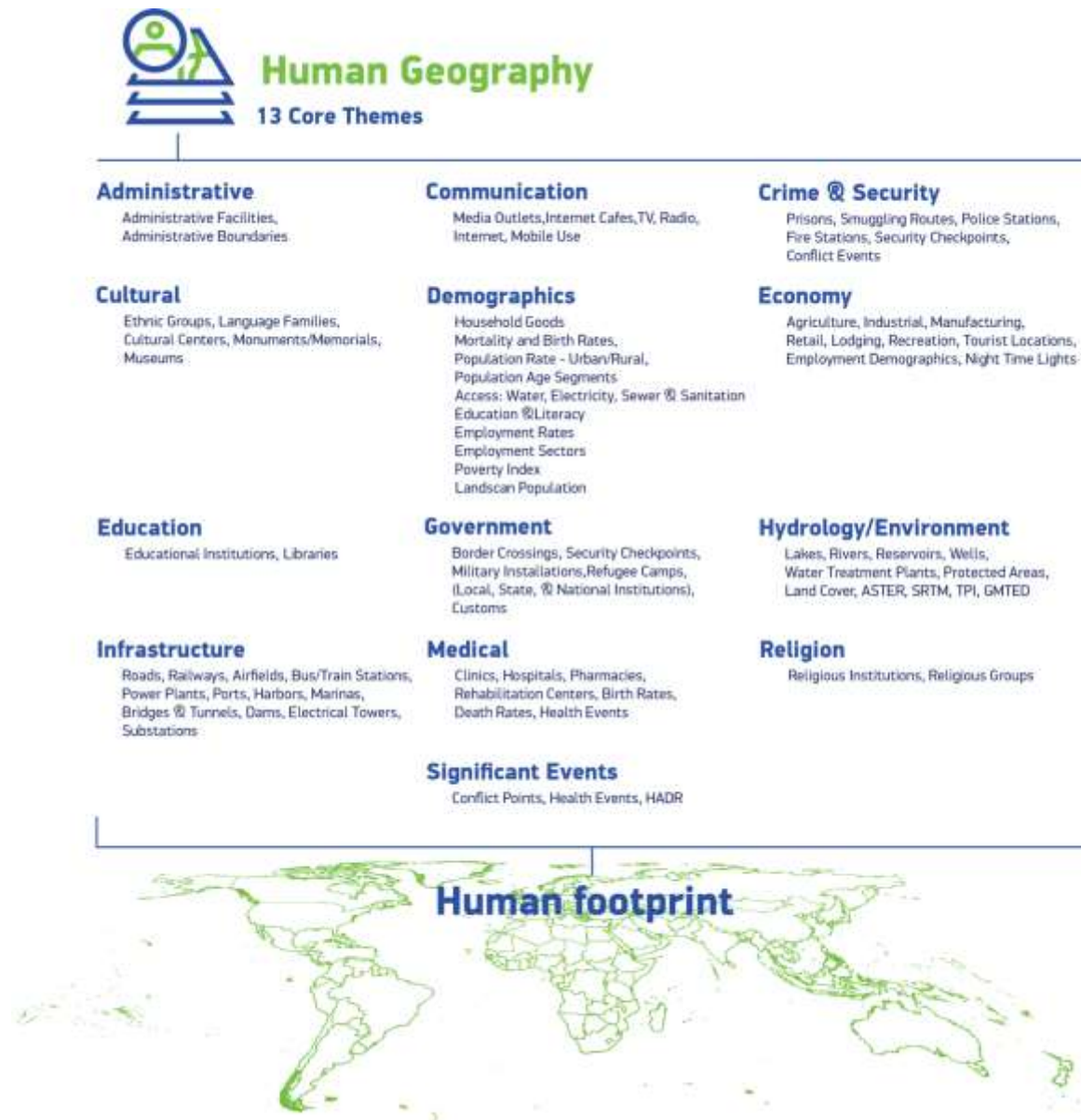


Human Geography Information Survey Product Description

Human Geography Information Survey (HGIS) data sets are unclassified country-level collections of geospatial data collected at the lowest administrative level describing the environmental, physical, and human geography of entire countries. Each dataset includes information on the country's demographics, critical infrastructure, economies, ethnicities, education levels, environment, medical facilities, and significant events to inform operational planning for defense and humanitarian applications as well as other analyses requiring foundational geospatial information. Radiant Solutions has developed a repeatable in-depth workflow process that ensures the datasets follow a strict ontology and schema. To date, Radiant Solutions has produced over 50 country wide HGIS datasets.



Each HGIS data set consists of vector data, raster data, and imagery chips organized around 13 core human geography themes. This information is collected from a wide range of publicly available data sources, academic research, GeoHIVE discovery campaigns and imagery exploitation. Each HGIS dataset includes data from 75+ unique, vetted sources, collated into a finished, analyst ready dataset. The data is validated

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using imagery, subject matter experts and GeoHIVE. Data is enriched through the use of DigitalGlobe's vast imagery collection. Each dataset is broken down into feature classes as illustrated below:

HGIS data sets are not just curated data, they are data sets uniquely created using access to Maxar Technologies assemblage of companies. Radiant Solutions is able to access the most current commercially available satellite EO/Radar imagery. Radiant Solutions is also able to leverage other innovative approaches and tools to collect, curate and enrich these datasets. Below are a few of the tools that we employ for each dataset:

- **Anthromapper:** geospatial tool that creates highly accurate, socio-cultural, human terrains-sheds
- **GeoHIVE:** Crowd-enabled, Data Collection, and Validation & Verification (100,000 km per day)
- **DeepCore:** Object Detection Platform enabling Machine Learning (ML) feature extraction
- **Hootenanny:** Conflation tool used to rapidly score and merge elements from multiple data sources
- **BeachFront:** Rapid coastline extraction from satellite imagery