### Figures

1.1 The impact of climate change as a function of global mean temperature 24
1.2 Uncertainty about the marginal costs of carbon dioxide emissions for a 1 per cent PRTP and world average values 26
2.1 Matrix showing the five prevalent types of adaptation to climate change 35
2.2 The role of adaptation in determining residual impacts of climate change 41
2.3 Conceptual framework 44
3.1 Map of Middle Eastern countries considered in this study 56
3.2 Population projections 57
3.3 Economic activity by sector 63
4.1 Share of GDP in agriculture and location of the local-level case studies 84
4.2 Area harvested to wheat and wheat yield in Morocco and Spain during 1961–2000 86
4.3 Agricultural trade in Morocco and Spain during 1961–2000 86
4.4 Reservoir capacity in Spain during 1990–98 87
5.1 Climate change projection, water supply–demand 97
5.2 Expected impacts resulting from climate change 101
5.3 Cross impact analysis 102
5.4 Categories of variables impacted by climate change 103
5.5 Major adaptation opportunities for water resources facing climate change 104
6.1 Convergence path to the steady state equilibrium in BG 123
6.2 Convergence path to the steady state equilibrium in VIAR 124
6.3 Probability of incurring economic losses in Viar district 124
6.4 Probability of incurring economic losses in Bajo Guadalquivir district 125
7.1 Graphical representation of the integrated approach, allowing downscaling from global change models to local land use scenarios 147
7.2 Graphical representation of experts’ involvement to obtain projections 148
7.3 The pairwise comparison procedure 149
8.1 The MODULUS model 177
8.2 The final MODULUS model 179
8.3 Soil moisture in the Argolida in January 180
8.4 Natural vegetation types in the Marina Baixa 180
8.5 The main watershed modelled in the Argolida and the location of the aquifer within it 181
8.6 Daily river flow in the Marina Baixa for a day in January 182
8.7 Crop types in the Marina Baixa 183
8.8 Land use in the Marina Baixa in 2020 184
8.9 User interface of the MODULUS system 185
9.1 Water supply and demand in Israel's agriculture 209
12.1 Projected sea-level rise for the period 1990–2100 246
12.2 The IPCC Common Methodology compared with the IPCC Technical Guidelines 249
12.3 A conceptual framework for coastal vulnerability assessment 255
12.4 Flow diagram to identify the appropriate method to determine land at risk from erosion or inundation 263
12.5 Data sources and step-wise GIS procedure in the meso-scale vulnerability study of the State of Schleswig-Holstein 272
13.1 Mediterranean Sea temperatures in high summer 284