



Figure 11.10. The mean change in the atmospheric O₂ and CO₂ partial pressures (ppm) for the period of the 1990s, and illustration of its utility in determining anthropogenic CO₂ uptake by the ocean and land. Symbols are observations between 1990 and 2000. The long diagonal line from the upper left to the lower right is the trend expected, given the amount of fossil fuels burned, if there were no land or ocean exchange. The horizontal line in the lower right corner indicates ocean atmosphere exchange of CO₂, and the short diagonal line that trends to the upper left from where the horizontal line stops illustrates the trend for uptake of CO₂ and release of O₂ with the land reservoir (see text). Solid lines indicate the trends expected there were no non-steady state "outgassing" of O₂ from the ocean. Dashed lines and the close-up indicate how the steady-state picture is altered by non-steady-state outgassing of O₂ from the ocean because of changes in ocean ventilation and seawater temperature. Modified from IPCC (2001).