

## ***Interactive comment on “Continuous and self-consistent CO<sub>2</sub> and climate records over the past 20 Myrs” by R. S. W. van de Wal et al.***

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Received and published: 6 April 2011

I find the results of this paper to be incredible. When the CO<sub>2</sub> concentration in the atmosphere goes from 278 ppm to 390 ppm,  $\ln(\text{CO}_2/\text{CO}_2\text{-ref})$  is 0.338. According to Figure 5, for this change in CO<sub>2</sub>, the change in NH temperature is 14.8 degrees Celsius. If that were the case, the world should be sweltering today. Furthermore, if CO<sub>2</sub> doubled to 556 ppm, Figure 5 would say that NH temperature would rise by 27.5°C. The slope of the line in Figure 5 is much too high. The forcings due to various levels of CO<sub>2</sub> were estimated by Hansen and Sato (2011) and they are illustrated in my figure attached. While the temperature changes resulting from these forcings remains debatable, there is no way that such changes in CO<sub>2</sub> can produce gigantic temperature changes. Current estimates of the temperature change due to doubling of CO<sub>2</sub> from

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278 ppm to 556 ppm are around 1.2°C without feedbacks.

Hansen, J. and Makiko Sato (2011) "Paleoclimate Implications for Human-Made Climate Change" [http://www.columbia.edu/~jeh1/mailings/2011/20110118\\_MilankovicPaper.pdf](http://www.columbia.edu/~jeh1/mailings/2011/20110118_MilankovicPaper.pdf)

Interactive comment on Clim. Past Discuss., 7, 437, 2011.

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7, C222–C224, 2011

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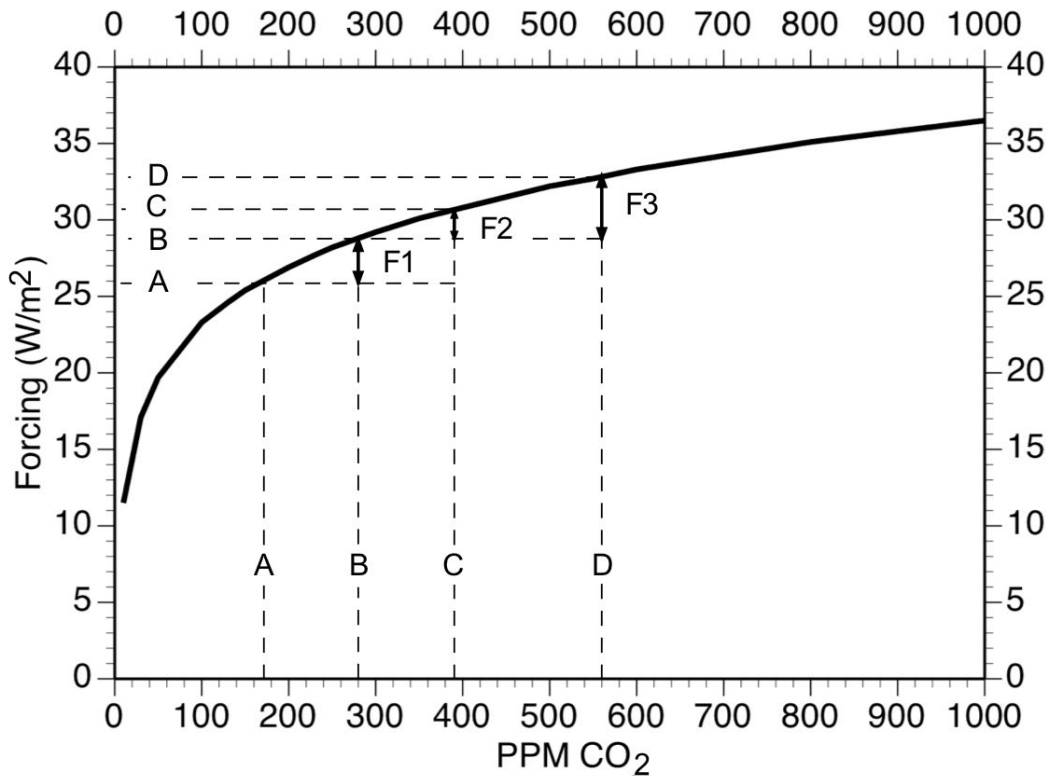
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**Fig. 1.** Forcings due to various levels of CO<sub>2</sub> (Hansen and Sato, 2011)

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