Developments in Geographic Information Technology have raised the expectations of users. A static map is no longer enough; there is now demand for a dynamic representation. Time is of great importance when operating on real world geographical phenomena, especially when these are dynamic. Researchers in the field of Temporal Geographical Information Systems (TGIS) have been developing methods of incorporating time into geographical information systems. Spatio-temporal analysis embodies spatial modelling, spatio-temporal modelling and spatial reasoning and data mining. Advances in Spatio-Temporal Analysis contributes to the field of spatio-temporal analysis, presenting innovative ideas and examples that reflect current progress and achievements.

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Advances in Spatio-Temporal Analysis

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Preface

Almost everything in the world changes over time. In order to represent and operate upon real world geographical phenomena, researchers in the geospatial area have always been trying to find the most suitable way to incorporate time into geographical information systems. This is known as Temporal Geographical Information Systems (TGIS). TGIS, which are capable of handling temporal as well as spatial information, will greatly expand current GIS applications and allow new information to be obtained.

The past two decades have witnessed a significant advancement, as well as a growth in popularity, in TGIS. Various specialized technical meetings have been held on the subject. Chief among these was the International Symposium on Spatial-temporal Modelling, Spatial Reasoning, Analysis, Data Mining and Data Fusion (STM’05) which took place from 27 to 29 August 2005 in Beijing, China. STM’05 was a joint workshop of ISPRS WGII/1,2,7 and WG VII/6, providing an interdisciplinary forum for international scientists and researchers to present their latest research results and share experiences in TGIS, especially in spatio-temporal analysis. STM’05 attracted about 120 papers from more than 20 countries, and 21 of these papers were carefully selected, updated and peer-reviewed to form this book – Advances in Spatio-temporal Analysis. Spatio-temporal analysis is here considered to embody spatial modelling, spatio-temporal modelling, spatio-temporal analysis, and spatial reasoning and data mining.

This book contributes to the field of spatio-temporal analysis, presenting innovative ideas and examples that reflect the current progress and achievements. It will be a useful reference for advanced GIS students, as well as professionals, engaged in TGIS. I trust readers will find the book of benefit in understanding the developments in the emerging field of spatio-temporal analysis.

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