

7. Summary of Results for Forward Calculations

Model	IS92c	IS92a	IS92e	DEC0%	DEC1%	DEC2%
A ₂		518.6		464.2	442.0	426.2
B ₁		520.9				
B ₂		522.8				
B ₃		512.6				
G		509.8		458.3	437.1	422.0
	—	—	—	—	—	—
E	437.7	494.1	541.6	438.9	416.5	400.8
J	442.1	498.7	546.0	443.4	421.0	405.4
L	441.0	497.9	545.5	443.7	421.4	405.8
W	437.4	497.4	547.4	438.6	414.3	397.1
Z	420.9	480.2	530.0	421.7	397.9	—
R*	432.1	495.1	548.1			
T	438.1	494.9				

Table 7.1. Projections of CO₂ for 2050 for forward calculations. Model Z is ‘ocean-only’. The two ‘feedback’ cases, R* and T, are included for completeness in the lower section.

Model	IS92c	IS92a	IS92e	DEC0%	DEC1%	DEC2%
A ₂		731.3		537.4	467.5	432.1
B ₁		734.0				
B ₂		731.2				
B ₃		728.4				
G		719.8		534.0	464.1	428.2
	—	—	—	—	—	—
E	468.7	683.9	913.1	492.7	425.4	392.9
J	474.2	687.7	910.4	498.2	430.3	397.2
L	473.0	687.0	908.3	502.6	434.2	402.7
W	456.4	676.5	909.2	481.4	411.4	377.3
Z	420.6	628.7	856.9	444.7	380.9	—
R*	447.6	667.8	899.7			
T	470.5	672.8				

Table 7.2. Projections of CO₂ to 2100. Again, the ocean-only model (Z) and the feedback cases (R* and T) are kept separate.

The ‘forward’ calculations are defined as those in which CO₂ concentrations are calculated from a given history of emissions. These emission histories are denoted ‘scenarios’ (if related to specific policies) or ‘profiles’ (if they are simply specified as time series). Appendix A specified the use of the six scenarios (IS92a,b,c,d,e,f) from IPCC (1992). (The basis of these scenarios is currently (1994) under review. If they are found to have an inadequate basis, then

they must be regarded as ‘profiles’ —of interest in relation to earlier studies and of interest to the extent that they might match (or bracket) realistic scenarios.)

The emission values defining these IPCC (1992) scenarios are reproduced in Section A.6. Appendix A also specified three ‘science’ emission profiles corresponding to fossil emissions after 2000 being fixed (DEC0%), decreasing at 1% compounded (DEC1%) and 2% compounded (DEC2%). These cases used IS92a between 1990 and 2000.

Tables 7.1 and 7.2 list the projections to 2050 and 2100 for six of the scenarios: IS92a (the de facto ‘business-as-usual’), IS92c, IS92e (the two extremes) and the three ‘science’¹ scenarios, DEC0%, DEC1% and DEC2%. The results fall into two main groups, Models A₂, B₁, B₂, B₃ and G, and the others (E, J, L, T) which give lower projections differing from each other by only a small amount. The reason for this split into two groups has not been ascertained.

Figure 7.1 plots the set of results for IS92a; plots of results of the other IPCC 1992 scenarios are included in Appendix E. Figure 7.2 plots the concentrations resulting from stabilising industrial emissions at 1995 levels (case DEC0%). The cases with specified percentage reductions after 2000 (DEC1% and DEC2%) are plotted in Appendix E. An additional set of forward calculations is specified from scenarios produced by the World Energy Council. These are discussed in Section 12a.

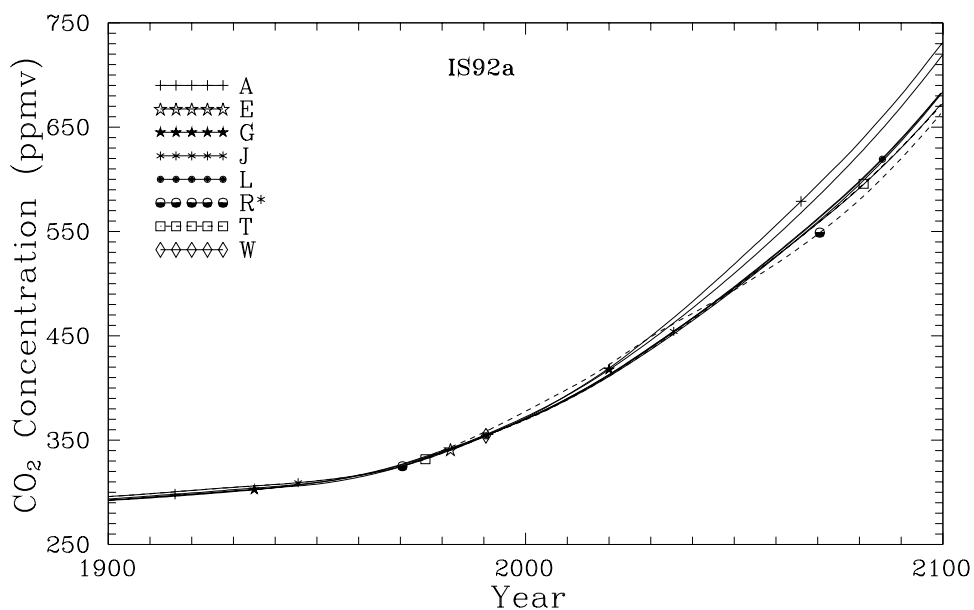


Figure 7.1. Concentrations predicted using IS92a. The curves with short dashes (Models R*, T) were calculated with temperature feedbacks included.

¹Footnote to electronic edition: These cases should have been termed ‘profiles’, see preceding discussion and footnote on page 7.

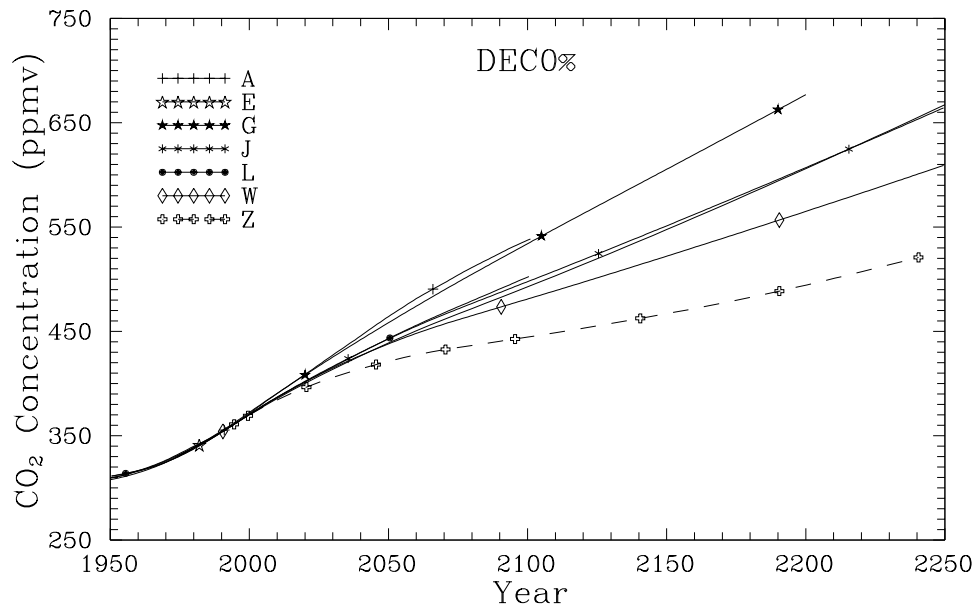


Figure 7.2. Concentrations predicted with emissions fixed at 2000 levels.

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