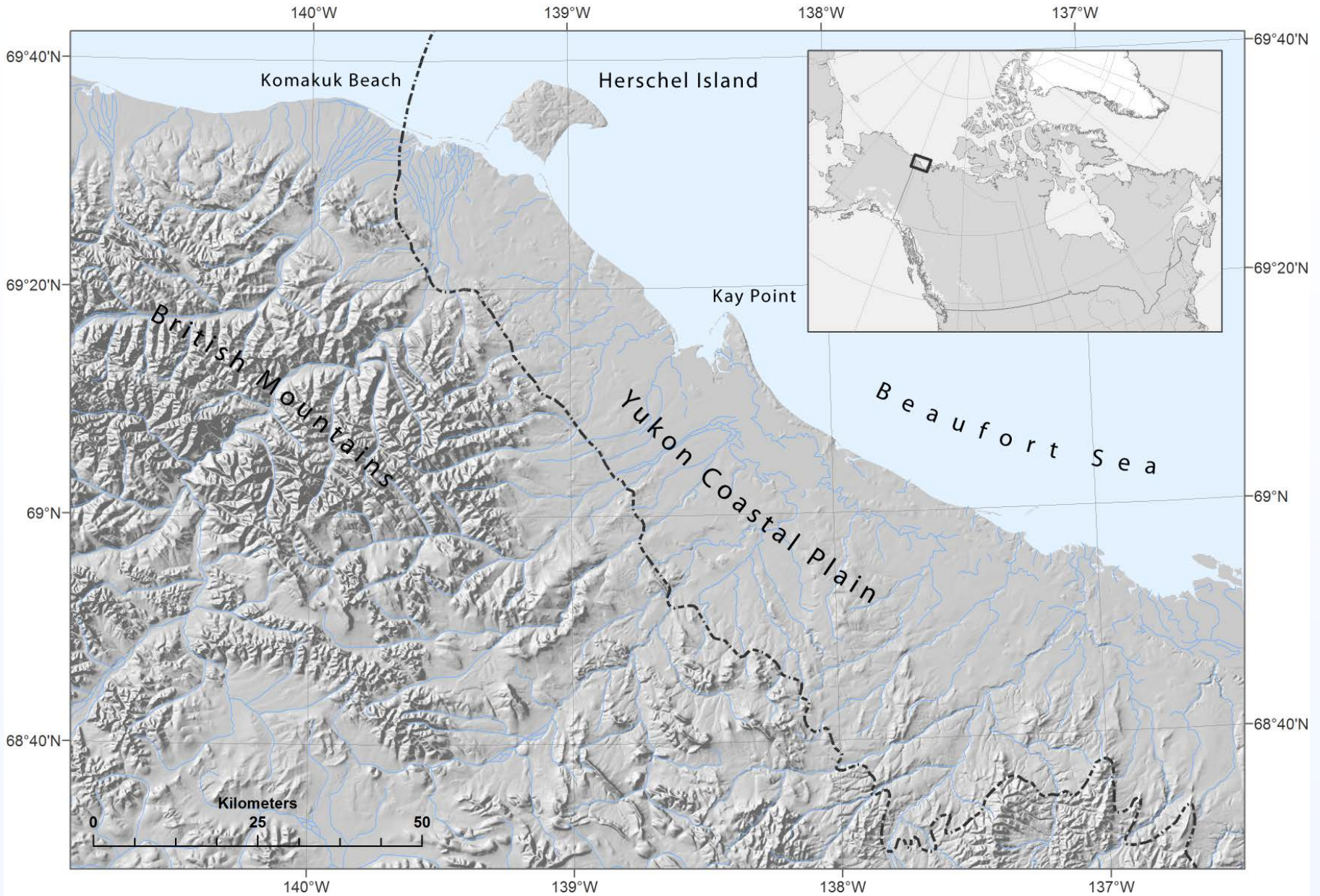


# Soil organic carbon and total nitrogen on the Herschel Island

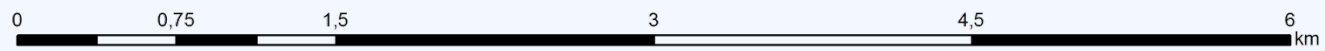
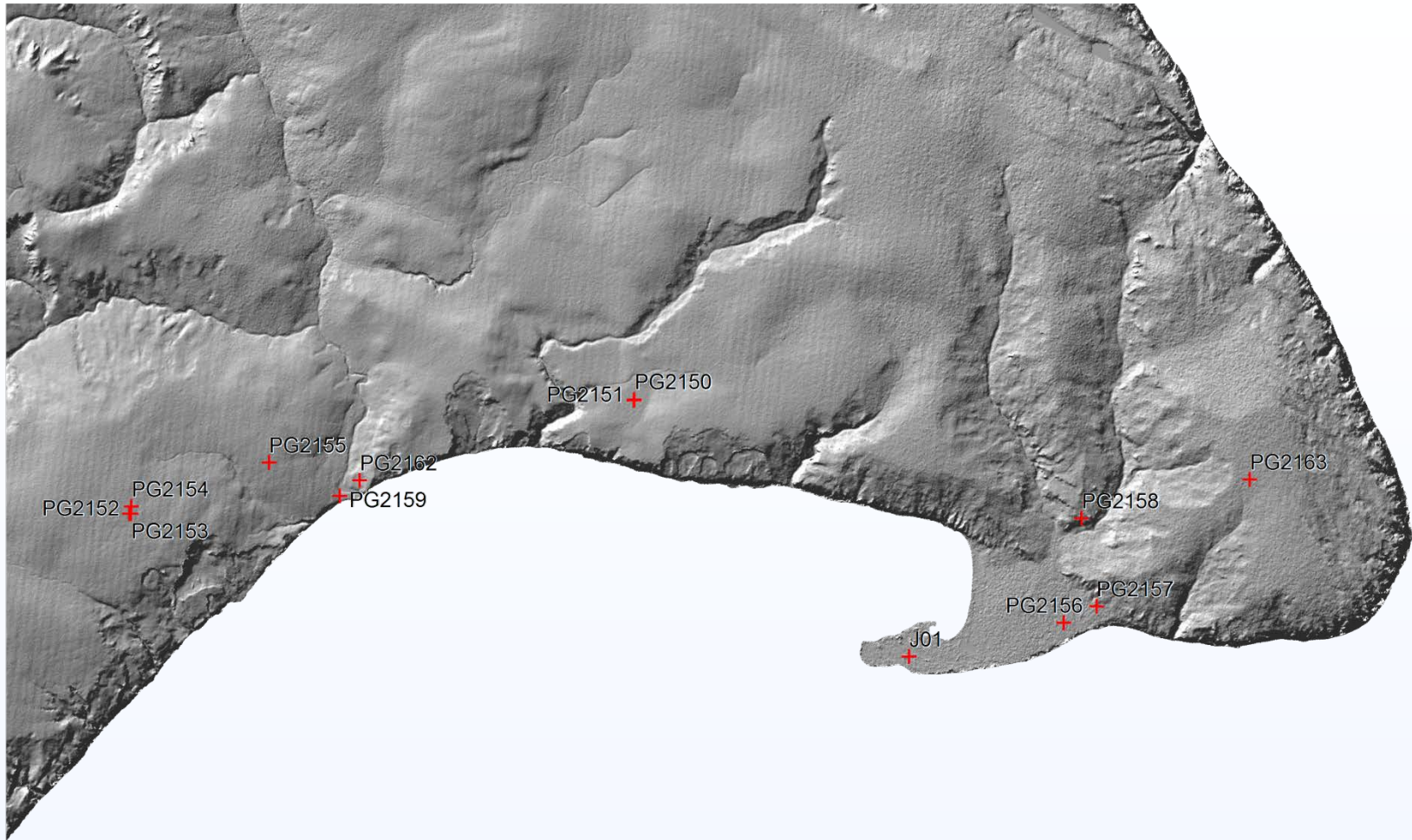
Jaroš Obu

Hugues Lantuit, Michael Fritz, Birgit Heim, Isla Myers-Smith, Torsten Sachs, Veit Helm and Juliane Wolter

3rd CAPP Workshop 2014  
Stockholm, 12<sup>th</sup> to 14<sup>th</sup> of May, 2014



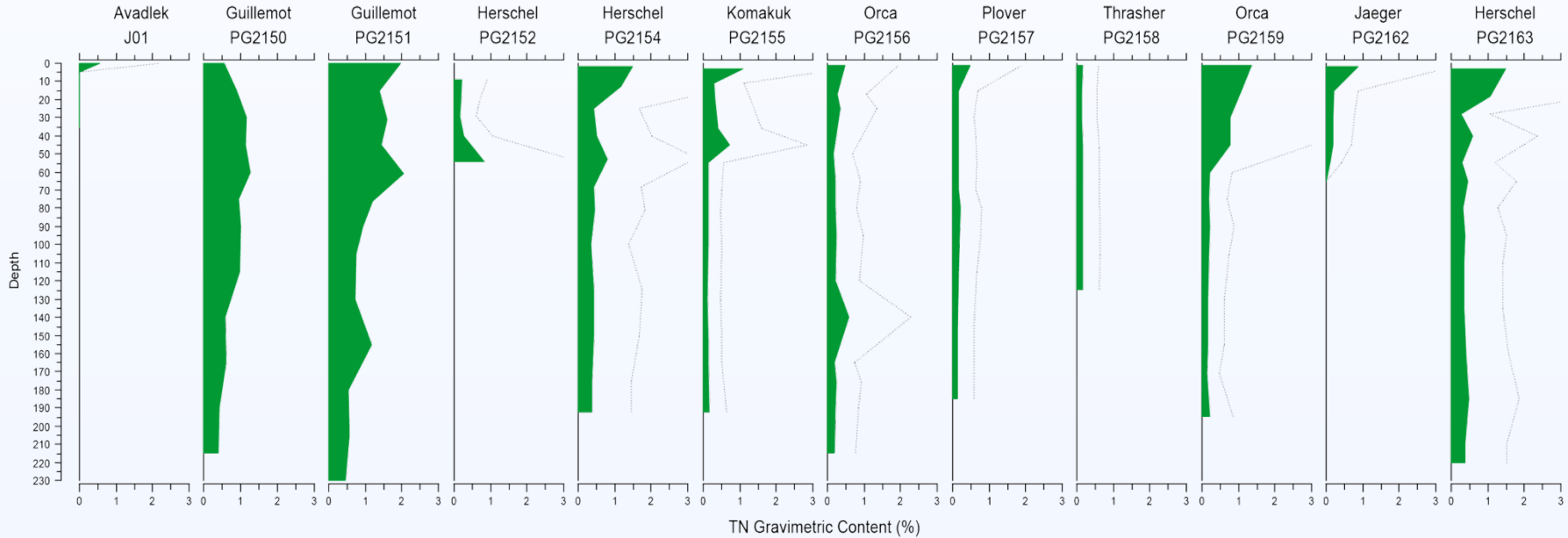
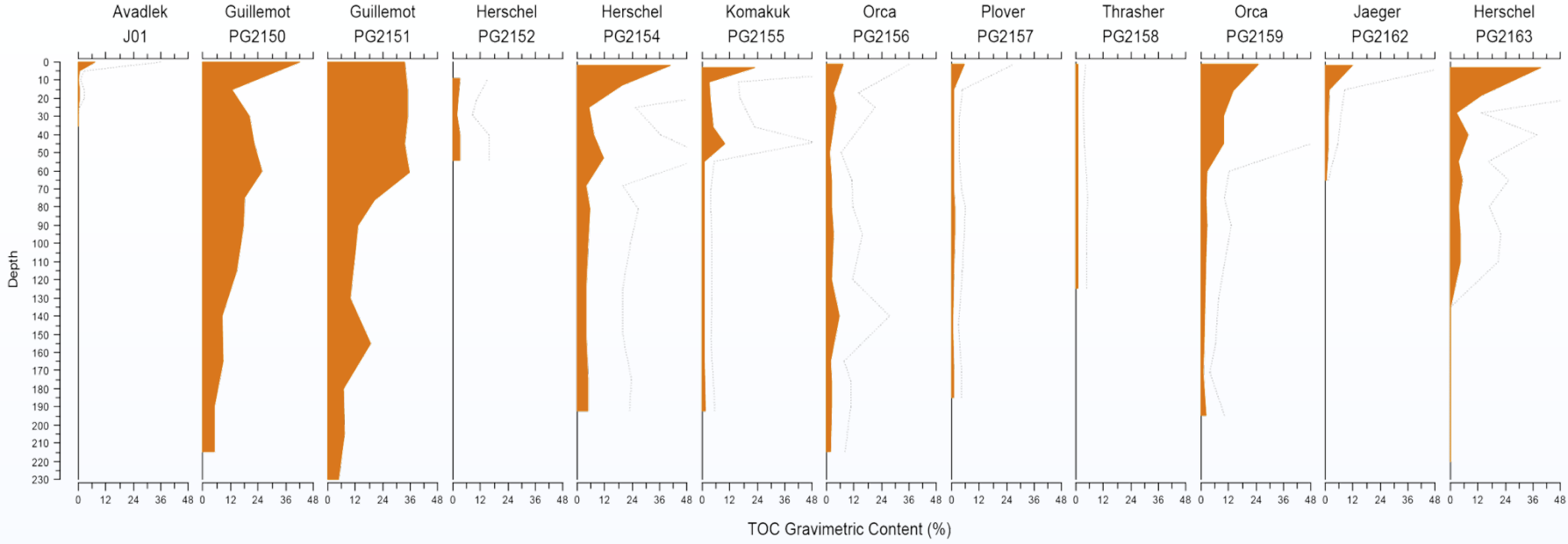
- Upscaling point data



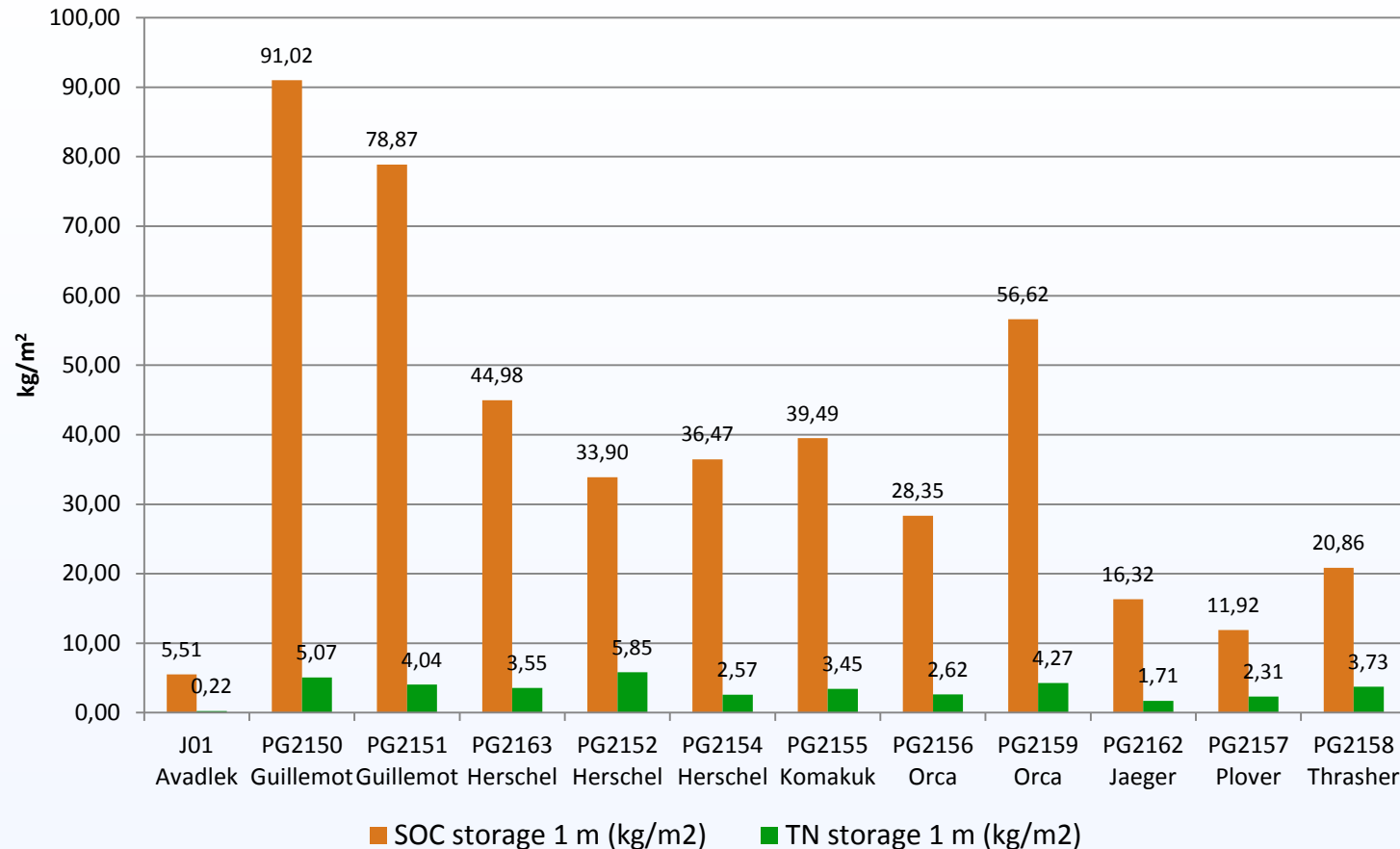


- 128 samples from 12 cores
- 5 cm thickness on every 10 cm of core
- Analyses of Total Organic Carbon and Total Nitrogen with combustion method

# Carbon and nitrogen contents

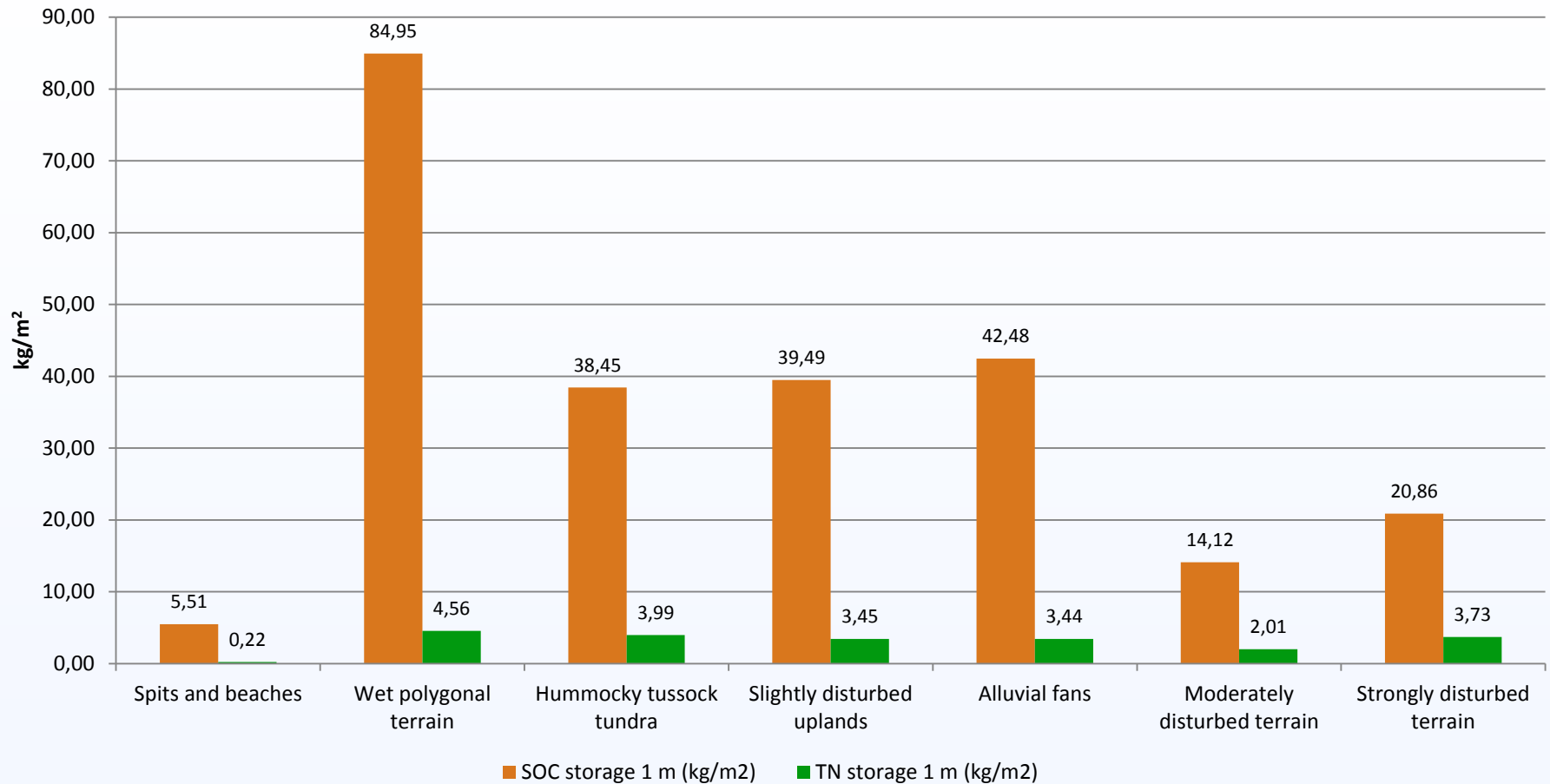


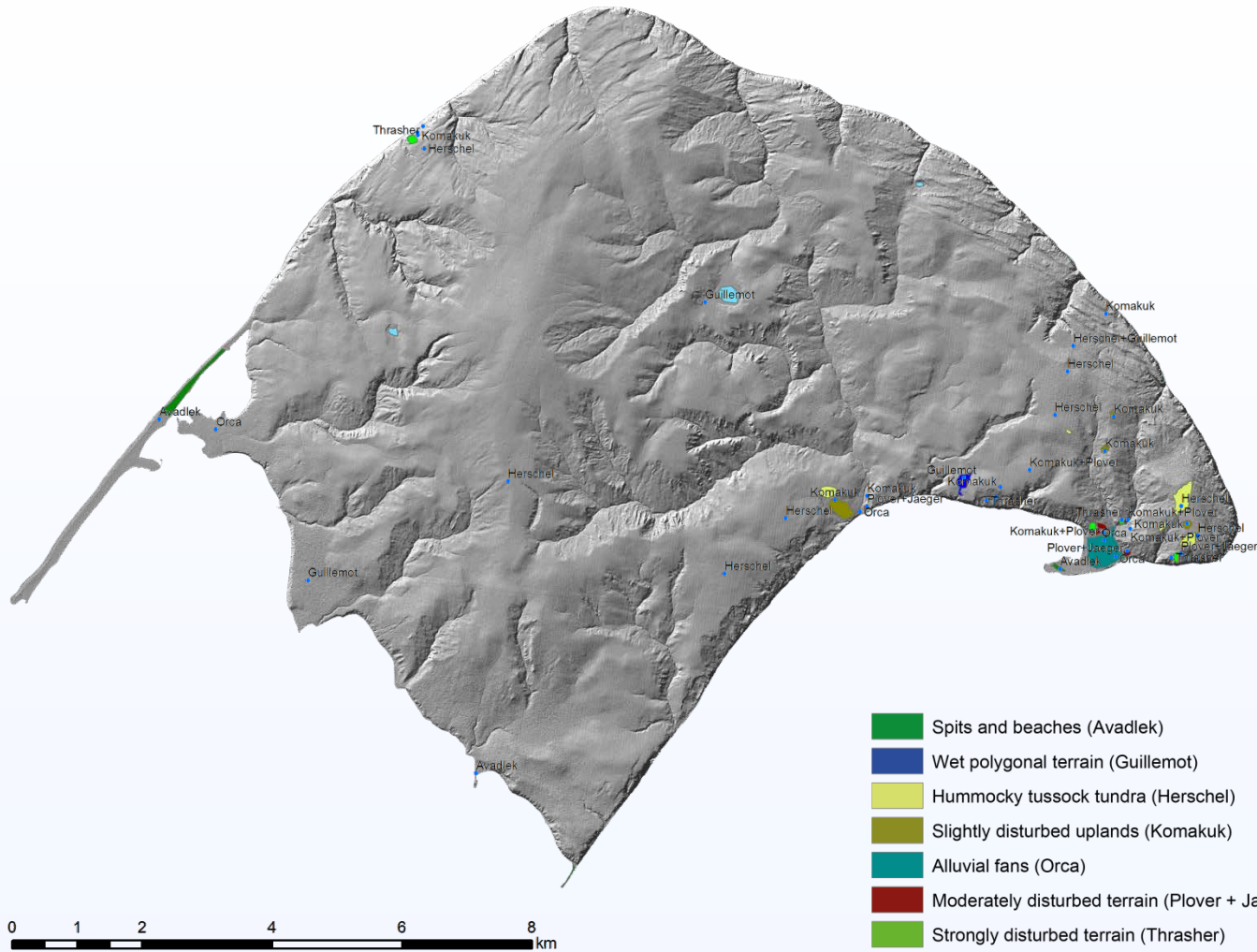
## Soil organic carbon and total nitrogen storage in 1 meter



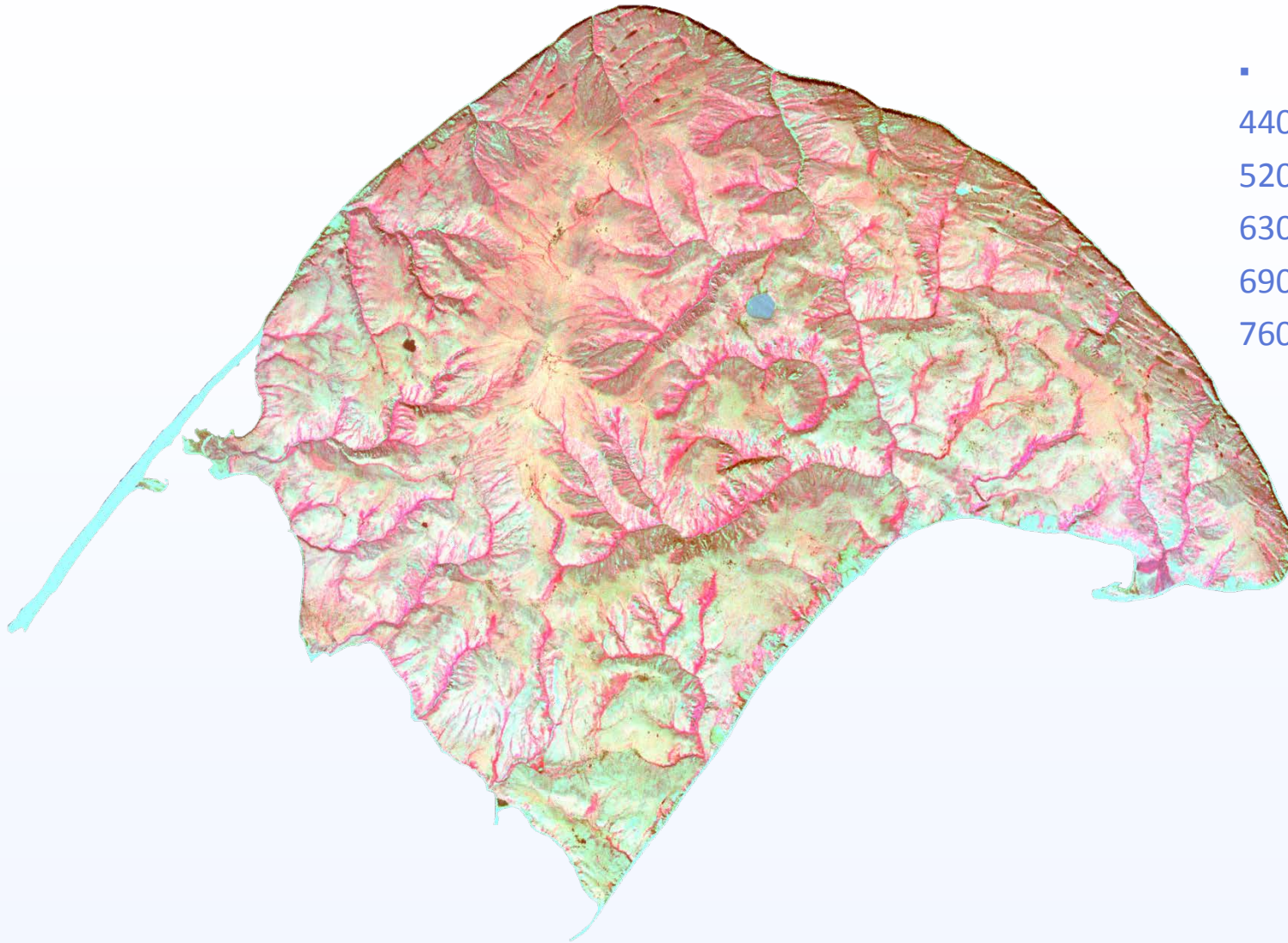


## Soil organic carbon and total nitrogen storage in 1 meter

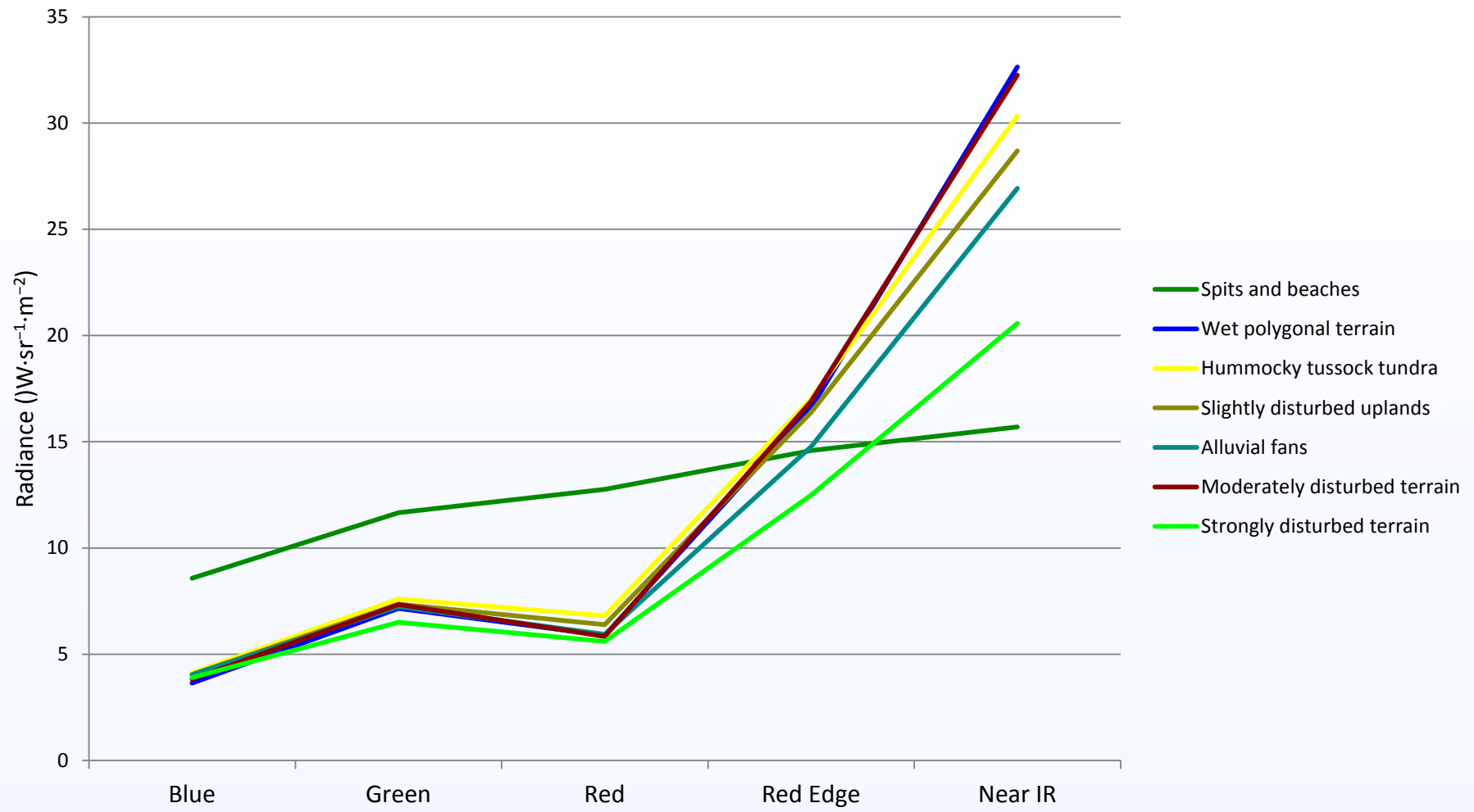


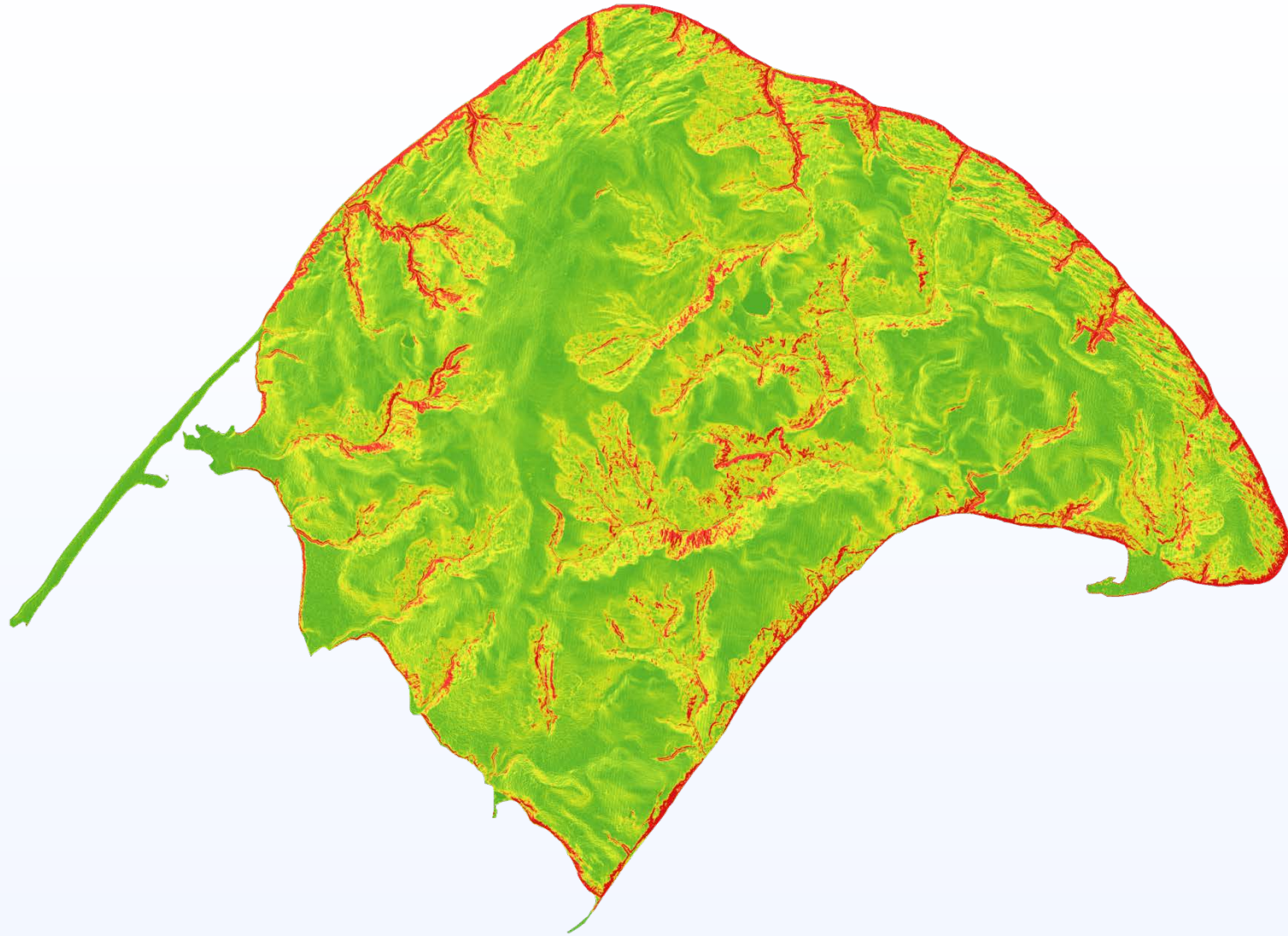


- 21 training units
- 40 ground truth points
- Maximum likelihood classification

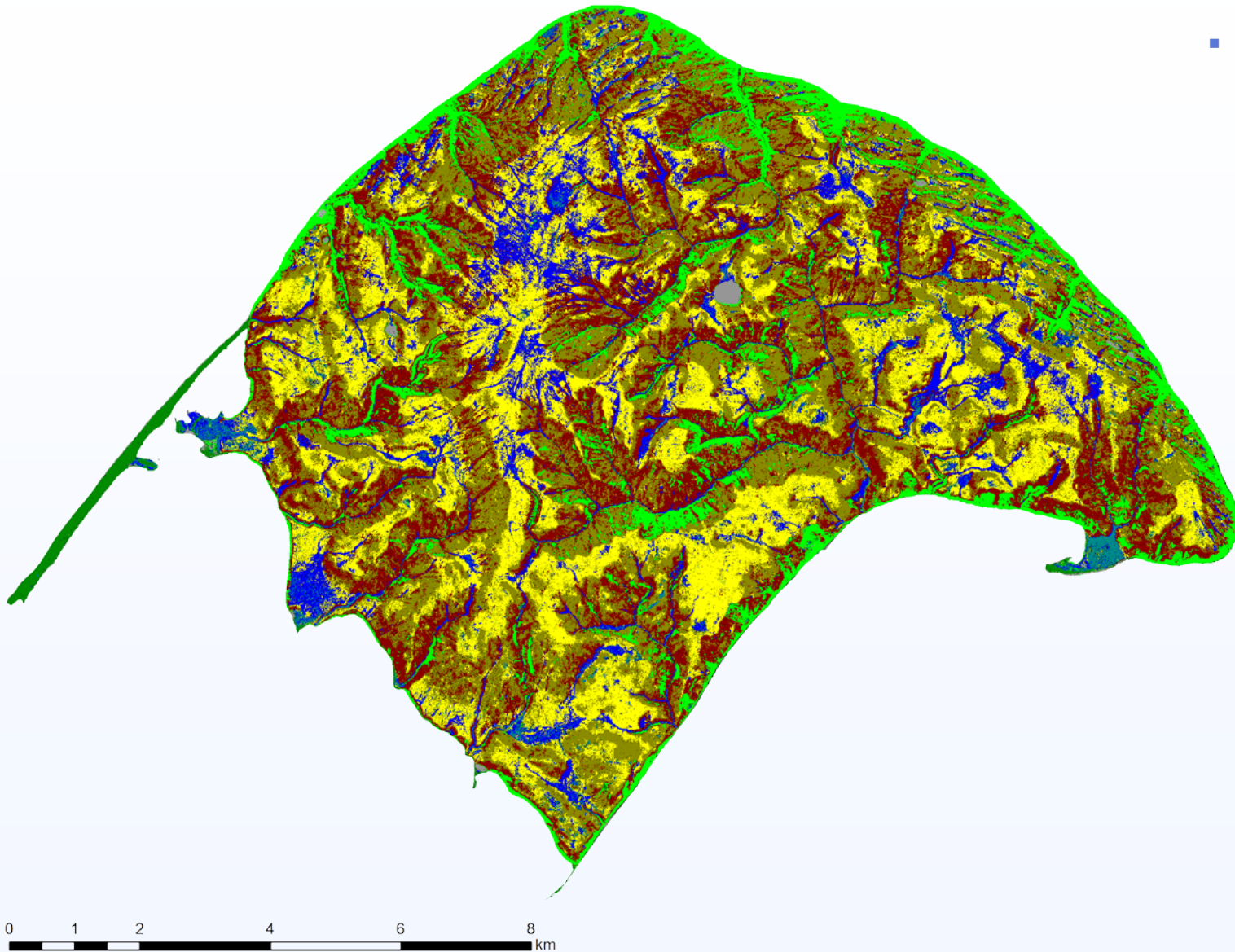


- Horizontal resolution 6,5 m
- 5 bands  
440 – 510 nm (Blue)  
520 – 590 nm (Green)  
630 – 685 nm (Red)  
690 – 730 nm (Red Edge)  
760 – 850 nm (Near IR)

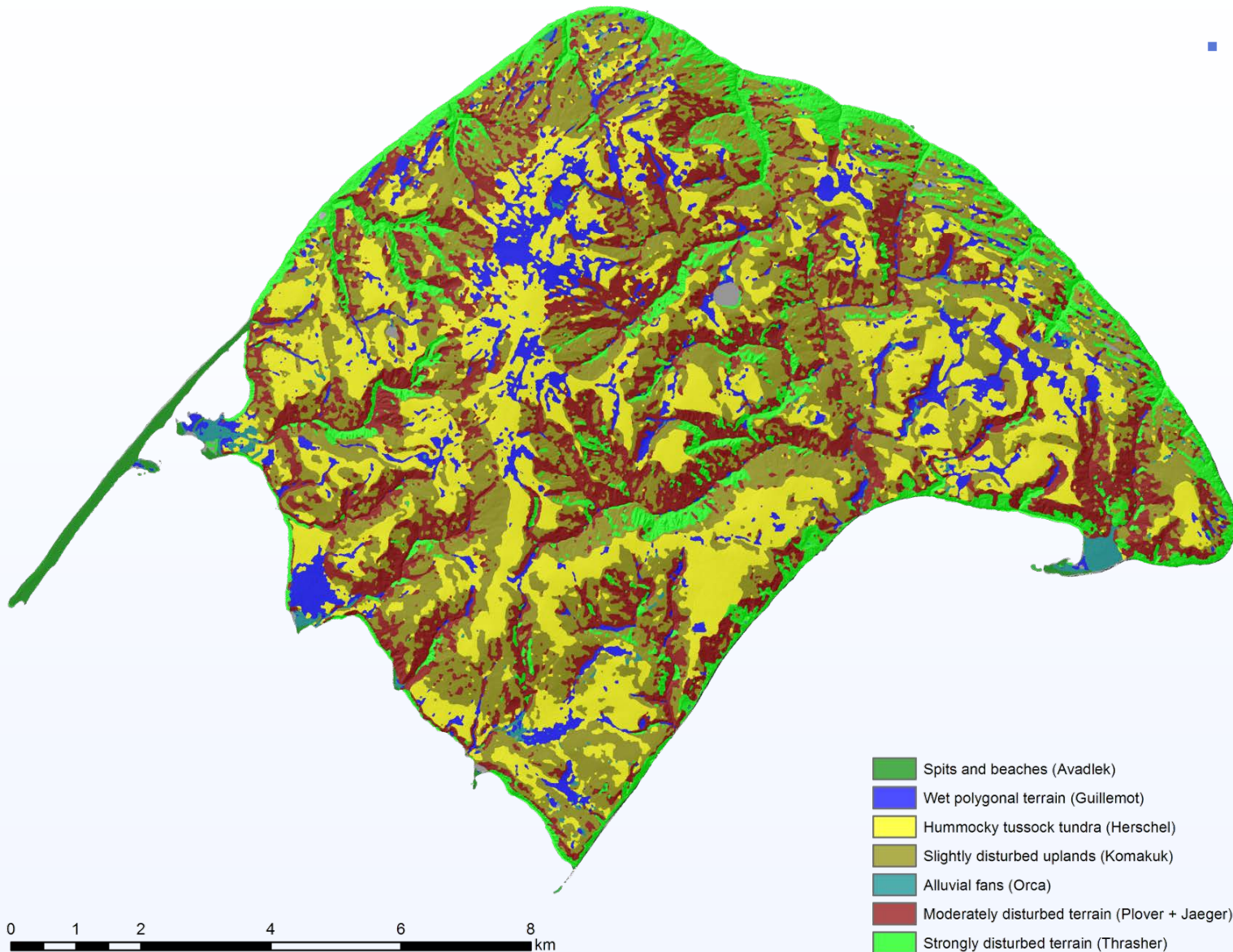


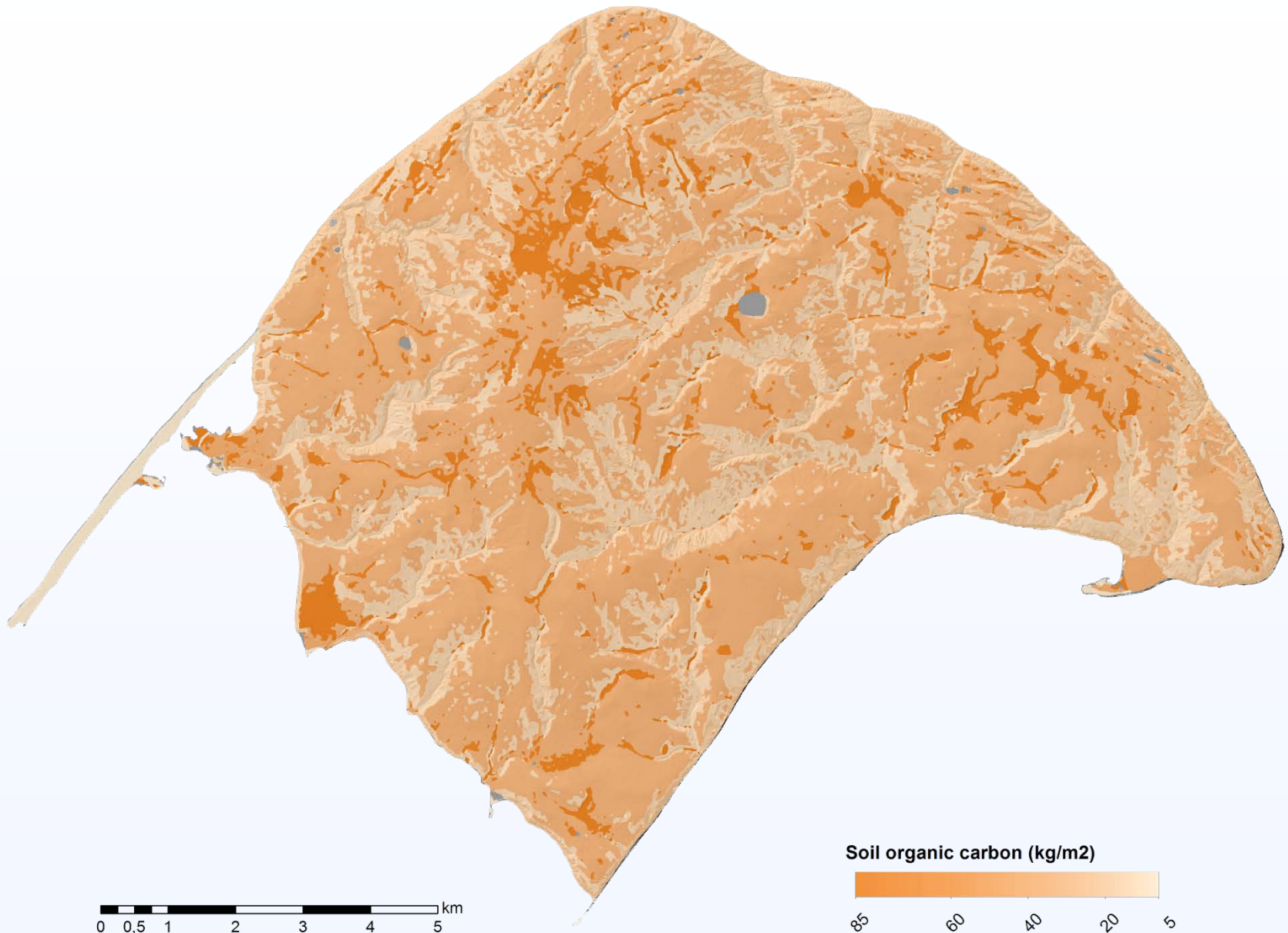


- 4 x 4 circle majority filter

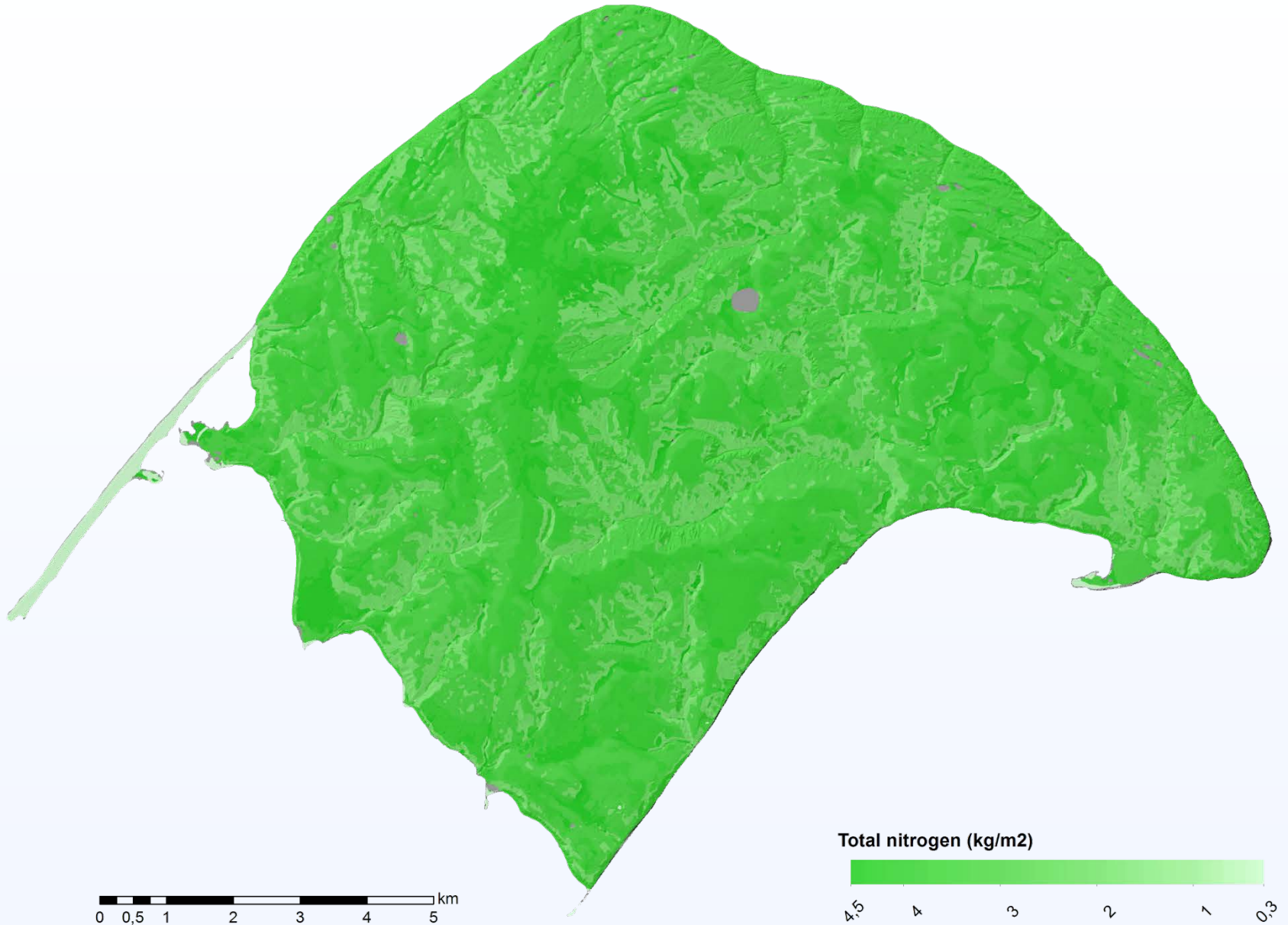


- 75 % agreement between ground truth points and classification

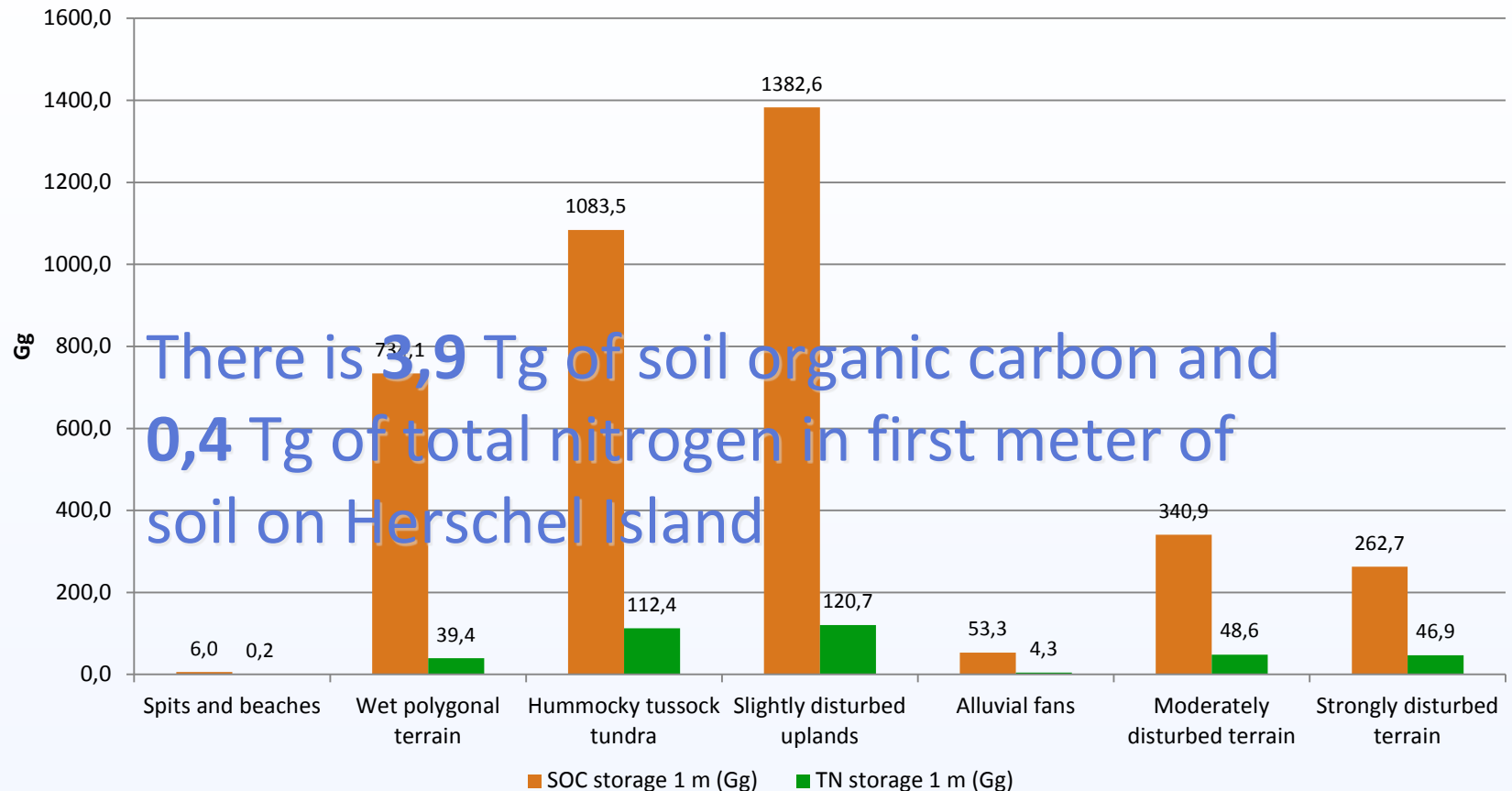








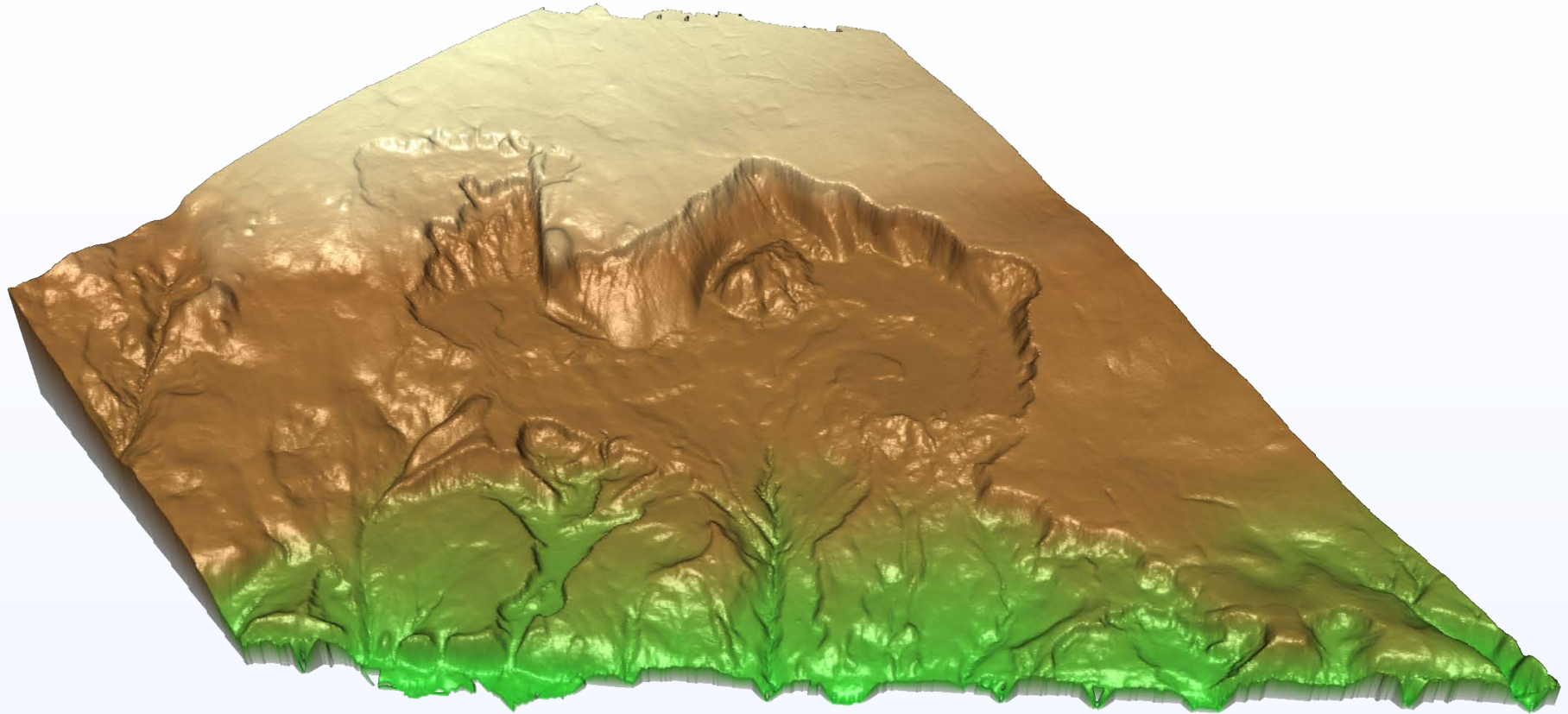
**Nutrient storages on Herschel Island in 1 meter per ecological unit**



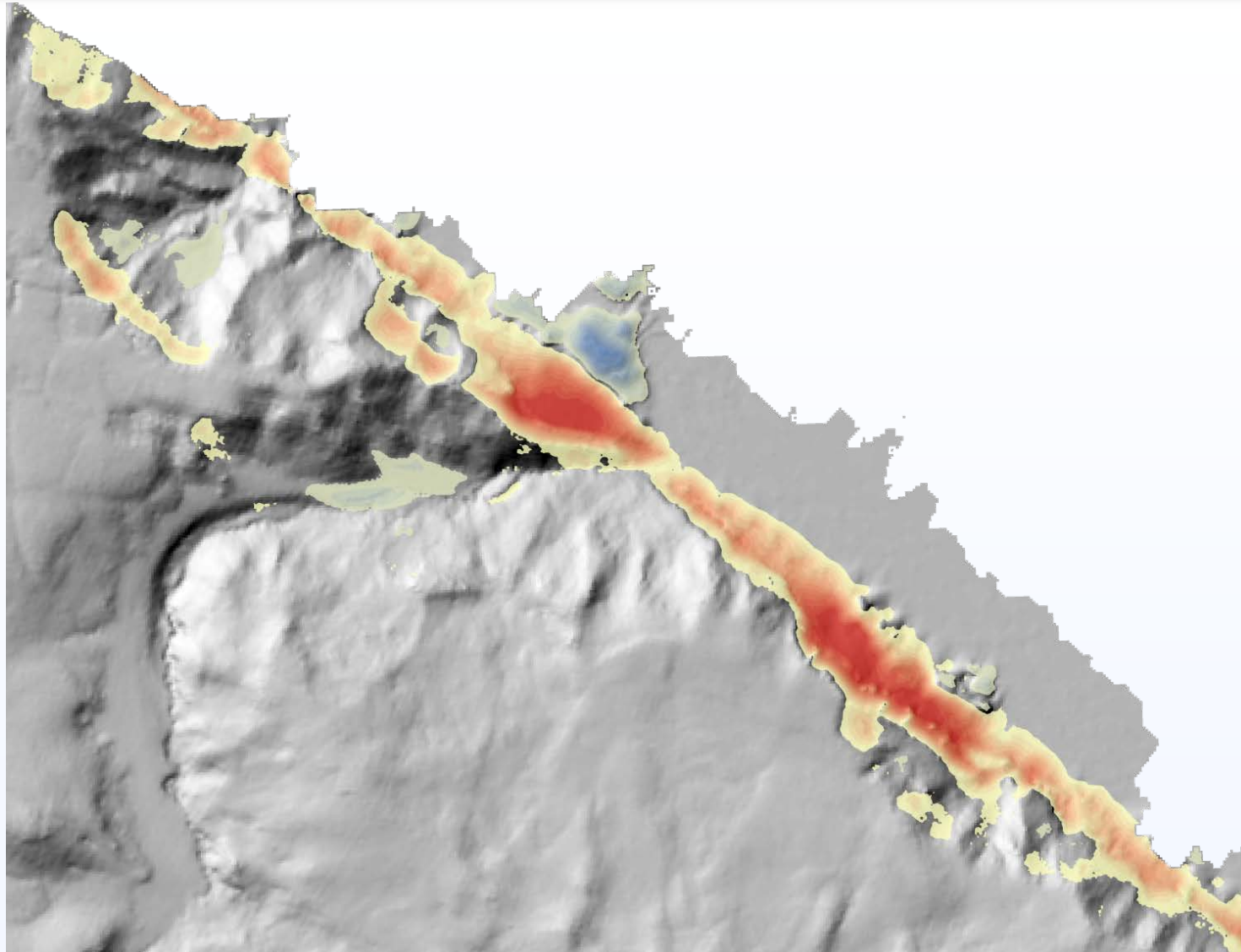
- Spits and beaches unit was excluded
- 11 cores used

		Elevation	Slope	Moisture	NDVI	Disturbance
	r / rho	-0,136	-0,676	0,686	0,226	0,568
SOC 0-100cm	R-squared	0,019	0,456	0,47	0,051 /	
	p-value	0,69	0,023	0,02	0,504	0,068










Elevation decrease (m)







An aerial photograph of a coastline. On the left, a green, grassy cliffside meets the sea. The water is a deep blue, with a lighter, sandy-colored area near the shore. The text "Thank you for your attention" is overlaid in white in the center of the image.

Thank you for your attention



