

Predicting Desert Tortoise Habitat in the Mojave Desert

Quantifying the characteristics of suitable habitat, modeling its distribution, and prioritizing the value of habitat within that distribution are extremely important factors in management strategies for the federally protected Mojave Desert tortoise (*Gopherus agassizii*) population. Desert tortoises mainly occur on alluvial fans (bajadas) within the creosote bush or creosote bush-white bursage (*Larrea tridentata*-*Ambrosia dumosa*) alliances, although some desert tortoises occur at higher elevations and in other vegetation communities. This project's goal is to construct a statistically-based spatial model of desert tortoise habitat for large areas of the Mojave Desert on the basis of abiotic, biotic, and anthropogenic descriptors. Data describing desert tortoise occurrences are being compiled from existing U.S. Bureau of Land Management, National Park Service, California Department of Fish and Game, and U.S. Fish and Wildlife Service records. In addition, topographic, soil, climate, perennial vegetation community, and potential annual plant productivity maps are being produced and collected. These data are being incorporated into habitat-suitability models, which are extrapolated across various study areas. The habitat-suitability models are combined with maps of anthropogenic factors, including roads and land-management status, in a geographic information system to produce maps of predicted suitable habitat with possible land use and stewardship constraints. These predictive maps will aid in the management of desert landscapes for desert tortoise populations.