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Desert and desertification in Iran

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One of the greatest environmental concerns in Iran as in other arid and semiarid countries is the transformation of once productive, or marginally productive, land to deteriorated land and soil unable to support plants and animals. Because the land becomes barren and dry, the process is described as desertification, which occurs as a sequence of events. The area of deserts in Iran is about 340,000 Km2 (less than one fifth of its total area), of which 100,000 Km2 is being used for some cultivation, 120,000 Km2 is subjected to moving sands about 40 % of which is active sand dunes. Most of features and processes usual in world famous deserts are also observed in Iran: low precipitation, high evaporation, poor or lack of vegetation, saline and alkaline soils, low population and small and sparse oases. The deserts of Iran are generally classified in the subtropical, warm, arid and semiarid group, but the effect and presence of some geographical and geoclimatical factors such as height, vicinity to Indian Ocean and so on do some changes in climatic conditions and geographical features causing some local and regional differences in them. Geographically, two groups of deserts have been known in Iran: (1) Coastal deserts which, like a ribbon with variable width, stretch from extreme southeast to extreme southwest, at the north parts of Oman Sea and Persian Gulf. One important feature of these deserts is relatively high humidity which differentiates them from other deserts. This causes an increase in vegetation coverage and hence a decrease in eolian erosion and also a dominance of chemical weathering to that of physical. (2) internal deserts, which rest in central, eastern and southeastern plateau of the country and in independent and semi dependent depressions. This situation, which is due to the surrounding high mountains, blocks humidity entry and causes the aridity of these deserts. Wind as a dominant process in the area causes deflated features such as Reg (desert pavement), Kalut (Yardang), Hoodoo and wind deposited features such as different kinds of sand dunes (Seif, Nebka, Rebdous, Barkhan, Ghourd, Erg) and Loess, most of which exhibit beautiful landscapes suitable for ecotourism and scientific tours. Salt deserts (Kavir or Playas), which rest in the lowest parts of internal depressions, are the most current features in Iran deserts. The most extensive and specific salt deserts are in the course of floods or at the end of them, which consist of fine grained sediments in the lowest parts of the depressions. Many factors have been participated in the formation of salt deserts in Iran, the most important of which, are morphotectonical (such as folding and faulting due to the last epirogenic and orogenic movements), climatical and hydrological (occurred in Quaternary), geological and pedological (such as the presence of Neogene evaporitic formations).