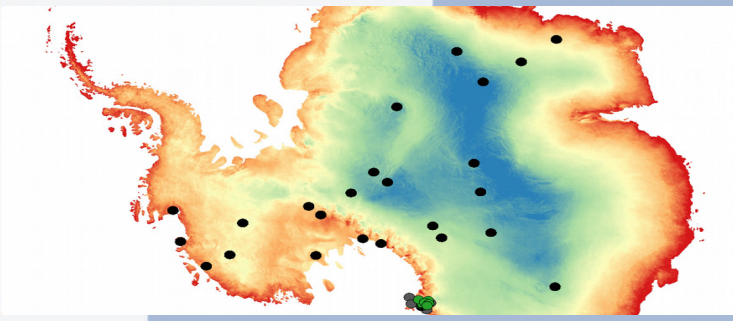
Philipps Universität Marburg

Machine-learning based modelling of spatio-temporal environmental data (using R)

Part 2: Computer Practice

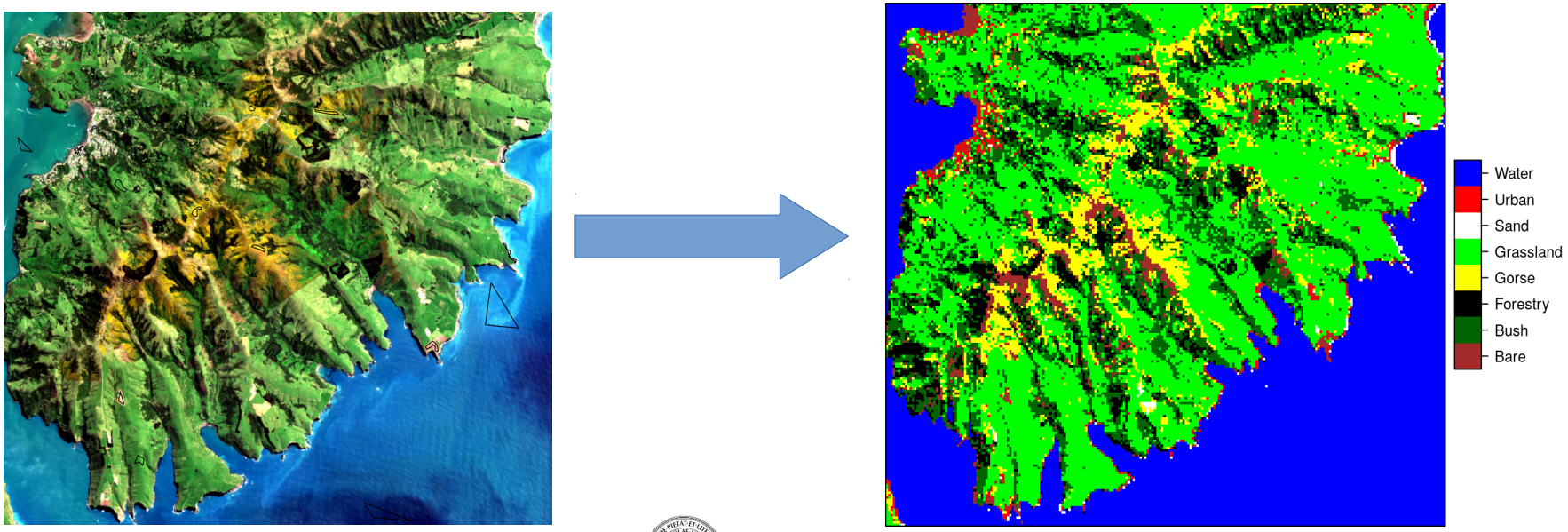
- ***Land cover classification***
- ***Spatio-temporal modelling of soil moisture***



Hanna Meyer

Land cover classification with ML in R - Example of the Banks Peninsula in New Zealand

- Task: Identify the invasive gorse on the Banks Peninsula in New Zealand based on Sentinel satellite data
- Technical Focus: Random Forest model training and spatial prediction
- Material: LUCmodelling.html in https://github.com/HannaMeyer/Geostat2018/tree/master/practice/
- Data: Sentinel spectral channels (sentinel2017.grd) and polygon containing training sites: (trainingSites.shp)



Spatio-temporal ML strategies - Example of soil moisture of the Cookfarm

- Task: Spatio-temporal predictions of soil moisture for the Cookfarm
- Technical Focus: Target-oriented cross-validation, feature selection to analyze the sensitivity of ML for spatio-temporal data
- Material: CAST-intro.html in https://github.com/HannaMeyer/Geostat2018/tree/master/practice/