

SEA ICE: AN OPEN LETTER TO JEREMY PAXMAN OF THE BBC

by Christopher Monckton of Brenchley



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Dear Mr. Paxman,

Your *Newsnight* segment on Arctic sea ice (BBC2 TV, 8 September 2012) featured a “scientist” who said ice loss since a high point in 1979 would cut the Earth’s albedo and, by this feedback, cause warming equivalent to 20 years’ global CO₂ emissions.

On the IPCC’s current central climate-sensitivity estimates, 20 years’ CO₂ emissions would only warm the Earth by ¼ C°. But since the IPCC’s first projections in 1990, temperature has risen only half as fast as predicted: so make that just ⅛ C°.

The glaciologist the programme relied on got the math wrong. Ignoring the growth in Antarctic sea ice since 1979, as the programme unwisely did, the loss of 2.5 million km² of Arctic sea ice (measured as the linear trend on the NSIDC data) will warm the Earth by only 1/20 C°, and only then if the ice loss is permanent. Halve that to allow for the compensating effect of record Antarctic sea-ice growth: say, 1/40 C° of global warming, equivalent to just 2 years’ CO₂ emissions on the IPCC’s current projections, not 20 years’ emissions. The math is below.

Some relevant points your programme did not make:

✓ The NOAA’s *State of the Climate* report in 2008 said that 15 years without warming would indicate a discrepancy between the models’ predictions and observed reality. *There has been no global warming for 15 years.*

✓ The decline in Arctic sea ice extent this summer cannot have been chiefly attributable to manmade global warming because for a decade and a half there has not been any.

✓ Arctic climate is notoriously variable.

✓ This year’s exceptional ice loss is known to have had two natural causes: poleward winds and currents, and a major Arctic storm just weeks ago. The storm’s combined strength and timing broke up the ice much more quickly than usual.

✓ In 1922, the US Weather Service reported a record low sea-ice extent in the Arctic (though the complete coverage that satellites provide was not then available).

✓ Arctic sea-ice extent in the 1930s and in the late 1950s may have been less than today.

- ✓ Even if the sea ice in the Arctic were all to melt, sea level would not rise. Loss of land-based ice might raise sea level, but not by much. The IPCC says it would take several millennia of temperatures at least 2 Celsius degrees above today's to raise sea level by the 20 feet predicted in Al Gore's sci-fi movie.
- ✓ According to the eight years' well-calibrated data from the Envisat satellite, from 2004-2012, sea level rose at a rate equivalent to just 1.3 inches per century, compared with an estimated 8 inches in the 20th century.
- ✓ Sea-level rise has been at a near-standstill despite the recent loss of Arctic sea-ice.
- ✓ The mean thickness of Greenland's land-based ice increased by 2 feet from 1992-2003, but – indicating the variability of the Arctic climate – about six inches of that has returned to the oceans since then. The 273 billion tons of ice returning to the oceans caused sea level to rise by just 1/36 in.
- ✓ Antarctic sea ice has risen to a record high extent this month.

The BBC journalists' pension fund is very heavily invested in "green" "technologies" whose profitability is absolutely dependent upon maintenance of subsidies arising from the "global warming" scare. Therefore, the BBC has a particular duty of care to avoid committing financial-services fraud. In future it must give the facts on both sides of climate science, not just the profitably inaccurate side from which its journalists benefit. Otherwise the Serious Fraud Office will be on your case.

Monckton of Brenchley

The Math:

20 years' CO₂-driven warming, on IPCC's central CO₂-concentration projection for 2012 and 2052 (2007, Table 10.26), is $0.35[5.35 \ln(450.1 / 392.5)] = 0.26$ K.

Arctic sea-ice decline since 1979 is 2.5 Gm² from the high of 8.5 Gm² to the low of 6 million Gm² on the least-squares trend-line of the NSIDC sea-ice extent data.

Earth's surface area is $4\pi(6378^2 \text{ km}) = 511.2 \text{ Gm}^2$. Generously assume 30% of this, or 153.4 Gm², including the Arctic ice-cap, has 100% albedo. Then the maximum fraction of the Earth's albedo diminished by ice loss is $2.5 / 153.4 = 1.63\%$.

But high-Arctic sunlight is only one-quarter as powerful as mean sunlight incident upon the Earth: so divide by 4. Also, summer ice loss endures for at most 3 months, or half of the Arctic daylight period: so divide by 2. Thus, the decline in albedo is $1.63\% / 8 = 0.20\%$.

Global albedo is 0.30, so 0.20% of this 0.30 is 0.0006, which, deducted from the current albedo of 0.30, gives the new albedo of 0.2994.

Then, at previous albedo: $[(1 - 0.3000)(1362 / 4) / (5.67 \times 10^{-8})]^{0.25} = 254.63 \text{ K};$

and at new albedo: $[(1 - 0.2994)(1362 / 4) / (5.67 \times 10^{-8})]^{0.25} = 254.68 \text{ K}.$

Broadly speaking, any change in mid-troposphere temperature will also occur at the surface: thus, surface temperature would rise by the difference between the two above values: i.e., 0.05 K or C°. Antarctic sea ice has grown by half as much as Arctic sea ice has declined, so, taking that into account, warming caused by the lower albedo from the net change in global sea ice is just 0.025 K or C°.

That is equivalent to little more than two years' CO₂-driven warming at the IPCC's currently-predicted warming rate, because $0.33[5.35 \ln(397.5 / 392.5)] = 0.022 \text{ K}.$

Doing the math puts the supposed problem in perspective. The loss of sea-ice in the Arctic, half of it offset by sea-ice growth in the Antarctic, will not warm the Earth by anything like enough to cause concern, and it will have no effect at all on sea level.



Cover photo of sea ice provided by Microsoft.



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