

SoilSuite Europe

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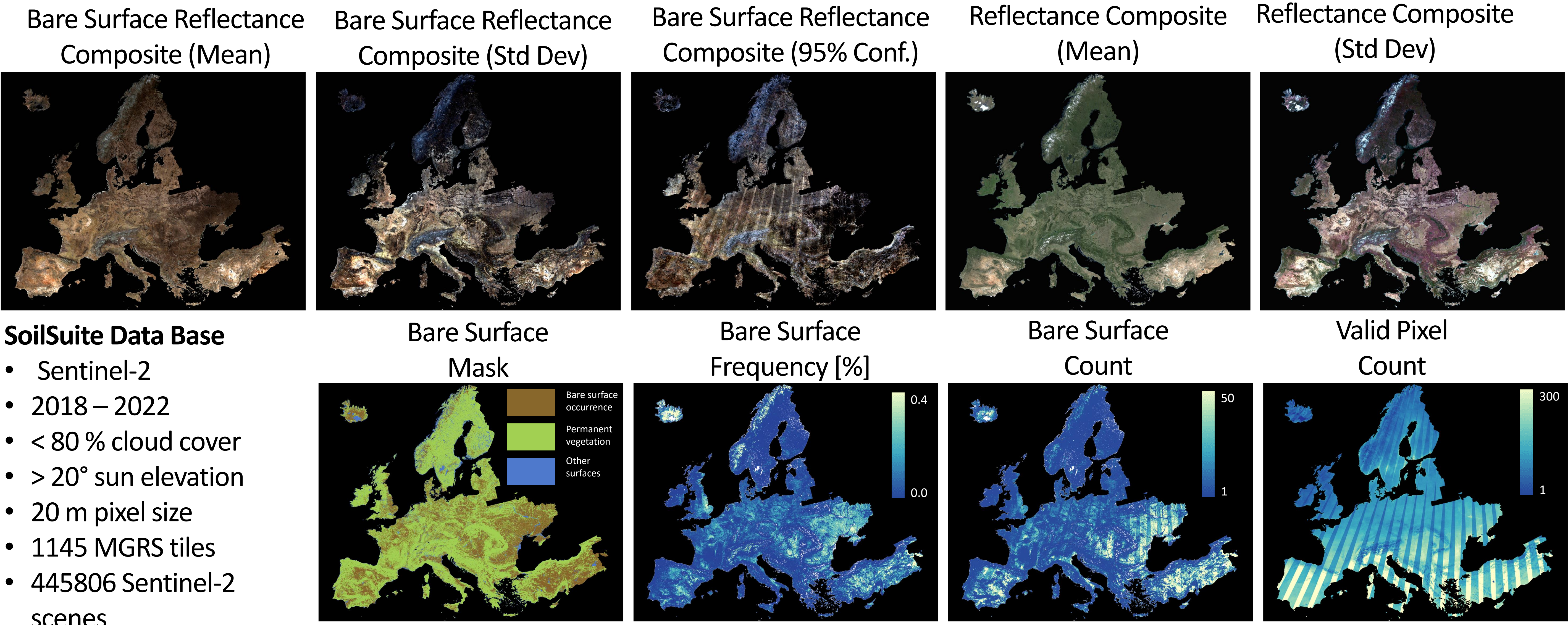


The **SoilSuite** contains a collection of different image data products that provide information about the spectral and statistical properties of European soils and other bare surfaces such as rocks. It is created using DLR's Soil Composite Mapping Processor (ScMAP), which utilises the Sentinel-2 data archive.



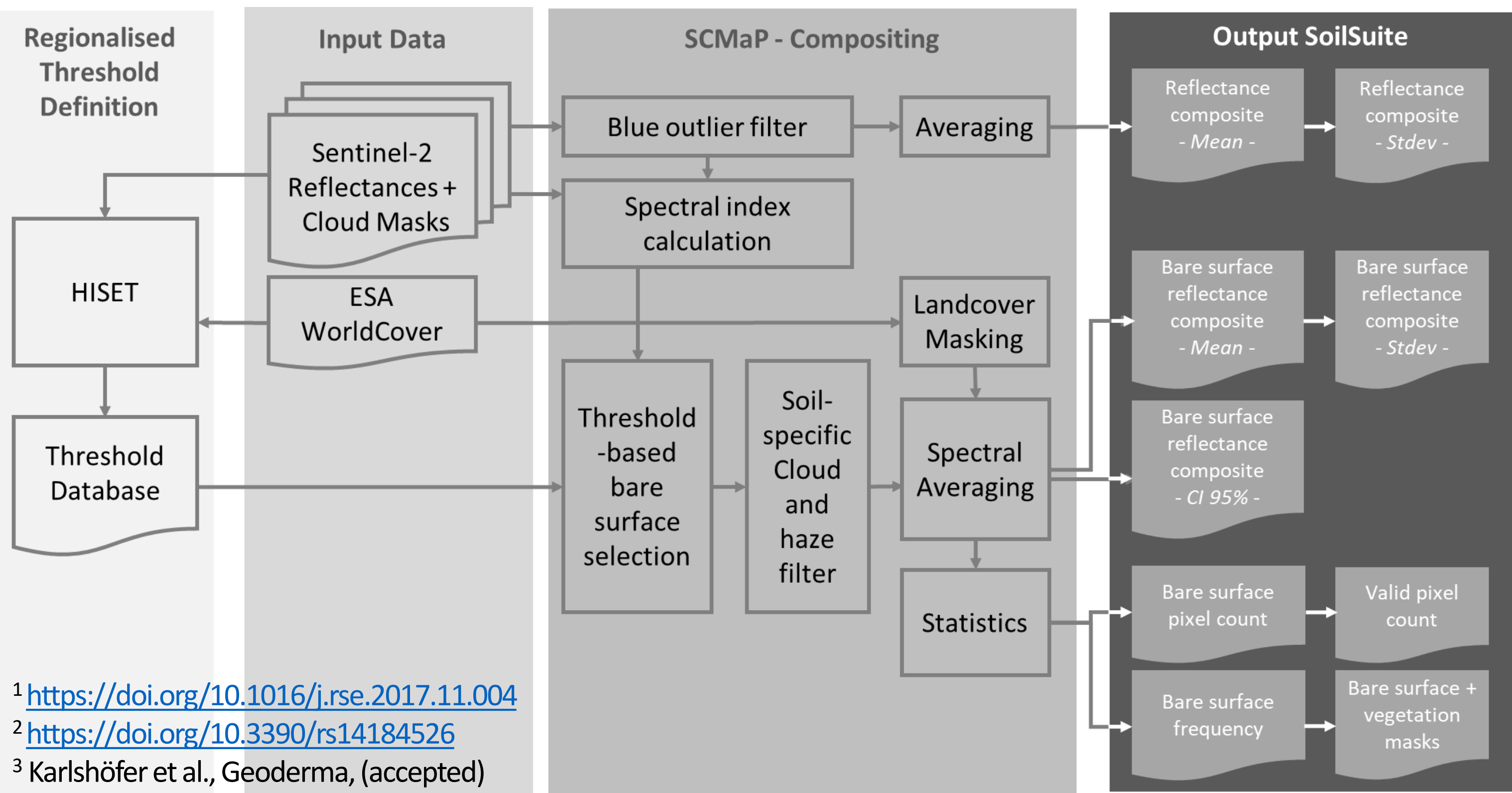
Data availability: The SoilSuite has been published in December 2024 under the license CC-BY-4.0. The data is available on a free and open bases from two platforms. The platforms provide several web services and the download capability. Further, the data is described by STAC metadata.

Products

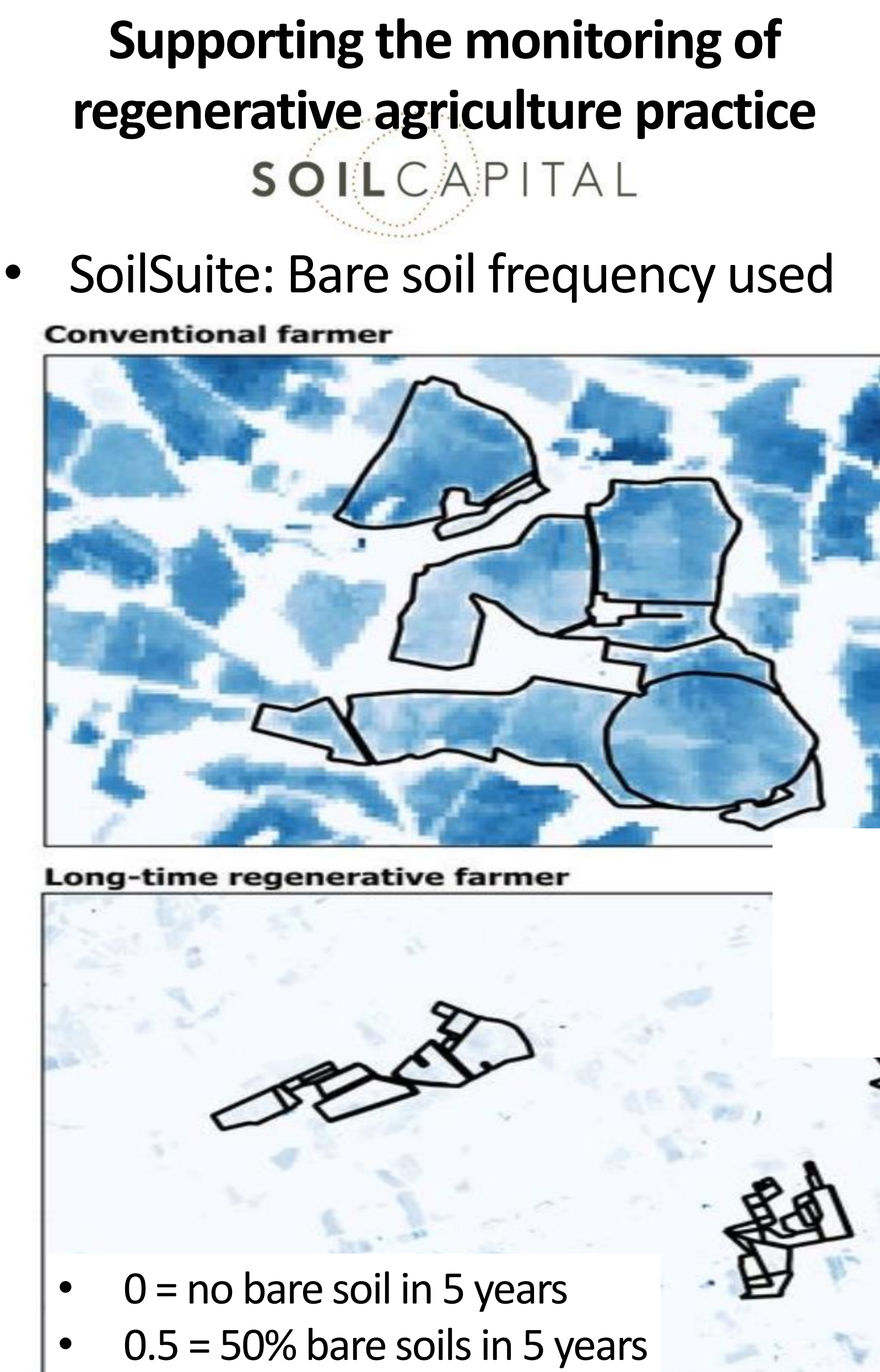
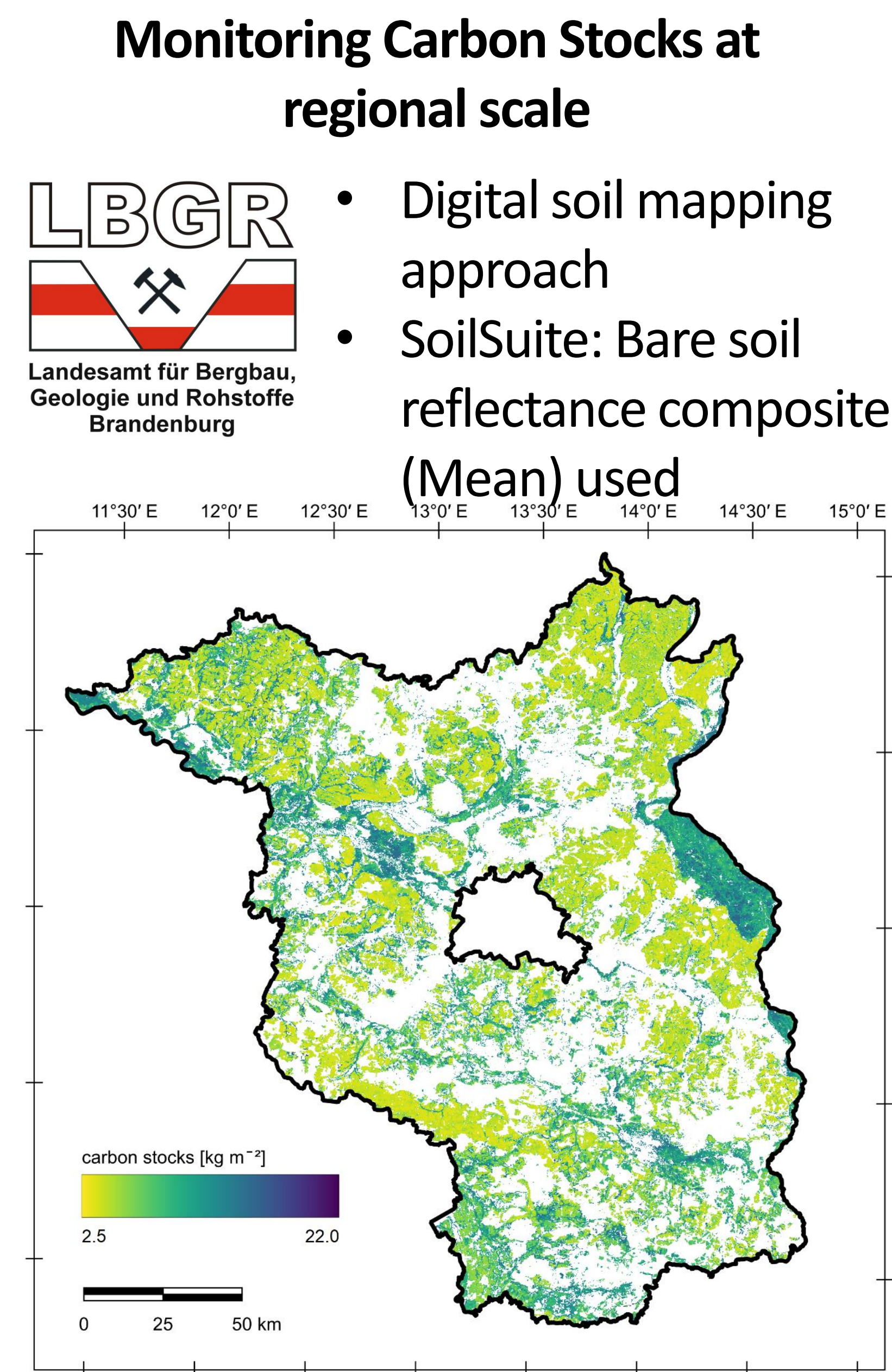


Methods

- Soil Composite Mapping Processor (SCMaP)**
- SCSMaP processor deployed at DLR's terabyte HPC platform
 - Bare surface / soil detection using a spectral index threshold approach (¹Rogge et al., 2018; ²Heiden et al., 2022)
 - Histogram SEparation Threshold (HISSET) method for automated threshold definition (²Heiden et al., 2022, ³Karlshöfer et al., 2025)
 - Enables regionalized threshold definition taken into account the biogeographic conditions of the various regions across Europe
 - Index evaluation results in the combined NDVI+NBR index as the best choice for Europe (³Karlshöfer et al., 2025)



Application



- Preoperational system for the monitoring of soil organic carbon content in top soils**
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- ESA WorldSoils project
 - Soil organic carbon content [dg/kg]
 - 50 m (regional), 100 m (global)

