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Abstract

Old-growth forests: An ecosystem approach

Ecological portrayal of old-growth forests and persistent woodlands in the Cilento and Vallo di Diano National Park (southern Italy)

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Abstract:

The maintenance of certain levels of old forest represents a cornerstone of the EU's biodiversity management strategy. A consensus on a single general ecological definition of old-growth is particularly difficult in Mediterranean Europe. The present paper deals with old-growth forests and persistent woodlands in the Cilento and Vallo di Diano National Park (PNCVD) to give an ecological understanding of forest complexity and dynamics under a multiscale and multidisciplinary perspective. The multiscale approach ranged from the identification and mapping of potential old-growth stands at landscape scale to a two-level field review of forest stand features. Field sampling involved a multidisciplinary team of researchers in forest structure, pedologic environment, soil microbial activity, flora and vegetation and deadwood components. The research provided sound knowledge about old-growthness features in the PNCVD that constitutes a unique case study in the whole Mediterranean basin. The integration of results allowed to: identify main ecosystem functions and the related services of the old-growth forests in the study area; distinguish persistent

woodlands, multi-aged stands with old trees deriving from nineteenth-century management practices, from old-growth forests sensu strictu; recognize indicators of direct and indirect impacts of human activities; suggest effective practices for sustainable management in the Mediterranean context.

biodiversity

forest dynamic, gap dynamic, succession

forest structure: stand

deadwood

soil - site

Notes

Old-growth forests, persistent woodlands, managed stands, Mediterranean region, ecological characterization, soil, biodiversity

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