

Title

TeleCense helps Companies, Authorities, International Organizations and Labs to assess and anticipate population growth and migration in emerging countries.

Participant name

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Abstract

Using Copernicus satellite imagery, we are able to detect built-up areas and to characterize them. Using these characteristics along with other geospatial covariates, we develop demographic models to estimate the population. The regularity of Copernicus images allows us to follow its evolution on a 6-month basis and provide local and global trends.

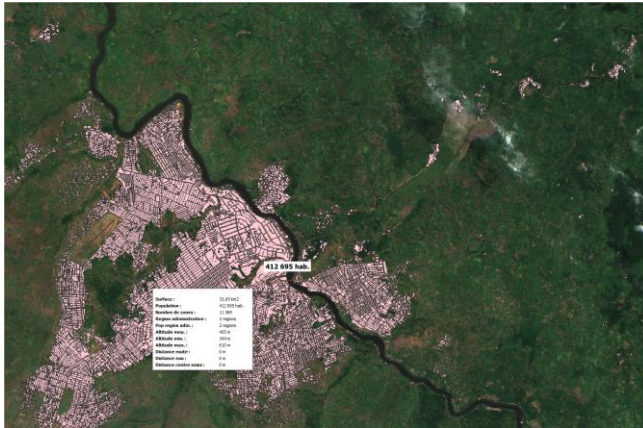
Images



Sentinel 1 & 2 images : cloud clean-up, settlement identification, time series stacking, removing roads & rivers

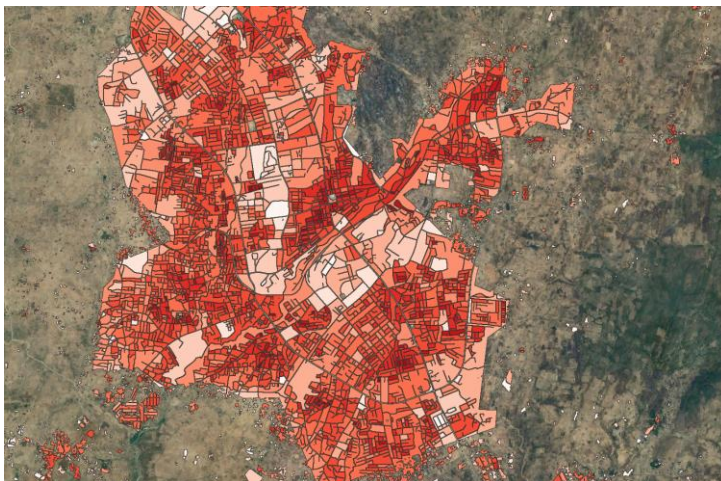


Built-up characterisation: solidity, concavity, density, group by 200m proximity,
Calculate: elevation, slope, distance to road, water, electricity, health centre, large city
Add: Night light intensity, climate data

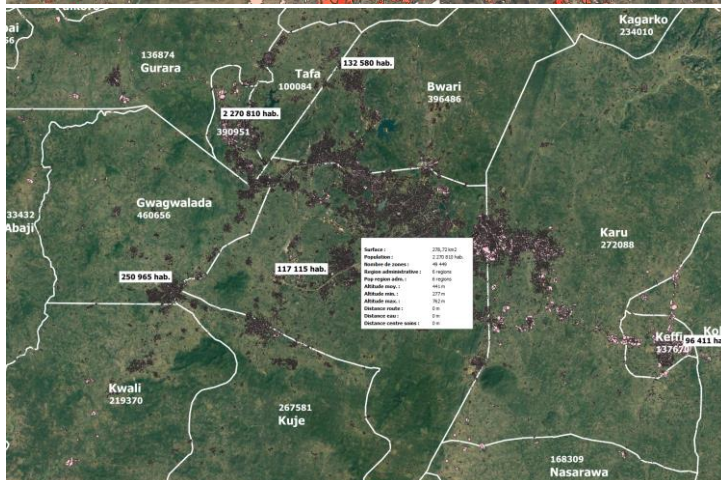


Demographic models: bottom-up and top-down approach, large / medium cities and small villages

Calculate Administrative areas population



Zoom on settlement density



Zoom on administrative boundaries: here Abuja (Nigeria) has expanded over 6 regions