



## **Evaluation of automated global mapping of Reference Soil Groups of WRB2015**

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SoilGrids is an automated system that provides global predictions for standard numeric soil properties at seven standard depths down to 200 cm, currently at spatial resolutions of 1km and 250m. In addition, the system provides predictions of depth to bedrock and distribution of soil classes based on WRB and USDA Soil Taxonomy (ST). In SoilGrids250m(1), soil classes (WRB, version 2006) consist of the RSG and the first prefix qualifier, whereas in SoilGrids1km(2), the soil class was assessed at RSG level. Automated mapping of World Reference Base (WRB) Reference Soil Groups (RSGs) at a global level has great advantages. Maps can be updated in a short time span with relatively little effort when new data become available.

To translate soil names of older versions of FAO/WRB and national classification systems of the source data into names according to WRB 2006, correlation tables are used in SoilGrids. Soil properties and classes are predicted independently from each other. This means that the combinations of soil properties for the same cells or soil property-soil class combinations do not necessarily yield logical combinations when the map layers are studied jointly. The model prediction procedure is robust and probably has a low source of error in the prediction of RSGs. It seems that the quality of the original soil classification in the data and the use of correlation tables are the largest sources of error in mapping the RSG distribution patterns.

Predicted patterns of dominant RSGs were evaluated in selected areas and sources of error were identified. Suggestions are made for improvement of WRB2015 RSG distribution predictions in SoilGrids.

Keywords: Automated global mapping; World Reference Base for Soil Resources; Data evaluation; Data quality assurance

### References

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