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Anthills and termite mounds as a biogeomorphological heritage

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Anthills and termite mounds are prominent features in many geomorphological landscapes of temperate and tropical geosystems. They individually constitute small-scale landforms (up to 10 m high for the tallest termite mounds) and their spatial assemblage can reach very high densities (up to 2,500 mounds per hectare for the yellow meadow ant *Lasius flavus*), generating a rough topography of more or less regularly spaced mounds at the landscape scale, or "moundscape". The termite mound fields of African savannas and the anthill landscapes of European grasslands are famous examples of moundscapes generated by these social insects. Such biogenic landforms play a key role in the understanding of Earth surface processes and have a strong relationship with both the biological and the cultural heritage. They are of great ecological importance because they create microhabitat heterogeneity and increase the patchiness of the environment, promoting a range of other animal and plant species which would not occur otherwise. The cultural and spiritual values attached to termite mounds are well recognized across Sub-Saharan Africa, and indigenous knowledge of the medicinal value of anthills is ancestrally recorded in Northern Europe. Moreover, the aesthetic value of moundscapes (architectural shape of cathedral-termitaria, curvaceousness and floral colonization of ant mounds), their dynamic dimension (with both abandoned and active mounds) and their imbrication into broader landforms (e.g., termite mounds over a laterite plateau, anthills over a tidal marsh) make them potential candidates to geomorphosite designation. Given their mixed composition, both mineral and organic, and their biological origin, anthills and termite mounds can be considered as elements of a biogeomorphological heritage, i.e. a hybrid form of geoheritage and biological heritage. The multitude of values and ecosystem services they provide to humans justify their conservation as well as their sustainable use for ecogeotourism and environmental education.