



## Urbanization on the US landscape: looking ahead in the 21st century

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### Abstract

Conversion of rural lands to urban and other built-up uses affects the mix of commodities and services produced from the global land base. In the United States, there was a 34% increase in the amount of land devoted to urban and built-up uses between 1982 and 1997. This increase came predominantly from the conversion of croplands and forestland, with the largest increases in developed area happening in the southern region of the country. In an analysis of drivers influencing developed land uses in the US, we found results that were consistent with hypothesized relationships, including significant increases in development as a result of increases in population density and personal income. From these results, we projected changes in potential future urbanization and development by 2025 given estimated increases in population and real personal income. The projections suggest continued urban expansion over the next 25 years, with the magnitude of increase varying by region. US developed area is projected to increase by 79%, raising the proportion of the total land base that is developed from 5.2 to 9.2%. Because much of the growth is expected in areas relatively stressed with respect to human–environment interactions, such as some coastal counties, implications for landscape and urban planning include potential impacts on sensitive watersheds, riparian areas, wildlife habitat, and water supplies.

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### 1. Introduction

Conversion of rural lands to urban and other built-up uses affects the mix of commodities and services produced from the world's land base. Further conversions to such developed uses are likely to be substantial, as the world's population is projected to increase by more than one-third over the next 30 years, adding 2 billion people (United Nations, 2002). Almost all expected

growth in the world's population is concentrated in urban areas. While providing additional living space and infrastructure, added development may also diminish agricultural output due to farmland loss and change ecological conditions due to conversion and fragmentation of forests and other natural landscapes.

In this paper, we examine urbanization trends and drivers for the United States, a country that has added more than 50 million people between 1980 and 2000, about a 24% increase (USDC Census Bureau, 2001). While this growth in population is substantial, during roughly the same time period the amount of US land devoted to urban and built-up uses grew by more

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