



Urban Dynamics: Chesapeake Bay Region

For decades residential and industrial development of the land surrounding Chesapeake Bay has led to significant pollution of the Bay's waters. As urban growth intensifies, the environmental health of Chesapeake Bay continues to decline. An in-depth analysis of the land-use changes that have impacted the Bay region is essential to ensure the vitality of the Bay ecosystem. Data compiled as a result of this analysis can be correlated with information about the region's hydrologic and biologic characteristics to identify potential relationships and evaluate the effectiveness of pollution reduction strategies.

This project will provide greater insights into urban growth and land-

use changes around Chesapeake Bay and their impact on the region's environmental health.

Researchers have created a temporal geographic information system (GIS) of land-use change in the Chesapeake Bay region from 1850 to the present. The GIS incorporates information about urban extent, primary transportation routes, and agricultural and forested lands; relevant population data and socioeconomic statistics have also been compiled. The GIS is a versatile tool that makes it possible to investigate the causes and consequences of land-use change in this region over time. Information about sedimentation rates and nutrient levels in Chesapeake Bay waters, for

example, can be correlated with analyses of land-use to help understand potential relationships.

This project is a joint activity between USGS, University of California at Santa Barbara (UCSB), US Environmental Protection Agency (EPA), and the National Science Foundation.

Customers include UCSB, EPA, and USGS Water Resources and Biological Resources divisions.

For more information:
<http://edcdgs9.cr.usgs.gov/urban/cbay/intro.html>