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The effect of the CO₂ and CH₄ increase on the temperature development in the Antarctica and the Arctic atmosphere

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Abstract

In a recent study (6 years ago) we could show that in Antarctica the greenhouse effect for CO₂ is negative. This means, for an increase in CO₂ the atmosphere loses more energy to space than it gets from the emission from the surface. At that time we could not determine where the cooling takes place, and whether the surface also cools. We have now modified our program, and can calculate the radiation and temperature development in the whole atmosphere. Results for Antarctica and the Arctic for an increase in CO₂ and CH₄ will be shown and discussed.