

Part II

Translating the Spatial Problem

This part explains the development of the artificial intelligent approach. It starts from the concept introduced in the previous part. In order to develop this concept for the spatial problems considered in this book (regridding, spatial disaggregation, identification of locations), it is necessary to translate the spatial problem into a problem that can be solved using a fuzzy rulebase systems. This means translating the problem to a problem consisting of parameters, variables, linguistic terms, domains and rules. The first chapter elaborates on the necessary steps to perform this translation. It starts with the necessary background in fuzzy rulebase systems and defines the notations and nomenclature used throughout. The subsequent chapters deal with different fields that needed to be developed further to translate the spatial problem to a fuzzy rulebase system and apply it in a spatial context. The issues associated with this translation are highlighted, and each of the separate aspects (from the definition of the parameters, over the problems due to locality of the data to specific issues with the construction of the rulebase and with defuzzification) are presented and newly developed solutions proposed in order to develop the algorithm.