

Interactive comment on “Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modeling, and modern observations that 2 °C global warming is highly dangerous” by J. Hansen et al.

C. Holley

charlesholley@gmail.com

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Swedan continues to show his lack of credibility as a legitimate reviewer. His comments show a total lack of expertise in the subject of heat transfer. Sadly, he is once again so wrong that it is hardly worth anyone’s time to bother to refute his statements.

Radiative forcing is defined as the difference of insolation (sunlight) absorbed by the Earth and the heat energy re-radiated back to space. It most certainly exists and can easily be measured by satellites. All objects above absolute zero radiate heat

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energy and only those objects in contact with that object that are 100% opaque to the wavelengths of that radiation can block the radiant transfer of heat from the object. Of course, the atmosphere is not 100% opaque to the heat that is radiated from the earth’s surface and thus radiation through the atmosphere readily occurs with CO₂ and other greenhouse gases absorbing a portion of that radiation. Back radiation from greenhouse gases most certainly exists in the real world and has been measured at the surface and from space via satellites. Climate science most certainly does not treat the physics of radiative heat transfer any different than engineering or other sciences.

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 20059, 2015.