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Titolo	3D Imaging of the Environment : Mapping and Monitoring / / edited by John Meneely
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ISBN	0-429-32757-9
Edizione	[First edition.]
Descrizione fisica	1 online resource (246 pages)
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Soggetti	Three-dimensional imaging Remote sensing
Lingua di pubblicazione	Inglese
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Nota di contenuto	1. Digital Documentation and Digital Innovation in Practice. 2. Mapping the Urban Environment with a Handheld Mobile LiDAR System-A Case Study from the UrbanARK Project. 3. Using Drones to Map and Visualise Glacial Landscapes. 4. Laser Scanning of a Complex Cave System during Multiple Campaigns. 5. Digitizing Giant Skeletons with Handheld Scanning Technology for Research, Digital Reconstruction, and 3D Printing. 6. Mapping, Monitoring, and Visualising Stone Decay in the Urban Environment. 7. Unpiloted Airborne Laser Scanning of a Mixed Forest. 8. Digital Mapping and Recording of Inishtrahull Island and Its Built Heritage in 24 Hours. 9. CHERISH: Development of a Toolkit for the 3D Documentation and Analysis of the Marine and Coastal Historic Environment. 10. 3D in the Construction of a Full-Scale Replica of St. Patrick's Cross, Downpatrick. 11. Thermography Using Unmanned Aerial Vehicles. 12. Reconstruction of the Ballintaggart Court Tomb Using 3D Scanning, 3D Printing, and Augmented Reality (AR). 13. Terrestrial Laser Scanning for Monitoring and Modelling Coastal Dune Morphodynamics. 14. Creating a Virtual Reality Experience of Fingal's Cave, Isle of Staffa, Scotland.
Sommario/riassunto	This is a comprehensive, overarching, interdisciplinary book and a valuable contribution to a unified view of visualisation, imaging, and mapping. It covers a variety of modern techniques, across an array of spatial scales, with examples of how to map, monitor, and visualise the world in which we live. The authors give detailed explanations of the

techniques used to map and monitor the built and natural environment and how that data, collected from a wide range of scales and cost options, is translated into an image or visual experience. It is written in a way that successfully reaches technical, professional, and academic readers alike, particularly geographers, architects, geologists, and planners. FEATURES Includes in-depth discussion on 3D image processing and modeling Focuses on the 3D application of remote sensing, including LiDAR and digital photography acquired by UAS and terrestrial techniques Introduces a broad range of data collection techniques and visualisation methods Includes contributions from outstanding experts and interdisciplinary teams involved in earth sciences Presents an open access chapter about the EU-funded CHERISH Project, detailing the development of a toolkit for the 3D documentation and analysis of the combined coastline shared between Ireland and Wales Intended for those with a background in the technology involved with imaging and mapping, the contributions shared in this book introduce readers to new and emerging 3D imaging tools and programs.