

# Soils of Iceland

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**Abstract** — *Icelandic soils are dominated by Andosols when covered by vegetation, Vitrisols in desert areas (Icelandic classification scheme), and highly organic Histosols in some wetland areas. Andosols are not common in Europe but are found in active volcanic areas of the world. They develop distinctive properties such as high organic content, extremely high water holding capacity and lack of cohesion. Icelandic soils are in many ways special on a global scale due to the environmental conditions for soil development, which include: i) basaltic tephra parent material; ii) steady eolian sedimentation of volcanic materials to the soil surface; and iii) many freeze-thaw cycles acting on frost susceptible soils, causing intense cryoturbation. Iceland has extensive barren desert areas in a cold-humid climate that comprise the largest sandy tephra areas on Earth. Many of the wetland soils have a distinctive combination of andic (volcanic soil properties) and histic (organic) properties. Soil erosion and desertification is more active in Iceland than in any other Northern European country. Erosion has severely degraded many ecosystems with formation of barren surfaces devoid of vegetation in several areas.*