘tenure track’ position as assistant professor. It takes about USD5M of federal government grant money in funds to receive tenure. This causes publication bias.

In 2012, Daniele Fanelli wrote “Negative Results are Disappearing From Most Disciplines and Countries” based on a sample of 5,000 published papers.

If an international team of scientists invites an American onboard the positive result probability doubles.

XIX) The Contribution of Carbon Dioxide to Global Warming
(pp. 282-296)

Since the earth is much cooler than the sun it radiates longer wavelengths, mostly in the infrared range. Some of this radiation escapes while some is absorbed and re-emitted by greenhouse gases.

The CO₂ spectrum is dominated by bending vibrations centred at 667 cm⁻¹ and anti-symmetrical stretching at 2,349 cm⁻¹.

H₂O vapour, CH₄, NO₃, and O₃ are all greenhouse gases.

Simpler diatomic molecular structures like N₂ and O₂ do not provide for polarisation at infrared wavelengths which preclude radiation interaction from the earth's surface, thus they are not greenhouse gases.

Arrhenius in 1896 said at atmospheric CO₂ doubling would raise global temperatures by 5 to 6°C.

In 1988, James Henses claimed a doubling would cause a 4.2°C rise.

H₂O vapour is excluded from IPCC models which has tremendous variability.

No natural greenhouse gases have the right spectral bands to capture all infrared radiation.

All ground radiation is locked within a 100m altitude.

In 2013, German physicist Professor Alfred Laubreau reported spectroscopic pure CO₂ measurements from 290ppm to 385ppm and yielded a 0.26°C attribution to CO₂.

Controlled experimentation would involve building an enclosed experimental system 100m high.

XX) Carbon Dioxide and the Evolution of the Earth's Atmosphere (pp. 297-305)

Natural emissions come from oceanic and mantle degassing via submarine volcanoes, mid-ocean ridge volcanicity and ocean floor fractures.

Oceans remove CO₂ from the atmosphere where it has a lifespan of about seven years.

Given CAGW, there should have been no cooling and warming cycles prior to the Industrial Revolution.

Air temperature rises do not always translate into melting ice.

XXI) The Geological Context of Natural Climate Change (pp. 306-319)

XXII) Mass Death Dies Hard (pp. 320-335)

Prime Minister Julia Gillard is a retired CAGW prophet who bought a house near the beach!

Chris Turney is Professor of Earth Sciences.

The print media are on their way down the drain.