**The on-line version of this book is available at: soilmapper.org**

Predictive Soil Mapping (PSM) is based on applying statistical and/or machine learning techniques to fit models for the purpose of producing spatial and/or spatiotemporal predictions of soil variables i.e. maps of soil properties and classes at different resolutions. It is a multidisciplinary field combining statistics, data science, soil science, physical geography, remote sensing, geoinformation science and a number of other sciences. Predictive Soil Mapping with R is about understanding the main concepts behind soil mapping, mastering R packages that can be used to produce high quality soil maps, and about optimizing all processes involved so that also the production costs can be reduced.

Topics covered include:

- **traditional and novel concepts of soil mapping,**
- **software installation and first steps,**
- **preparation of covariate layers for PSM,**
- **Machine Learning Algorithms for PSM,**
- **working with R-spatial packages,**
- **derivation of soil carbon / soil nutrient maps in 3D,**
- **accuracy assessment and mapping efficiency,**
- **practical tips on how to operationalize production of soil maps,**



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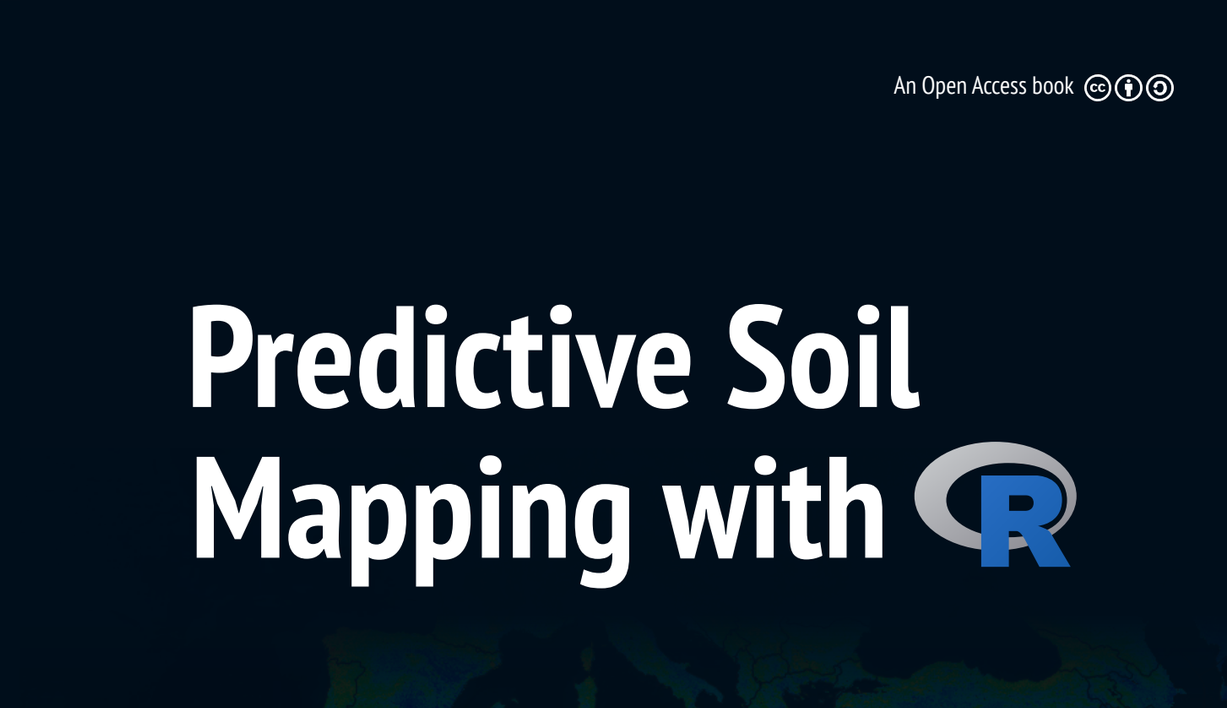
Hengl & MacMillan

Predictive soil mapping with R



# Predictive Soil Mapping with R



Tom Hengl & Robert A. MacMillan