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Autore	Cao Chunxiang
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Descrizione fisica	1 online resource (XI, 148 p. 55 illus., 38 illus. in color.)
Disciplina	363.3
Soggetti	Floods - Remote sensing Flood forecasting
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Geographical characteristics of Study area -- Datasets and data preparation -- Flooding identification by vegetation index -- Flood identification by Support Vector Machine (SVM) -- Improved support vector machine classifier by Particle filter algorithm -- Flood related parameters affecting waterborne diseases -- Measure of Disease Risk -- Modeling Outbreak Risk based on Back Propagation Neural Network (BPNN) algorithm -- Application of surveillance communicable diseases risk using Expert system -- Conclusions.
Sommario/riassunto	This book introduces flood inundation area and flood risks assessment based on a comprehensive monitoring system using remote sensing and geographic information system technologies. Taking the 2011 flood disaster of Ayutthaya in Thailand as an example, it presents a flood intrusion zone identification method based on remote sensing technology, spatial information technology and geographic information system for flood disaster monitoring and early warning system. It introduces the study area and data, vegetation index, improved support vector machine and flood intrusion zone identification method. It also analyzes the flood remote sensing parameters and waterborne diseases, method of risk assessment of waterborne disease outbreak, waterborne disease outbreak risk monitoring based on backpropagation neural network and its expert system. It not only

promotes a new interdisciplinary approach both in public health and space information technology, but also greatly supports decision makers in disaster reduction.
