

# Contents

|                                                                                                                                                             |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Acknowledgments                                                                                                                                             | 9             |
| <b>Chapter 1. Introduction</b>                                                                                                                              | <b>11</b>     |
| 1.1 Survey archaeology and regional analysis:<br>a focus on Italy                                                                                           | 11            |
| 1.2 The importance of legacy survey data                                                                                                                    | 13            |
| 1.3 The integration of legacy survey datasets for inter-regional<br>comparative analysis                                                                    | 14            |
| 1.4 Outline of the proposed research procedure                                                                                                              | 15            |
| 1.4.1 Premises                                                                                                                                              | 15            |
| 1.4.2 Procedure                                                                                                                                             | 16            |
| 1.5 Case study                                                                                                                                              | 18            |
| 1.6 Structure of the book                                                                                                                                   | 20            |
| 1.6.1 Chapter 2: Familiarizing with the debate                                                                                                              | 20            |
| 1.6.2 Chapter 3: Deductive analysis                                                                                                                         | 21            |
| 1.6.3 Chapters 4 and 5: Assessing biases                                                                                                                    | 21            |
| 1.6.4 Chapter 6: Inductive analysis and calibration                                                                                                         | 22            |
| 1.7 References                                                                                                                                              | 22            |
| <br><b>Chapter 2. A method for modeling dispersed settlements:<br/>visualizing an early Roman colonial landscape as expected<br/>by conventional theory</b> | <br><b>30</b> |
| 2.1 Introduction                                                                                                                                            | 30            |
| 2.2 Data                                                                                                                                                    | 32            |
| 2.3 Visualizing the conventionally expected early colonial<br>landscape                                                                                     | 33            |
| 2.4 Discussion and further directions                                                                                                                       | 38            |
| 2.5 References                                                                                                                                              | 38            |

|                   |                                                                                                                                        |           |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Chapter 3.</b> | <b>Testing settlement models in the early Roman colonial landscapes of Venusia (291 B.C.), Cosa (273 B.C.) and Aesernia (263 B.C.)</b> | <b>43</b> |
| 3.1               | Introduction                                                                                                                           | 43        |
| 3.2               | Data                                                                                                                                   | 45        |
| 3.3               | Methods                                                                                                                                | 46        |
| 3.4               | Testing settlement density: point-density analysis                                                                                     | 48        |
| 3.4.1             | Testing trends in density: Von Thünen's Isolated State model                                                                           | 53        |
| 3.5               | Testing settlement distribution: point-pattern analysis                                                                                | 56        |
| 3.5.1             | Modeling a village-based settlement system                                                                                             | 59        |
| 3.6               | Conclusions                                                                                                                            | 61        |
| 3.7               | References                                                                                                                             | 63        |
| <br>              |                                                                                                                                        |           |
| <b>Chapter 4.</b> | <b>Assessing visibility and geomorphological biases in regional field surveys: the case of Roman Aesernia</b>                          | <b>68</b> |
| 4.1               | Introduction                                                                                                                           | 68        |
| 4.2               | Data                                                                                                                                   | 70        |
| 4.3               | Methods                                                                                                                                | 70        |
| 4.4               | Evaluating surface visibility biases                                                                                                   | 72        |
| 4.4.1             | Procedure                                                                                                                              | 72        |
| 4.4.2             | Results                                                                                                                                | 74        |
| 4.5               | Evaluating geomorphological biases                                                                                                     | 77        |
| 4.5.1             | Procedure                                                                                                                              | 77        |
| 4.5.2             | Results                                                                                                                                | 81        |
| 4.6               | Combining results                                                                                                                      | 83        |
| 4.7               | Conclusions                                                                                                                            | 85        |
| 4.8               | References                                                                                                                             | 86        |
| <br>              |                                                                                                                                        |           |
| <b>Chapter 5.</b> | <b>Surface visibility and legacy survey data: between desktop-based analysis and new fieldwork</b>                                     | <b>91</b> |
| 5.1               | Introduction                                                                                                                           | 91        |
| 5.2               | Desktop-based analysis: testing the legacy site density                                                                                | 93        |
| 5.3               | Control samples from new fieldwork: testing the legacy site pattern                                                                    | 95        |

|                   |                                                                                                                               |            |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------|------------|
| 5.4               | Conclusions                                                                                                                   | 100        |
| 5.5               | References                                                                                                                    | 101        |
| <b>Chapter 6.</b> | <b>A systematic GIS-based analysis of settlement developments in the landscape of Venusia in the Hellenistic-Roman period</b> | <b>104</b> |
| 6.1               | Introduction                                                                                                                  | 104        |
| 6.2               | Data                                                                                                                          | 105        |
| 6.3               | Exploring the pre-Roman and Roman landscapes                                                                                  | 107        |
| 6.4               | Location preference analysis                                                                                                  | 113        |
| 6.4.1             | First comparison: pre-Roman – Republican – Imperial settlements                                                               | 113        |
| 6.4.2             | Second comparison: Pre-Roman – New settlements in the early colonial period – Early colonial period settlements               | 120        |
| 6.5               | Conclusions                                                                                                                   | 121        |
| 6.6               | References                                                                                                                    | 123        |
| <b>Chapter 7.</b> | <b>Conclusions</b>                                                                                                            | <b>129</b> |
| 7.1               | References                                                                                                                    | 130        |
| <b>Appendix A</b> |                                                                                                                               | <b>132</b> |
| <b>Appendix B</b> |                                                                                                                               | <b>137</b> |