1. Record Nr. UNINA9910373880303321 Autore Grubesic Tony H Titolo UAVs and urban spatial analysis: an introduction // Tony H. Grubesic, Jake R. Nelson Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2020 **ISBN** 3-030-35865-8 Edizione [1st edition 2020.] 1 online resource (XIV, 206 p. 68 illus., 66 illus. in color.) Descrizione fisica 623.7469 Disciplina Soggetti Drone aircraft Spatial analysis (Statistics) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Chapter 1-Introduction to UAVs and urban spatial analysis -- Chapter 2-UAV platforms and implications for geographic observation --Chapter 3-A primer on aeronautical charts and maps -- Chapter 4-Legal, environmental, operational and safety challenges in urban areas -- Chapter 5-UAVs and privacy -- Chapter 6-UAV data integration with geographic information systems -- Chapter 7-Application 1: remotely sensing physical disorder -- Chapter 8-Application 2: urban vegetation management -- Chapter 9-Application 3: disasters, pest control and emerging diseases -- Chapter 10-Application 4: water management for urban recreational areas -- Chapter 11-Application 5: structure from motion photogrammetry -- Chapter 12-UAVs and urban futures. Sommario/riassunto This book provides an introduction to the use of unmanned aerial vehicles (UAVs) for the geographic observation and spatial analysis of urban areas. The velocity of urban change necessitates observation platforms that not only enhance situational awareness for planning and allied analytical efforts, but also provide the ability to rapidly and inexpensively collect data and monitor change. UAVs can accomplish

both of these tasks, but their use in urban environments is loaded with social, operational, regulatory and technical challenges that must be addressed for successful deployments. The book provides a resource for educators and students who work with geographic information and are seeking to enhance these data with the use of unmanned aerial

vehicles. Topics covered include, 1) a primer on UAVs and the many different ways they can be used for geographic observation, 2) a detailed overview on the use of aviation maps and charts for operating UAVs in complex urban airspace, 3) techniques for integrating UAV-derived data with more traditional geographic information, 4) application of spatial analytical tools for urban and environmental planning, and 5) an exploration of privacy and public safety issues associated with UAV operation.