OAK RIDGE NATIONAL LABORATORY

FACT SHEET

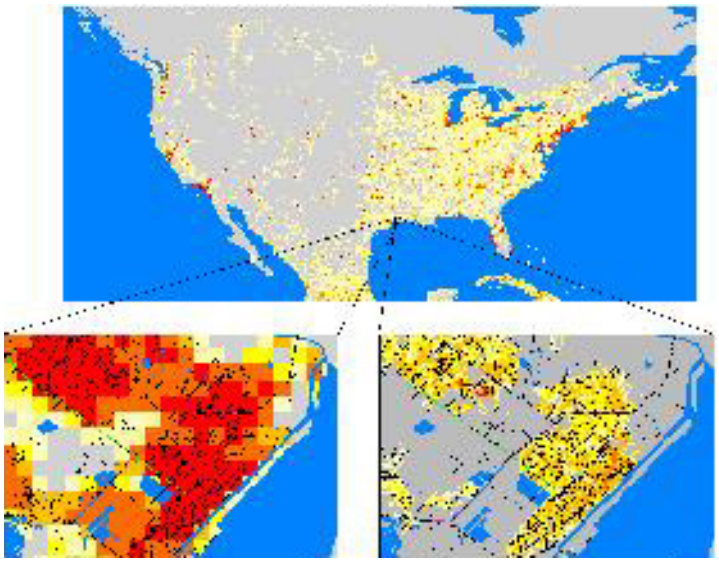
MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

LandScan USA: High-Resolution Population Distribution Model

ORNL is developing very high resolution (90m) population distribution data (LandScan USA) for the United States as part of the ORNL LandScan global population project. A pilot study has been completed in a 29 county area in southeast Texas (around Houston and Port Neches) in order to develop the necessary algorithms and identify and resolve issues surrounding development of LandScan USA. LandScan USA is more spatially refined than the resolution of block-level census data and includes demographic attributes (age, sex, race). The model includes development of an "ambient population" (average over 24 hours) for global LandScan and development of spatial distributions for "residential or nighttime population" as well as for "daytime population" as part of LandScan USA. Locating daytime populations requires not only census data, but data on places of work, journey to work, and other mobility factors. The combination of both residential and daytime populations will provide the best estimate of who is potentially exposed to ambient pollutants.

LandScan USA is developed in standard (commercial) geographical information system and ASCII data formats. LandScan USA has great potential for applicability in various socioenvironmental studies, including exposure/health risk assessment, urban sprawl estimation, and estimating populations at risk from natural and anthropogenic disasters. The LandScan model has significant potential to be modified for other applications and is currently being considered as the primary tool to estimate spatial distribution of pesticide usage in urban watersheds.

LandScan USA 2000



30 arc second **3 arc second**

LandScan USA GIS Data Modeling

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ORNL 2002-01683/jcn