Reply to **Referee #1**

Models of the Earth climate are either simple or complex depending on the number of variables they take into account. If the purpose is to check the impact of global warming on all the climatologic variables, then Global Circulation Models (GCM) are the appropriate models. On the other hand, if that purpose restricts to a single variable as global temperature, T, our simple model seems is competitive. For the case of global temperature the model only needs the radiative balances at the top of the atmosphere together with the global radiative properties of the atmosphere, the albedo and the Earth's greenhouse factor. An additional estimate is needed for the thermal inertia of the Earth, here modeled as an ocean layer of appropriate depth, together with the assumption that latitudinal radiation imbalance is transported along the meridian as any form of enthalpy (the current q) by all the planetary atmospheric and oceanic circulations. In this way there is no need to specify other details, namely the role of transient eddies.

About the more specific comments:

The f_H defined in eq. (5) depends on the latitude θ and is different from the earth–sun view factor f =2.16X10^{-5} (constant) in eqs. 33-37.

In our model, the parameters ρ and γ are global parameters that do not vary with latitude. Our simple model assumes symmetry between the Earth hemispheres. It also assumes that "The surface temperature is quasi-steady: it is averaged over many daily cycles and annual cycles, but it changes slowly with the changes in the radiative properties of the atmosphere" (p. 144). The corollary follows: "symmetry requires dq=dθ= 0 at the equator". In the real Earth this is approximately true, and the error affecting the evaluation of the global temperature is of second order. However, a further improvement of our simple model might account for the asymmetries between the North and South hemispheres. The ranges of possible changes in the abledo and the Earth's greenhouse factor have been considered in cases (A) and (B) to set the range of the scenarios under analysis.