MATHEMATICAL MODELLING RELATED TO THE INTERNATIONAL GEOSPHERE–BIOSHPERE PROGRAM AT THE CENTRE FOR RESOURCE AND ENVIRONMENTAL STUDIES

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INTRODUCTION

The aim of the research in CRES is to help identify and provide balanced analyses of resource and environmental policy problems, thereby facilitating the resolution of policy options. There has recently been a shift in emphasis away from analysis of specific national problems that can be treated in a short time frame, and hence mostly with existing knowledge and data. Research is now directed towards the construction of decision support tools for long–term acquisition of fundamental information of general use to a common core of resource and environmental problems of national and global concern. At the same time flexibility has been retained to consider important topical problems as they arise on the public policy agenda; attention to these motivates the long–term research program and makes it more robust.

The basic premise in the Centre's long–term research direction is that there are large gaps in the knowledge base for treating many resource and environmental problems, including impact assessment of the greenhouse effect. Research and decision support tools are required to address these gaps and in general they are intended to be climate sensitive and their predictions robust to changes in climatic–related inputs. Examples of the tools in continual development are geographic information systems to house essential spatial and temporal information in a systematic and accessible form and generic 'models', such as