Radiant MLHub
EARTH IMAGERY FOR IMPACT

Dataset Documentation

Name:
ramp Building Footprint Training Dataset - Mesopotamia, St. Vincent

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1.0

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Description:
This chipped training dataset is over Mesopotamia and includes high-resolution imagery (.tif format) and corresponding building footprint vector labels (.geojson format) in 256 x 256 pixel tile/label pairs. This dataset is a ramp Tier 1 dataset, meaning it has been thoroughly reviewed and improved. This dataset was used in developing the ramp baseline model and contains 3,013 tiles and 33,139 individual buildings. The satellite imagery resolution is 40 cm and was sourced from Maxar ODP (10500100236CC900).

Keywords:
Coastal, Urban, Peri-urban

Methodology:
This dataset is part of a collection of building footprint training datasets produced as part of the Replicable AI for Microplanning (ramp) project. Each dataset covers a specific region or city and they cover a diverse range of geographies.

For each dataset, source imagery from the Maxar Open Data Program (ODP) is sourced and chips of 256 x 256 pixels are defined across the area of interest (AOI). A dedicated labeling team from TaQadam and B.O.T (Bridge. Outsource. Transform) was trained to annotate building footprints in these chips.

Each chip has been annotated by an individual and then reviewed by another one for quality control. For Tier 1 datasets, each chip is also reviewed by a member of the DevGlobal team for a second round of quality control. The quality controls mainly involve editing polygons if they didn't align with the building, adding any missing

polygons, or removing the mistaken ones. These steps were implemented to ensure a high quality of labels. Tier 2 datasets have not been quality controlled by DevGlobal.

Building footprint in these datasets is defined as a polygon that captures the entirety of a structure's rooftop, as opposed to capturing the base of the building and the building facade. The minimum structure size for collection is roughly $5m^2$. Polygons are drawn to delineate the actual structure and in case their footprint has been obscured by a tree or shadow, the edges are inferred. Structures that are connected to one another but represent individual buildings/entities have been annotated as separate but touching polygons. In some of the AOIs, such as the ones in Dhaka, Bangladesh the partially constructed buildings, oftentimes with no roof, have been labeled as buildings.

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