

Model-based geostatistics for global public health using R

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Preface

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1 + 1

[1] 2

1 Introduction

This is a book created from markdown and executable code.

See Knuth (1984) for additional discussion of literate programming.

```
1 + 1
```

```
[1] 2
```

1.1 Why this book

1.2 R packages used in this book

1.3 Examples

1.4 Workflow of a statistical analysis

2 Exploratory analysis

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```
1 + 1
```

```
[1] 2
```

2.1 Importing and processing spatial data in R

2.2 Visualizing geostatistical data

2.3 Exploring associations

2.4 Analysis of the residuals

2.4.1 Diagnostics for overdispersion

2.4.2 Diagnostics for residual spatial variation

3 Model fitting

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```
1 + 1
```

```
[1] 2
```

3.1 Linear Gaussian model

3.2 Generalized linear geostatistical models

4 Model validation

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```
1 + 1
```

```
[1] 2
```

4.1 How to simulate geostatistical data from a fitted model

4.2 Validating the calibration of the model

4.3 Validating the spatial correlation of the model

5 Geostatistical prediction

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```
1 + 1
```

```
[1] 2
```

5.1 Pixel-level predictive targets

5.2 Area-level predictive targets

5.3 Comparing the predictive performance of geostatistical models

6 Case studies

This is a book created from markdown and executable code.

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```
1 + 1
```

```
[1] 2
```

6.1 Mapping stunting risk in Ghan

6.2 Mapping river blindness in Malawi

6.3 Mapping mosquitoes abundance in Cameroon

References

Knuth, Donald E. 1984. “Literate Programming.” *Comput. J.* 27 (2): 97–111. <https://doi.org/10.1093/comjnl/27.2.97>.