OAK RIDGE NATIONAL LABORATORY

MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

June 30, 2011

LandScan User:

We are pleased to announce the release of LandScan 2010 Global Population Database. The LandScan 2010 Global Population Database was developed by Oak Ridge National Laboratory (ORNL) for the United States Department of Defense (DoD). This release represents the eleventh version of LandScan and succeeds all previous versions. It is recommended that users of previous versions of LandScan replace any earlier version with LandScan 2010.

Improvements that have been incorporated into the LandScan 2010 Global Population Database are outlined below:

- Accurate administrative boundaries are an integral part of the LandScan population distribution modeling process. LandScan 2010 incorporated administrative boundary changes for 14 countries. For these countries, an additional 14637 international second order or higher administrative boundaries were used for the population distribution. The spatial precision of the international and administrative boundaries were improved for several other countries; some administrative boundary data incorporated into the modeling process were provided by FAO Food Security for Action Programme. These boundaries coincide with new census counts provided by the Geographic Studies Branch (GSB) of the United States Bureau of the Census and represent the most recent census for all countries. The date of the census counts is July 2010.

- For many regions, the land cover data was substantially refined using high-resolution land cover data, National Geospatial-Intelligence Agency's (NGA) VMAP-1, CIB, and/or scanned maps (e.g., CADRG/ADRG). In addition, new and revised VMAP-1 tiles were incorporated into the distribution analysis.

- NGA's Controlled Image Base (CIB) imagery and other high-resolution imagery sources were used extensively for verification and validation, for refining urban built-up areas, for adding thousands of smaller villages and populated places, and for the identification and mitigation of input data anomalies to improve the spatial precision and values of the population distribution.

- Additional algorithm refinements were developed and implemented for the population models including automated settlement analysis and village identification using high performance computing resources.

- The population distribution for the United States was based on calculations derived from the fourth edition of ORNL's LandScan USA product [a very high resolution (3 arc-second ~90 meter resolution) population database of nighttime and daytime population distribution made available to qualified users of the Department of Homeland Security (DHS)/NGA Homeland Security Infrastructure Program (HSIP) data]. This year, the distribution algorithm was modified slightly to represent better the ambient population distribution of metropolitan areas.

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Because of these refinements we advise against cell-by-cell comparison between LandScan 2010 and earlier versions of LandScan.

The enclosed LandScan 2010 CD-ROM contains the following files:

- The LandScan 2010 Global Population Database at 30 arc seconds (1 km. or finer) in the following formats:

  1. Raster GIS: ESRI Grid format. [Note: the Spatial Analyst extension for ArcGIS or ArcView (3.x) is required for analyzing the LandScan data.]
  2. Binary raster: ESRI binary raster format (see included documentation). Almost any high level programming language can read this file directly.

- Two raster boundary files defining assignments of LandScan cells to 1) country, and 2) sub-country Level 1 Administrative areas. [Note: These sub-national areas were not used for the actual population modeling process.]

- A ReadMe file that describes data contents and formats.

Please feel free to contact me, Ms. Amy Rose (865-576-3561; rosean@ornl.gov), or Ms. Marie Urban (865-576-3568; urbanml@ornl.gov) if you have any questions or comments about LandScan 2010. Thank you for your continued interest in the LandScan Global Population Database.

Sincerely,

Edward A. Bright
Director, LandScan Global Population Project
Geographic Information Science & Technology