

Soil carbon stock maps for the Rio de Janeiro state

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SCS at 0-20 cm

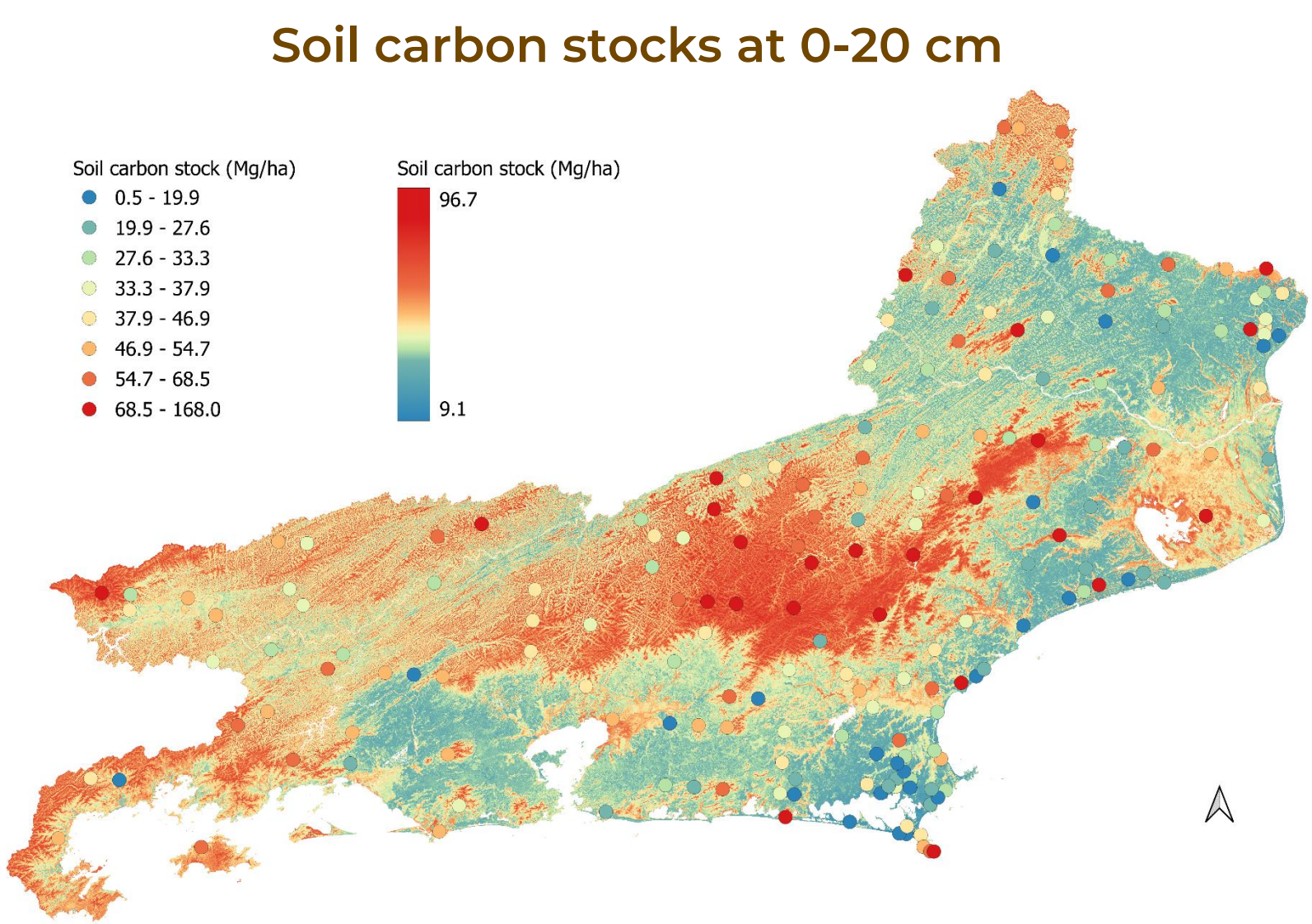


SCS at 30-50 cm

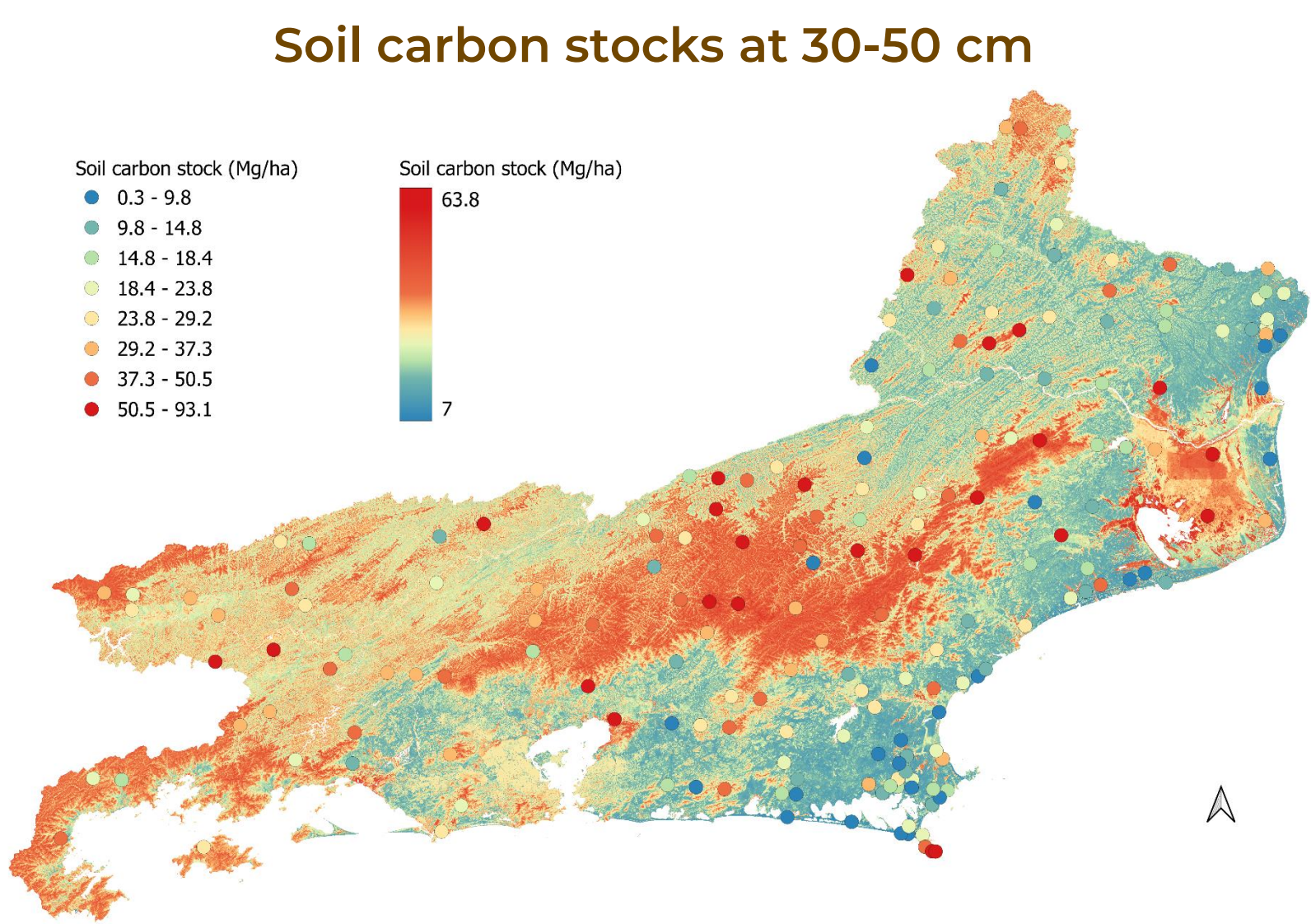
Introduction

Soil carbon stock (SCS) assessment and monitoring is required to evaluate soil health, assess soil ecosystem services, support carbon credit accounting, and guide public policy. In all cases, baseline SCS values are essential, yet they are hardly ever available across large regions, e.g., state- or nationwide. The aim of this work is to produce SCS maps for the Rio de Janeiro state to fulfill the need for high-resolution SCS information for the state.

Results and discussion



Soil carbon stock hotspots in RJ
Serra do Mar
Serra da Mantiqueira
Paraíba do Sul river delta



Descriptive statistics (Mg/ha)					
Dataset	Min	Median	Mean	Max	SD
NFI (0-20 cm)	0.5	37.9	44.5	168.0	26.1
SCS map (0-20 cm)	9.1	42.6	44.5	96.7	12.2
NFI (30-50 cm)	0.3	23.8	27.7	93.1	17.8
SCS map (30-50 cm)	7.0	27.7	28.0	63.8	8.7

Conclusion

The high-resolution SCS maps allow assessing and interpreting the spatial patterns of SCS across the Rio de Janeiro state. They serve as both baseline and comparative information supporting future studies, public policies and projects. The approach to SCS mapping used in this study can be effectively applied to assess SCS in large areas where dense soil sampling is limited due to its high costs.

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