National Aeronautics and Space Administration

DATA & APPLICATIONS ONLINE
Population

Overview

The NASA Socioeconomic Data and Applications Center (SEDAC) offers a variety of data sets on population distribution and change. Data and maps are available for download at sedac.ciesin.columbia.edu/theme/population.

Selected Data

U.S. Social Vulnerability Index (SVI) Grids uses census data for 2000, 2010, 2014, 2016, and 2018, under Socioeconomic, Household Composition/Disability, Minority Status/Language, and Housing Type/Transportation themes—to rank communities on vulnerability, for the entire U.S.

Gridded Population of the World (GPW), v4, is SEDAC's flagship data product. Continually updated, it provides population size and density in a gridded format easily combined with earth science data.

Low Elevation Coastal Zone (LECZ) Population Estimates provides country-level estimates of the world's urban and rural populations located in the LECZ—all areas below 10 m elevation—for 1990, 2000, 2010, and 2100.

Global Projection Grids Based on Shared Socioeconomic Pathways (SSPs) are companion data sets of future scenarios of population growth/urbanization, projecting GPW population grids to 2100.

The Global Rural-Urban Mapping Project (GRUMP) collection is comprised of a global point database of human settlements, an urban extent mask, and a 30 arc-second (~1 km) population grid.

US Census Grids transforms irregularly shaped census block and block group boundaries into a raster grid, for faster and easier analysis. For 1990, 2000, and 2010.

Spatial Data from the 2011 India Census contains gridded estimates at a resolution of 1 km, and spatial renderings of urban areas—one based on population and settlement type, and the other, on remotely-sensed measures of built-up land.

The elderly as a percent of the total population
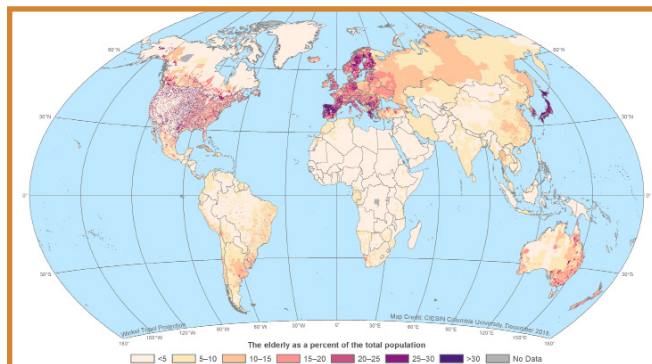
Georeferenced US County-Level Population Projections provides county-level population projection scenarios for the US in 5-yr intervals 2020–2100, to help understand long-term demographic changes.

Global Estimated Net Migration Grids by Decade provides migration data for three decades—1970, 1980, and 1990—in a 30 arc-second (~1 km) grid cell format.

Global Population Count and Density Grid Time Series Estimates are based on GRUMP's year 2000 population data.

Historical Urban Population is the first spatially explicit global data set containing the location and size of populations in urban settlements from 3700 BC–AD 2000.

Population, Landscape, And Climate Estimates (PLACE) is a tabular data set of easy-to-use national-level estimates of population and land area in relation to environmental characteristics.

Shared Socioeconomic Pathways (SSPs) Literature Database encompasses ~1400 papers 2014–2019 that track the use of the scenario framework developed by the climate change community.

Mapping Resources

The following tools and services offer new ways to integrate and understand SEDAC population data: **POPGRID Viewer**, **Population Estimation Service**, **COVID-19 Map Viewer**, **Hazards Mapper/HazPop**, **SEDAC Map Viewer**, and **SEDAC Map Services.**

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