

Sophie's Planet #12: Eunice Foote, Bert Bolin, Ozone & the Greenhouse

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Thanks to all who have provided many useful comments on the first 18 chapters of *Sophie's Planet*. In cases where substantial corrections or changes ensued, I replaced the chapter on my website, labeled with the new date. The current first 18 chapters are available as a set [here](#), but there will no doubt be additional changes and edits. The biggest changes are:

Eunice Foote: I was entirely unaware of the story of this remarkable amateur scientist, which suggests how isolated I have been while finishing this book. It seems that there were widespread newspaper reports, but all of them that I have now seen butcher the science badly. I have added half a page – more than a page, including footnotes – but no photo of her is available.

Bert Bolin: Ralph Keeling pointed out the paper by Bolin and Eriksson in the Rossby volume. Their paper explains the curious statement in the abstract of the famous Revelle and Suess paper; it seems Revelle and Suess did not initially appreciate the full significance of the buffering effect that they reported. When the ocean is treated as two layers, the upper 100 meter mixed layer and the deeper ocean, the long delay for human emissions of CO₂ to enter the ocean becomes clear.

Ozone: the brief introductory comments on ozone in Chapter 12 were too brief for proper credit, so that has been slightly expanded, with photos.

Greenhouse effect: many had trouble with my explanation, so I tried again in Chapter 10.

I recently opened a Twitter account @DrJamesEHansen, (<https://twitter.com/drjamesehansen>).

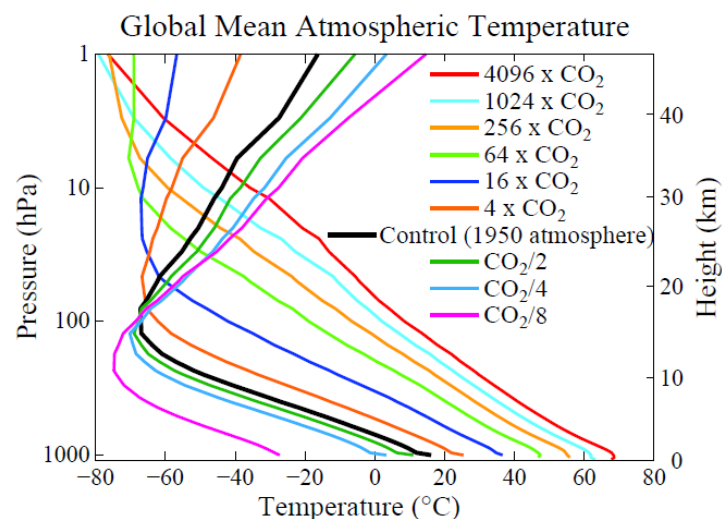


Fig. 10.2. Global mean temperature profile for successive quadruplications (or halving) of CO₂ amount.