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Altri autori (Persone)	WengQihao
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Nota di contenuto	Scale Issues in Remote Sensing; Contents; Acknowledgments; Contributors; Author Biography; Introduction; 1 Characterizing, Measuring, Analyzing, and Modeling Scale in Remote Sensing: An Overview; 1.1 SCALE ISSUES IN REMOTE SENSING; 1.2 CHARACTERIZING, MEASURING, ANALYZING, AND MODELING SCALE; REFERENCES; Part I: Scale, Measurement, Modeling, and Analysis; 2 Scale Issues in Multisensor Image Fusion; 2.1 SCALE IN REMOTE SENSING; 2.2 FUSION METHODS; 2.3 EHLERS FUSION; 2.4 FUSION OF MULTISCALE ELECTRO-OPTICAL DATA; 2.4.1 Data Sets and Study Site; 2.4.2 Multisensor Image Fusion 2.4.3 Image Fusion with Variable Spatial Resolution 2.5 FUSION OF ELECTRO-OPTICAL AND RADAR DATA; 2.6 CONCLUSION; REFERENCES; 3 Thermal Infrared Remote Sensing for Analysis of Landscape Ecological Processes: Current Insights and Trends; 3.1 INTRODUCTION; 3.2 SOME BACKGROUND ON NASA TIR SATELLITE INSTRUMENTS; 3.3 USE OF TIR DATA IN ANALYSIS LANDSCAPE ECOLOGICAL CHARACTERIZATION; 3.4 ESTIMATING LAND SURFACE ENERGY BUDGETS USING REMOTE SENSING DATA; 3.5 EVAPORATION/EVAPOTRANSPIRATION/SOIL MOISTURE; 3.6 DROUGHT

MONITORING; 3.7 DESERT OR ARID ENVIRONMENTS  
3.8 THERMAL ENERGY THEORY AS APPLIED TO ECOLOGICAL THERMODYNAMICS  
3.8.1 Beta Index as Measure of Surface Temperature Spatial Variation; 3.8.2 Thermal Response Number; 3.8.3 Ecological Complexity and Ecological Health; 3.9 CONCLUDING REMARKS; REFERENCES; 4 On the Issue of Scale in Urban Remote Sensing; 4.1 INTRODUCTION; 4.2 URBAN LAND MAPPING AND CATEGORICAL SCALE; 4.3 OBSERVATIONAL SCALE AND IMAGE SCENE MODELS; 4.4 OPERATIONAL SCALE; 4.5 SCALE DEPENDENCY OF URBAN PHENOMENA; 4.5.1 Spatial Variations of Land Surface Temperature at Multiple Census Scales; 4.5.2 Population Estimation  
4.6 CONCLUSIONS  
REFERENCES; Part II: Scale in Remote Sensing of Plants and Ecosystems; 5 Change Detection Using Vegetation Indices and Multiplatform Satellite Imagery at Multiple Temporal and Spatial Scales; 5.1 INTRODUCTION; 5.2 COMBINING PHENOCAMS, LANDSAT, AND MODIS IMAGERY TO MONITOR EFFECTS OF INSECT DEFOLIATION OF VEGETATION ACROSS SPATIAL AND TEMPORAL SCALES; 5.2.1 Need for Multiplatform Methods in Detecting Insect Damage to Forests; 5.2.2 Background on Tamarix and Tamarix Leaf Beetles on Western U.S. Rivers  
5.2.3 Phenocams Combine High Spatial and Temporal Resolution with Limited Field of View  
5.2.4 Landsat Imagery to Compare NDVI and ET Before and After Beetle Arrival along Six River Systems; 5.2.5 MODIS Imagery to Compare EVI and ET Before and After Beetle Arrival; 5.3 LESSONS LEARNED FROM THESE AND OTHER CHANGE STUDIES; 5.3.1 Importance of Ground Measurement as Basis for Remote Sensing Scaling Procedures; 5.3.2 Precision versus Accuracy: Importance of Multiple Independent Methods for Measuring Biophysical Variables  
5.3.3 Example of Multiple Sources of Measurements to Constrain Accuracy of ET Estimates

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Sommario/riassunto

This book provides up-to-date developments, methods, and techniques in the field of GIS and remote sensing and features articles from internationally renowned authorities on three interrelated perspectives of scaling issues: scale in land surface properties, land surface patterns, and land surface processes. The book is ideal as a professional reference for practicing geographic information scientists and remote sensing engineers as well as a supplemental reading for graduate level students.

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