

Figure 1. Globally averaged response of natural vegetation in protected areas to a wide range of future climate states. *Left*: Response surface diagram. *Right*: Impact isoline diagram with time trajectories for various SRES emissions scenarios. (A detailed explanation of all diagrams is given in the text.)

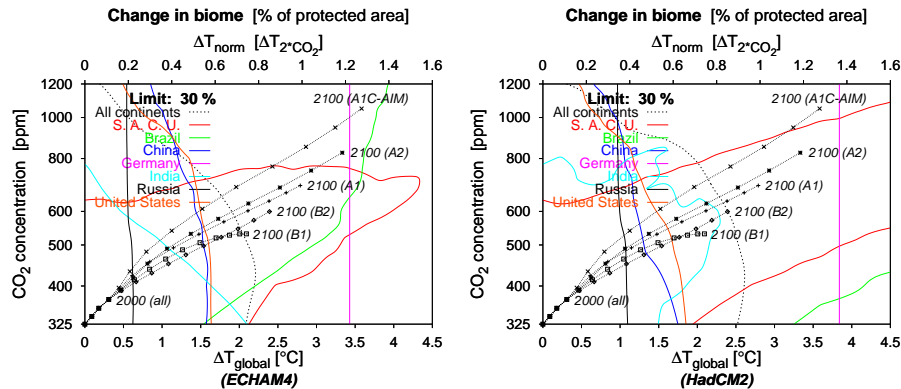


Figure 2. Impact isoline diagrams, depicting the climate windows associated with an illustrative impact constraint that limits vegetation changes to 30% of protected areas in each region, based on climate scenarios from ECHAM4 (*left*) and HadCM2 (*right*).

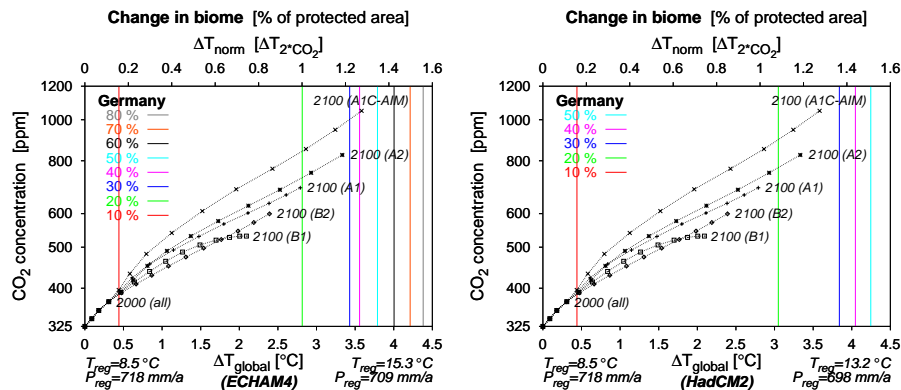


Figure 3. Impact isoline diagrams for vegetation change in Germany, based on climate scenarios from ECHAM4 (*left*) and HadCM2 (*right*).

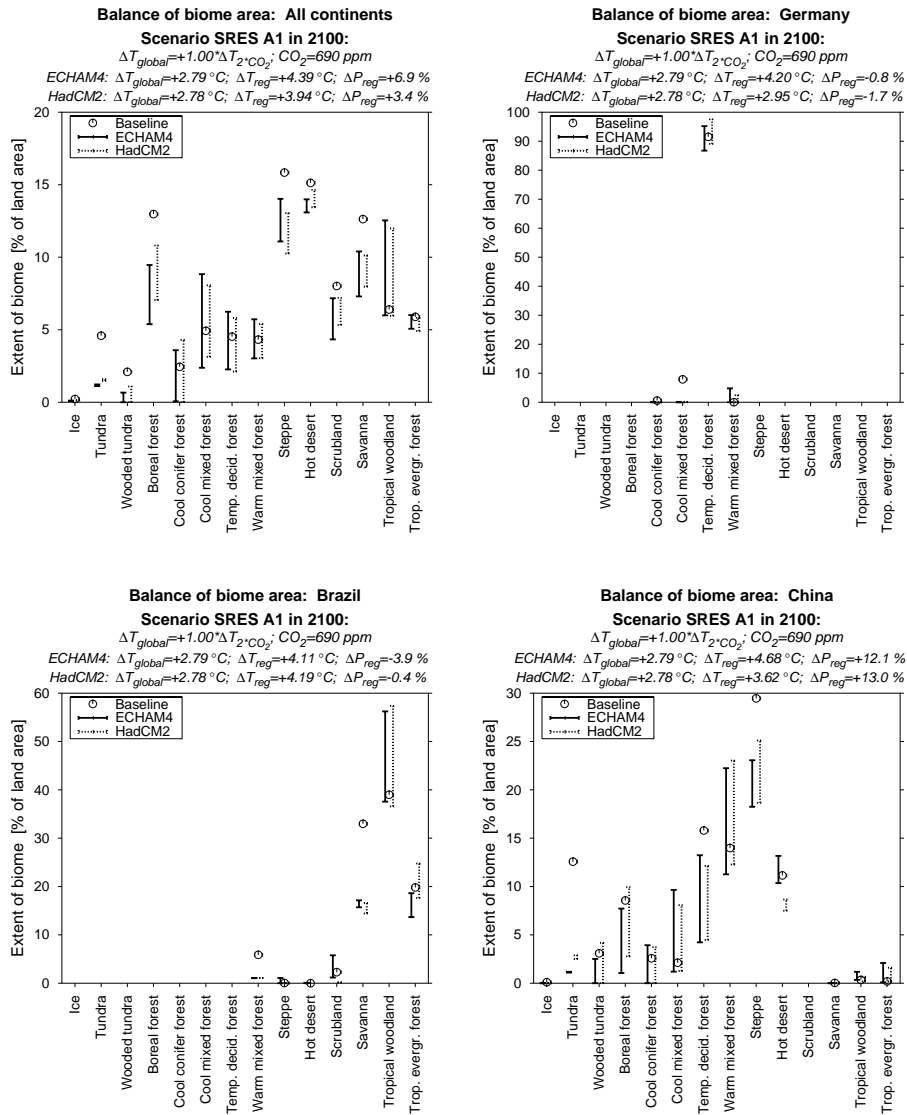


Figure 4. Area balance diagrams, depicting the potential extent of all biomes for the baseline climate (1961-1990), and for the climate simulated by ECHAM4 and HadCM2 in the year 2100 under the SRES A1 marker scenario. The lower end of the bar refers to the stable area of a biome whereas the upper end refers to the total area, including newly suitable regions. ΔT_{global} , ΔT_{reg} and ΔP_{reg} denote the change in global mean temperature, regional mean temperature and regional precipitation, respectively. $\Delta T_{2 \times CO_2}$ is the GCM-specific climate sensitivity (for a doubling of the equivalent CO_2 concentration). *Top left*: All continents. *Top right*: Germany. *Bottom left*: Brazil. *Bottom right*: China. (Note the different scaling of the y axis.)

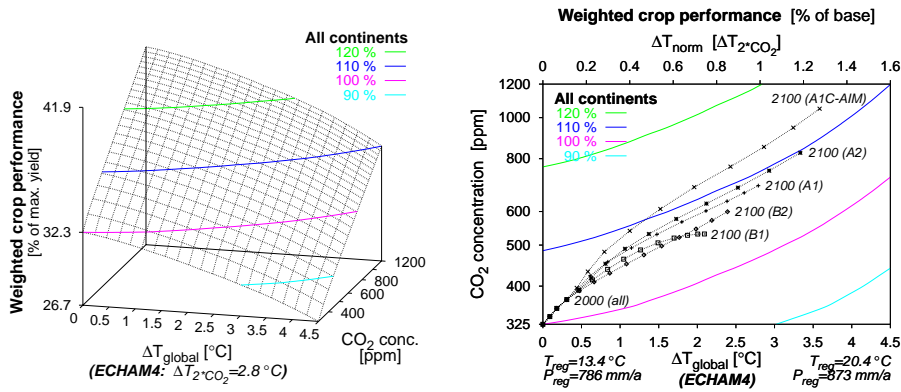


Figure 5. Impacts of climate change on global crop production for a wide range of future climate states. *Left:* Response surface diagram; *Right:* Impact isoline diagram with time trajectories for various SRES emissions scenarios. (A detailed explanation of all diagrams is given in the text.)

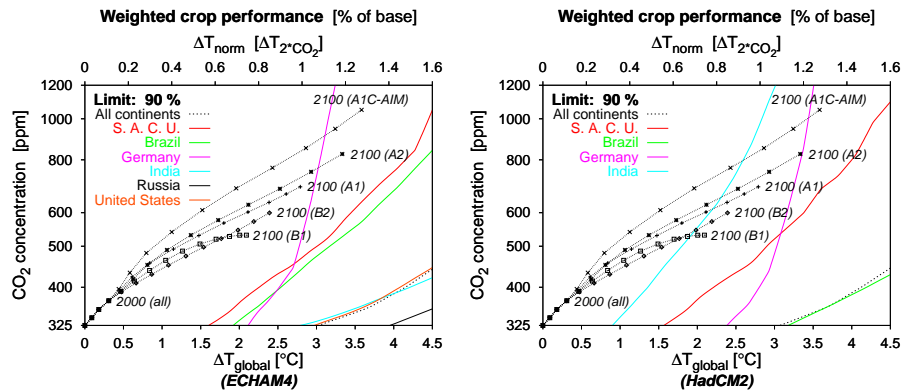


Figure 6. Impact isoline diagrams, depicting the climate windows associated with an illustrative impact constraint that limits weighted losses of current crops to 10% in each region, based on climate scenarios from ECHAM4 (left) and HadCM2 (right).

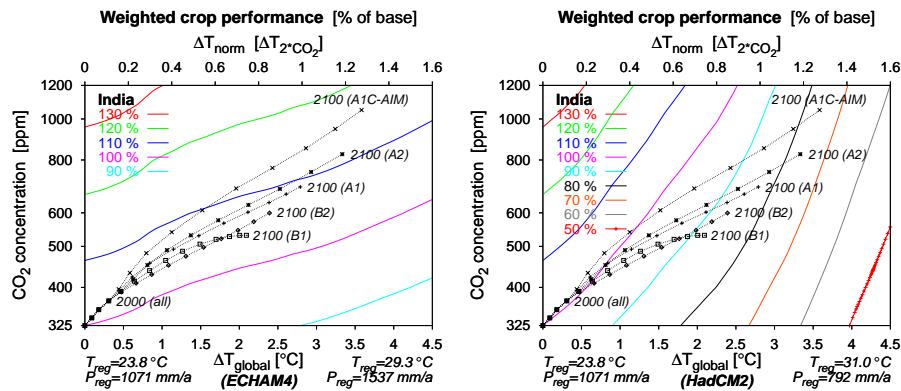


Figure 7. Impact isoline diagrams for crop production in India, based on climate scenarios from ECHAM4 (left) and HadCM2 (right).

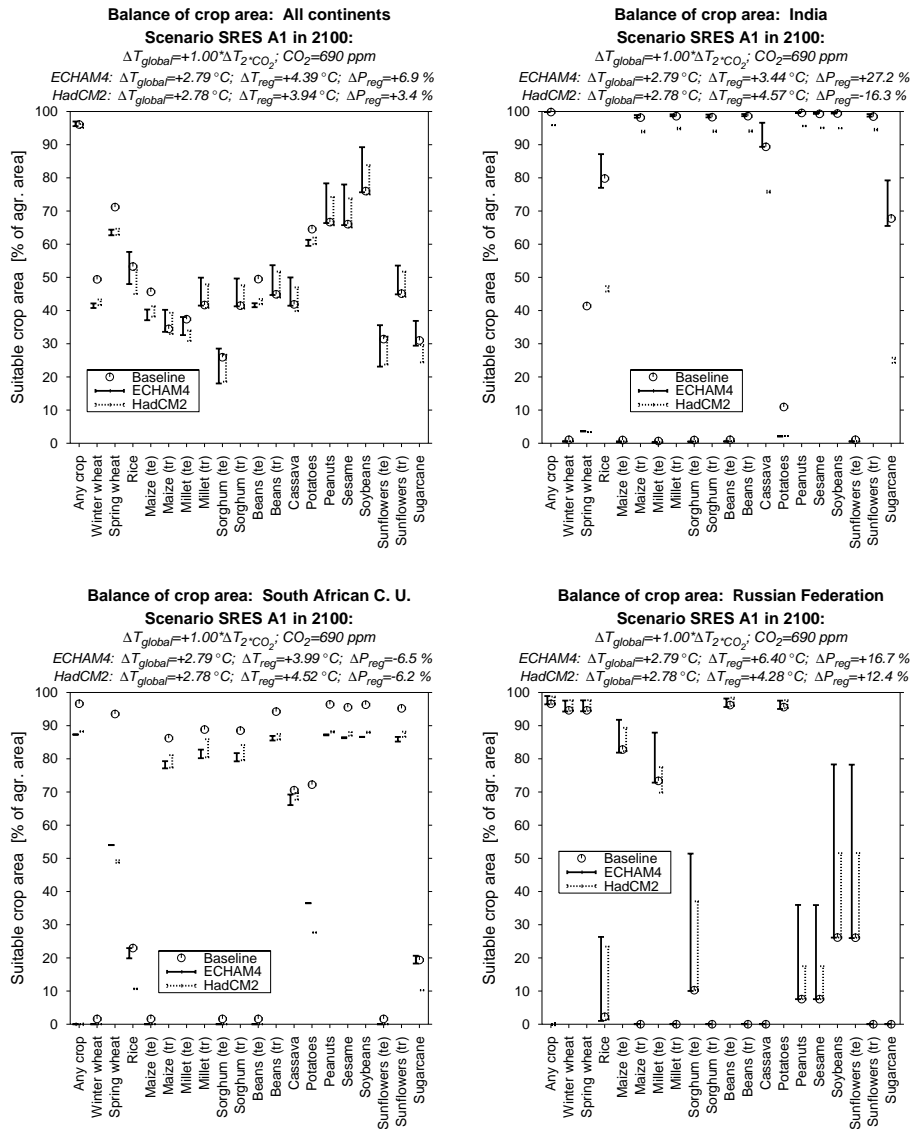


Figure 8. Area balance diagrams, depicting the suitable area of all crops considered (te: temperate, tr: tropical) for the baseline climate and for the climate state simulated by ECHAM4 and HadCM2 for the year 2100 of the SRES A1 marker scenario. *Top left:* All continents. *Top right:* India. *Bottom left:* South African Customs Union. *Bottom right:* Russia. (For an explanation of the diagram, see Figure 4. The suitable area for ‘Any crop’ may be less than 100% of the cultivated area because the former refers to rainfed conditions whereas the latter includes irrigated areas.)