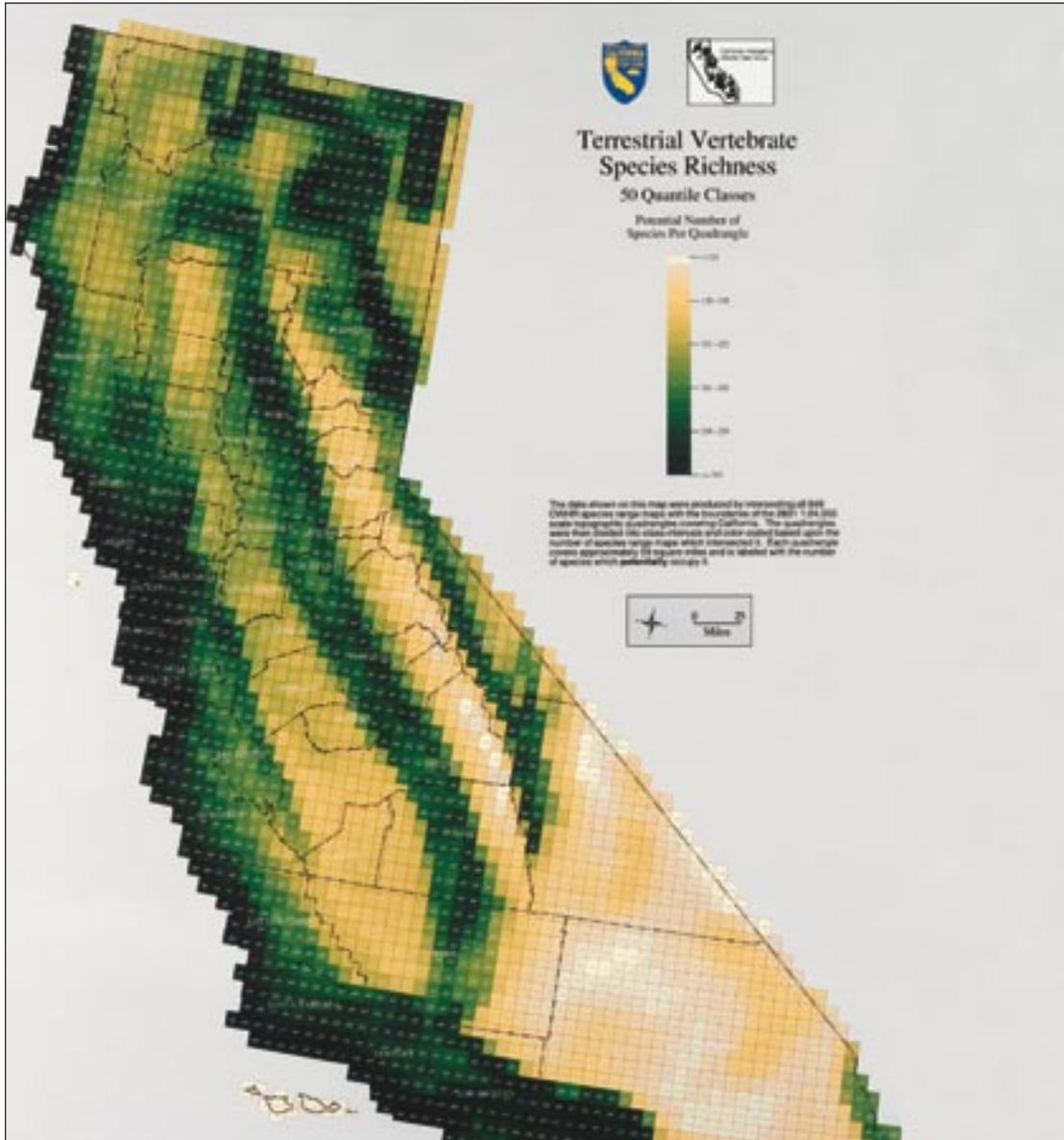


BIODIVERSITY

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This map deals with the potential for species richness—specifically for terrestrial vertebrates—according to climate and ecosystem. Greatest richness is to be found along the coast and at mid-elevations, where temperatures are mild and the air is moist.

Definition

The term biodiversity refers to the extraordinary variety of the world's organisms, the complex patterns of their interdependence, and the understanding that this diversity is absolutely essential to the viability of all life on the planet. The Convention on Biological Diversity describes the concept as “the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.” In other words, biodiversity expresses itself along the entire spectrum of life, from genetic makeup to communities and civilizations.

Description

All species, as well as all individuals within a species, have a finite life span. Radical changes to the habitat of a species over short periods of time, and subtler changes occurring steadily over longer periods, will cause that species to become either extinct or exotic. Both conditions are associated with chain reactions in the ecosystem. The effects of a particular cause may be felt in a single generation or over the course of centuries and millennia. Human economic activity is decreasing the number of species at an unprecedented rate: destruction of habitat (draining of wetlands, for example), depletion of limited resources (too many people tapping a scarce water supply), and the introduction of nonnative or alien species (insects inadvertently transported in a shipment of fruit from one country to another). Worse, the rate of extinction is accelerating: 38 species of birds and mammals, for example, were recorded as extinct in 1600–1810, compared to 112 species in 1810–1992.

Ironically, the breadth and depth of species diversity is essential to the human society endangering it. Food, fiber for clothing,

materials for shelter and fuel, medicines, watershed protection, soil fertility, balanced composition of atmospheric elements, nutrient cycling, and clean water and air all depend on the health, abundance, and variety of species. Our aesthetic, spiritual, and recreational needs also depend on richness of diversity. In short, the physical, psychological, and emotional well-being of human beings is tied inextricably to the well-being of the other seven to twenty million (estimated) species now living on Earth.

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