

The on-line version 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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Predictive soil mapping with R

Hengl & MacMillan

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