# Model-based geostatistics for global public health using R

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# Preface

This is a Quarto book.

To learn more about Quarto books visit https://quarto.org/docs/books.

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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
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[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

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# 3 Model fitting

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1 + 1
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[1] 2
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## 3.1 Linear Gaussian model

## 3.2 Generalized linear geostatistical models

# 4 Model validation

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1 + 1
```

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[1] 2
```

## 4.1 How to simulate geostatistical data from a fitted model

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# 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

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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.