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Size segregation in soils due to water erosion

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The aggregate size distribution of clay soil top layers in an experimental watershed in a olive tree plantation of Southern Spain shows a downhill fining trend attributable to particle detachment and sediment transport processes. The measured data allow the discrimination of source areas, high soil losses, inappreciable erosion, and sediment deposition, within the watershed.

The parameters of log-hyperbolic distribution fitted to the data show the erosiondeposition pattern, indicating the size segregation by the water erosion phenomena.

This distribution is a useful tool for erosion analysis in clay soils although restricted to surface layers without mixing of either eroded or deposited particles with the underlying soil.