

Land Use Change and N and P export on the Coastal Plain of the Chesapeake Bay

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- Substitution of agriculture for forest leads to enhanced export of N and P on the Delmarva coastal plain, enhancing eutrophication of Chesapeake Bay.
- Hydrochemical modeling of current conditions captures this effect with 15-30% errors on an annual basis, <10% errors at decadal time scales.
- Historical maps, aerial photographs, and Landsat data are used to reconstruct land use patterns 1847-2000.
- Initial 1847 - 1990 comparison: losses in forest and agriculture, increases in urban areas and feedlots.
- Adjust model for population changes, atmospheric N deposition, and fertilizer applications for hindcasting to 1850 and forecasting for future management scenarios.
- 2 test catchments: Choptank and Chester on Delmarva used for spatial extrapolation to larger coastal plain area.

