Eva Arnau-Rosalén 1; Carolina Boix-Fayos2; Elias Symeonakis 3; Adolfo Calvo-Cases 1 Soil surface **spatial heterogeneity** along hillslopes ¹Department of Geography, Universitat de València, Spain ²Centro de Edafología y Biología Aplicada del Segura, Murcia, Spain under inspection: a 1D approach ³School of Science & Environment. Manchester Metropolitan University, UK HETEROGENEOUS Coverture (%) Non-Vegetated Domain Vegetated Domain = COMPOSITION On-top Rock Frag. >70% Herbaceous Veget. RANDOM / PATTERNED 25-70% ... dominant species Bare soil = CONFIGURATION (y/n physical crust) **Shrub Vegetation** >70% Embedded Rock Frag. ... dominant species **Arboreal Vegetation** Bare soil 25-70% (y/n physical crust) ... dominant species < 25% **ROCK OUTCROPS Biological Soil Crusts (BSC) Rock Outcrops Biotic Cycle** Abiotic Cycle Litter Rock outcrops Brachyp, retusum =>70% embd. RF Stipa tenacissima 25-70% embd. RF Shrubs <25% embd. RF **Time Series** Rock outcrops frequency Pinus halepensis >70% on-top RF Analysis 25-70% on-top RF 100 ///.<25% on-top RF **BARE SOIL Anisotropy test** Lateral variation cover (%) SSC Variation along hillslope PATTERNED at multi-scale SSC Coverture (%) along the hillslope Coverture (%) for each SSC along HIERARCHICAL) Autocorrelogram biotic & abiotic SSC the hillslope by periodicity degrees, showing LEVELS (c) Periodogram

the SSC occurrence and association.

Simpson diversity Index

distribution

litter <25% rf >70% rf rock

shrubs herbs

COMPONENTS