

# Applications of Small Unmanned Aircraft Systems

## Best Practices and Case Studies

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Small Unmanned Aircraft Systems can access hazardous or inaccessible areas during disaster events and provide rapid response. This is the first book that brings together the best practices of sUAS applied to a broad range of issues in high spatial resolution mapping projects. The case studies included in this book are sUAS based projects.

### KEY FEATURES

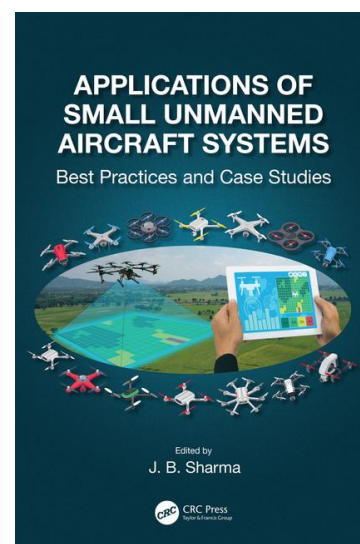
- Focuses on small UAS based data acquisition and processing into high spatial resolution map products
- Introduces practical guidance on choosing small UAS hardware, sensors, and software utilized for geospatial mapping
- Includes a broad range of recently developed case studies lead by highly experienced academics
- Provides a holistic overview of scientific data acquisition and processing issues and approaches for applications in natural resources, urban environment, disaster response, socio-economic and socio-cultural domains
- Explains FAA regulations and highlights the different approaches required for mission planning and data analysis

### SELECTED CONTENTS

1. sUAS Data Accuracy in Photogrammetric Workflows. 2. Unmanned Aerial Systems (UAS) and Thematic Map Accuracy Assessment. 3. Multiuser Concepts and Workflow Replicability in sUAS Applications. 4. The sUAS Educational Frontier: Mapping an Educational Pathway for the Future Workforce. 5. Federal Government Applications of UAS Technology. 6. sUAS for Wildlife Conservation - Assessing Habitat Quality of the Endangered Black-Footed Ferret. 7. Multi-View, Deep Learning, and Contextual analysis: Promising Approaches for sUAS Land Cover Classification. 8. UAS for Nature Conservation - Monitoring Invasive Species. 9. Small Unmanned Aerial Systems (sUAS) and Structure from Motion for Identifying, Documenting, and Monitoring Cultural and Natural Resources. 10. New Insights Offered by UAS for River Monitoring. 11. The Campus as a High Spatial Resolution Mapping Laboratory - Small Unmanned Aerial Systems (sUAS) Data Acquisition Analytics, and Educational Issues. 12. Flying UAVs in Constrained Environments: Best Practices for Flying within Complex Forest Canopies.

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