



ENVIRONMENTAL SCIENCE AND ENGINEERING

Shailesh Nayak · Sisi Zlatanova (*Eds.*)

Remote Sensing and GIS Technologies for Monitoring and Prediction of Disasters



Springer

Contents

Contributors	VII
Introduction.....	1
<i>Sisi Zlatanova and Shailesh Nayak</i>	
Part 1: Use of Geo-Information technology in large disasters	9
1. Geoinformation-Based Response to the 27 May Indonesia Earthquake – an Initial Assessment.....	11
<i>Norman Kerle and Barandi Widartono</i>	
2. The Application of Geo-Technologies after Hurricane Katrina	25
<i>Henrike Brecht</i>	
3. Application of Remote Sensing for Damage Assessment of Coastal Ecosystems in India due to the December 2004 Tsunami	37
<i>Shailesh Nayak and Anjali Bahuguna</i>	
4. Increasing the Use of Geospatial Technologies for Emergency Response and Disaster Rehabilitation in Developing Countries	57
<i>David Stevens</i>	
Part 2: Remote Sensing Technology for Disaster Monitoring	73
5. Adopting Multisensor Remote Sensing Datasets and Coupled Models for Disaster Management	75
<i>Gilbert L. Rochon, Dev Niyogi, Alok Chaturvedi, Rajarathinam Arangarasan, Krishna Madhavan, Larry Biehl, Joseph Quansah and Souleymane Fall</i>	
6. Nearshore Coastal Processes Between Karwar and Bhatal, Central West Coast of India: Implications for Pollution Dispersion	101
<i>Viswanath S. Hedge, G. Shalini, Shailesh Nayak and Ajay S. Rajawat</i>	

7. Landslide Hazard Zonation in Darjeeling Himalayas: a Case Study on Integration of IRS and SRTM Data	121
<i>Mopur Surendranath, Saibal Ghosh, Timir B. Ghoshal and Narayanaswamy Rajendran</i>	
8. Monitoring and Interpretation of Urban Land Subsidence Using Radar Interferometric Time Series and Multi-Source GIS Database.....	137
<i>Swati Gehlot and Ramon F. Hanssen</i>	
9. Extending the Functionality of the Consumer-Grade GPS for More Efficient GIS and Mapping Applications.....	149
<i>Robert M. Mikol</i>	
 <i>Part 3: System Architectures for Access of Geo-Information</i>	165
10. Interoperable Access Control for Geo Web Services in Disaster Management.....	167
<i>Jan Herrmann</i>	
11. Spatial Data Infrastructure for Emergency Response in Netherlands	179
<i>Henk Scholten, Steven Fruijter, Arta Dilo and Erik van Borkulo</i>	
12. Geocollaboration in Hazard, Risk and Response: Practical Experience with Real-Time Geocollaboration at Québec Civil Security.....	199
<i>Charles Siegel, Donald Fortin and Yves Gauthier</i>	
13. On-line Street Network Analysis for Flood Evacuation Planning.....	219
<i>Darka Mioc, François Anton and Gengsheng Liang</i>	
14. Multi-user tangible interfaces for effective decision-making in disaster management.....	243
<i>Harmen Hofstra, Henk Scholten, Sisi Zlatanova and Alessandra Scotta</i>	
 Index	267
 About the Editors.....	271