All runs were done with emissions from initial conditions from long preindustrial run (1860 conditions). Provided results are averaged over 10 runs with different IC.

Emissions were calculated from 1% CO2 per year run and are the same in all runs for a given scenario.

Our model calculates CH4 emissions primarily from wetlands. These emissions are taken into account in the simulations and reported as Surface Carbon Mass Flux into the Atmosphere Due to Natural Sources. Since CH4 and CO2 modules of Terrestrial Ecosystem Model use the same carbon pool these emissions are compensated by NBP and net carbon flux in the equilibrium is zero.

Terrestrial Ecosystem Model output only available carbon.

Our ocean model uses flux correction and radiative balance in equilibrium run is not zero. It can be seen from rsdt, rsut and rlut.

Since net radiation on the top of the model and heat flux into the ocean will be, presumably, used to evaluate heat uptake by the earth system, they are provided as a difference from their values in equilibrium control run.

Model’s sensitivity is 3.19K calculated from equilibrium simulation with mixed layer ocean model for doubled CO2. TCR is 1.78K and TCRE 1.70 K/EgC. TCR and TCRE are calculated from simulations with 1%2000GtC emissions as averages over years 61-80.