

Gusum's Geographic and Ecological Overview



Soil Sampling Process for Environmental Study

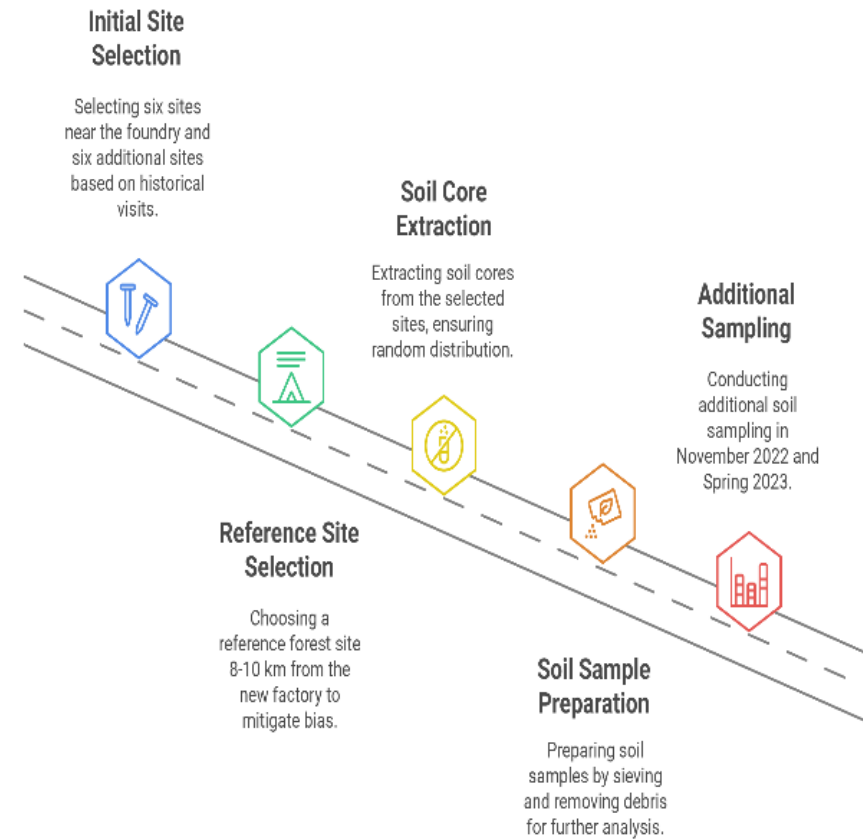


Figure 1. Geographic and ecological setting of the Gusum study area and the soil sampling and preparation workflow.

Figure 3. Ground-layer cover by distance band in surveys conducted from 1978 to 2023. Sources: Folkeson (1981, 1984), Langemar (1994), and the present study (2023). The left panel compares values reported in earlier studies with the 2023 results. Moss cover was higher only in the 1–3 km band sampled in the year 2023, which includes areas around the old smelter, showing remarkable recovery and reappearance of vegetation compared to the other distance bands.

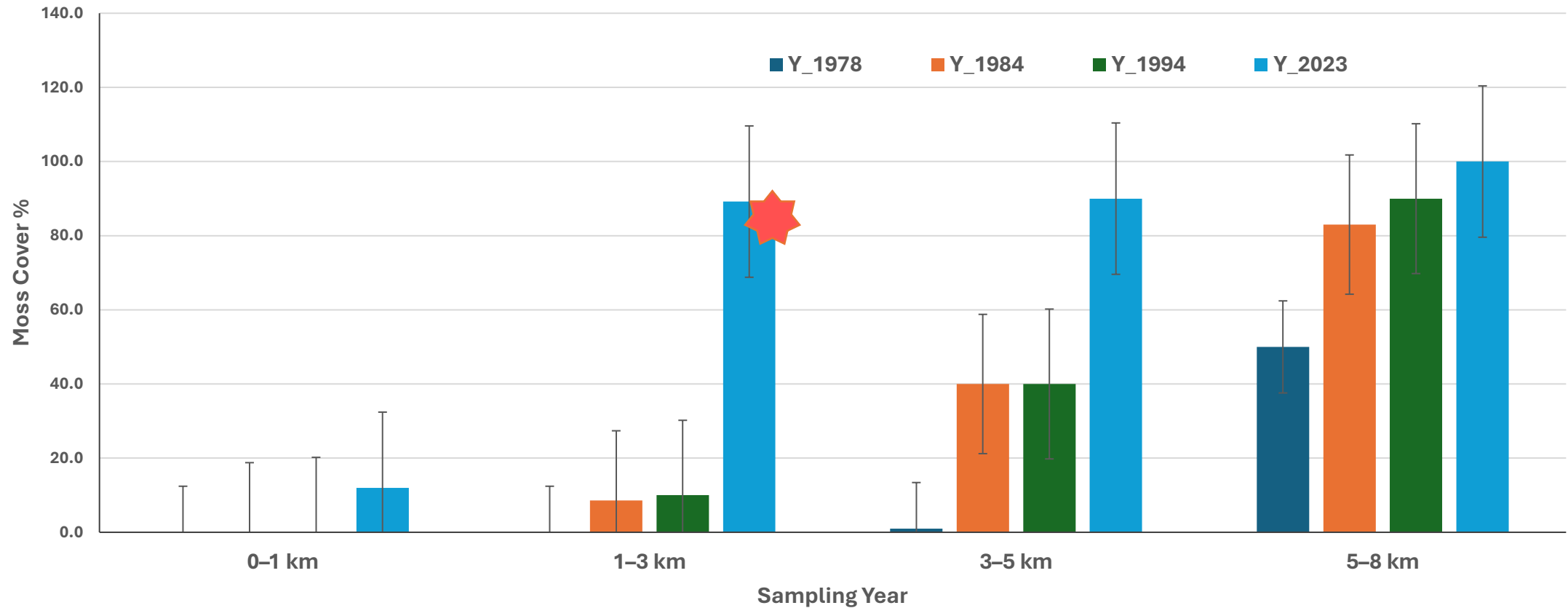
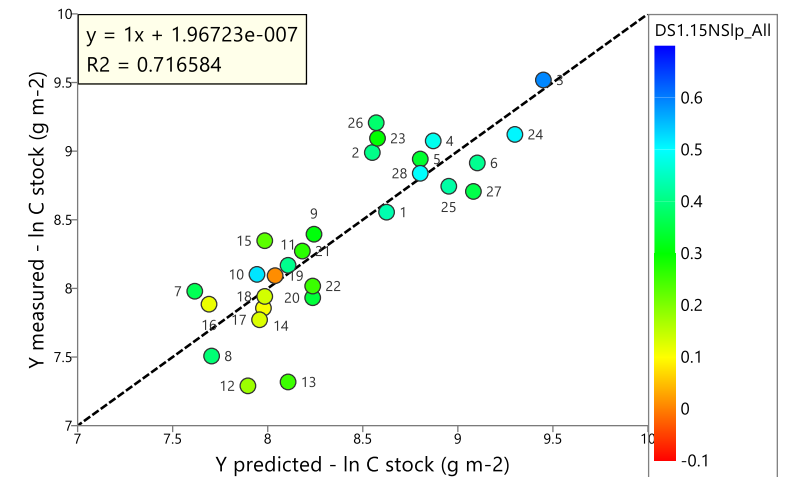
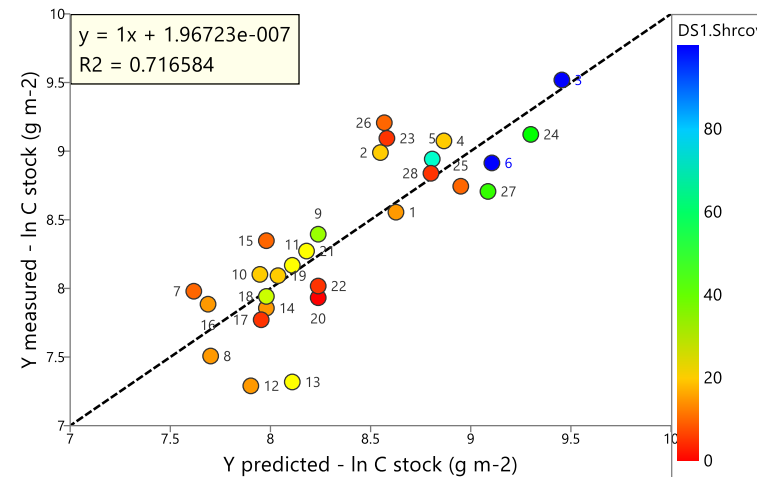
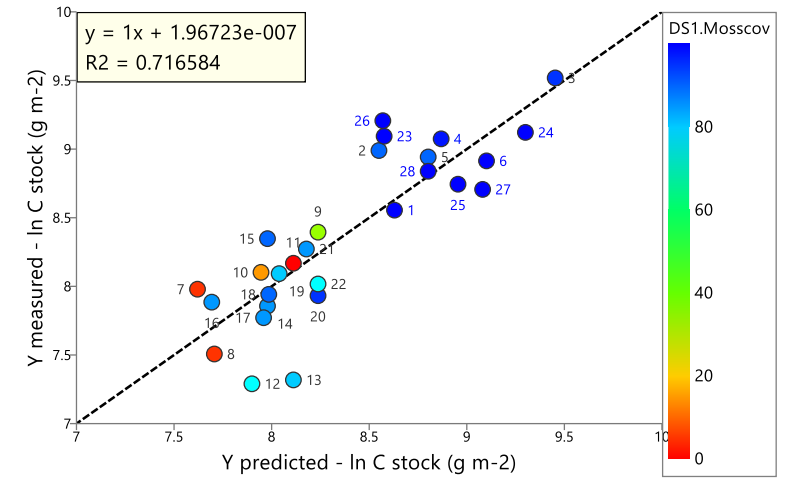
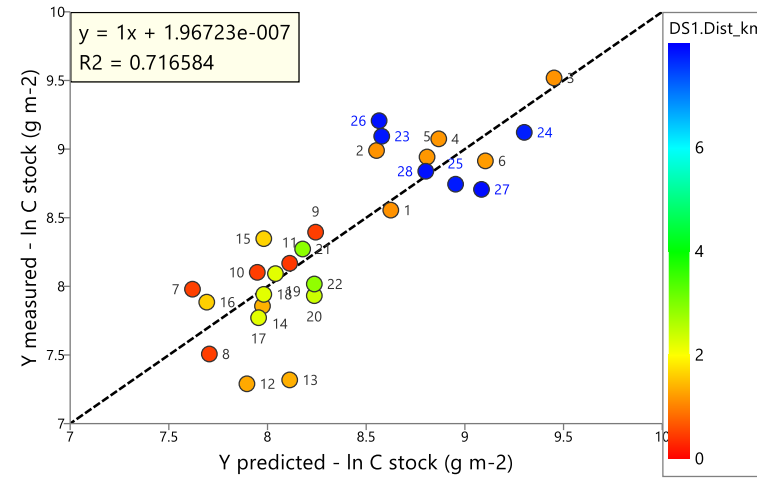


Fig 4: Predicted vs. measured soil carbon stock ($\ln C, \text{g m}^{-2}$), coloured by distance, moss cover, shrub cover, $\delta^{15}\text{N}$ signature from the smelter ($R^2 = 0.72$)



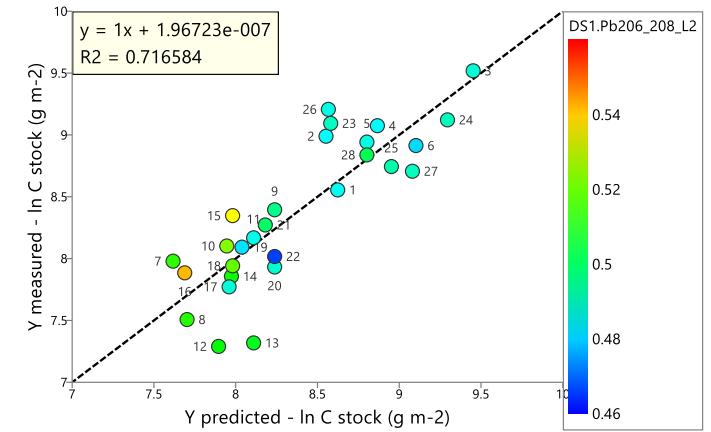
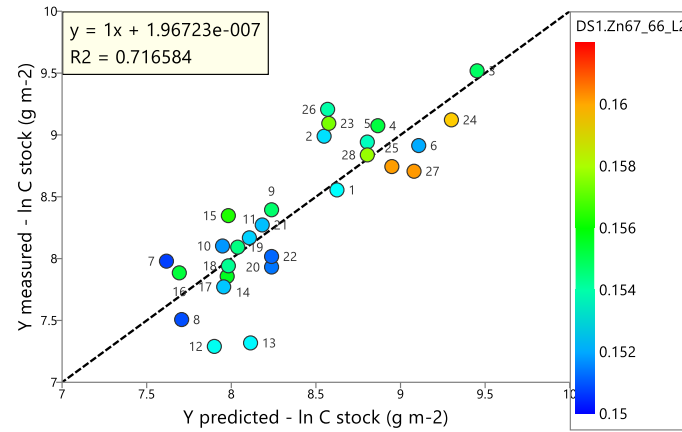
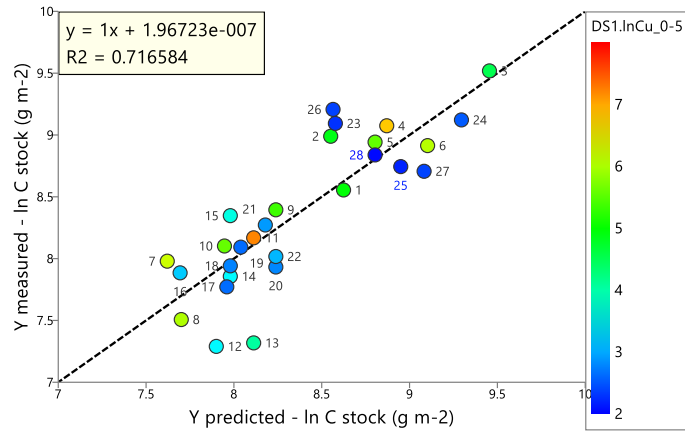


Figure 5. Measured versus predicted soil carbon stock (ln C stock, g m⁻²), with points shaded by topsoil ln copper concentration, 0–5 cm, Zn 67/66 (centre) and Pb 206/208 isotope ratios (right).