

Gallery of images

Examples and definitions for the Global Built-up Surface Campaign

International Institute for Applied Systems Analysis (IIASA)
Global Built-up Surface Campaign, 2020

OUR TASK: To validate the [Global Human Settlement Layer](#), with 50 000 locations in Geo-Wiki to classify globally.

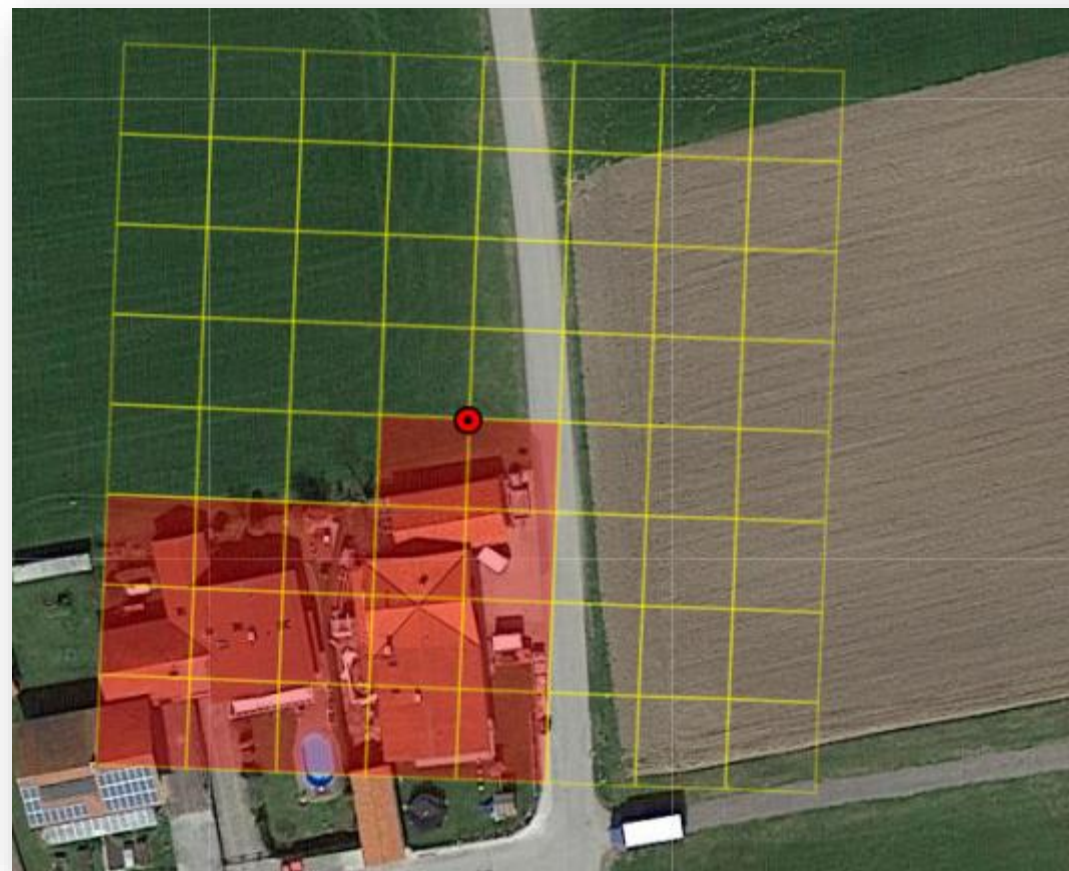
Definitions and Rules

- We classify all built-up areas.
- What is built-up? Built up is defined as a manmade structure/building having volume and generally a roof. Included are:
 - housing areas or single, scattered houses
 - Industrial, commercial areas, factories, energy production and distribution facilities
 - green roofs
 - large, permanent greenhouses (covered through the year)
- Road networks, highways, sport and recreation areas, swimming pools and parking lots are NOT built-up.
- Base your classification on the Google image. Use the Bing image only to help you classify and analyze if there is a change.
- Shadows from a building are NOT built-up if only the shadow is captured in a cell.
- Sometimes buildings will be at an angle – classify any part of the building that appears in the cell as built-up but watch out for the shadows and ignore these.

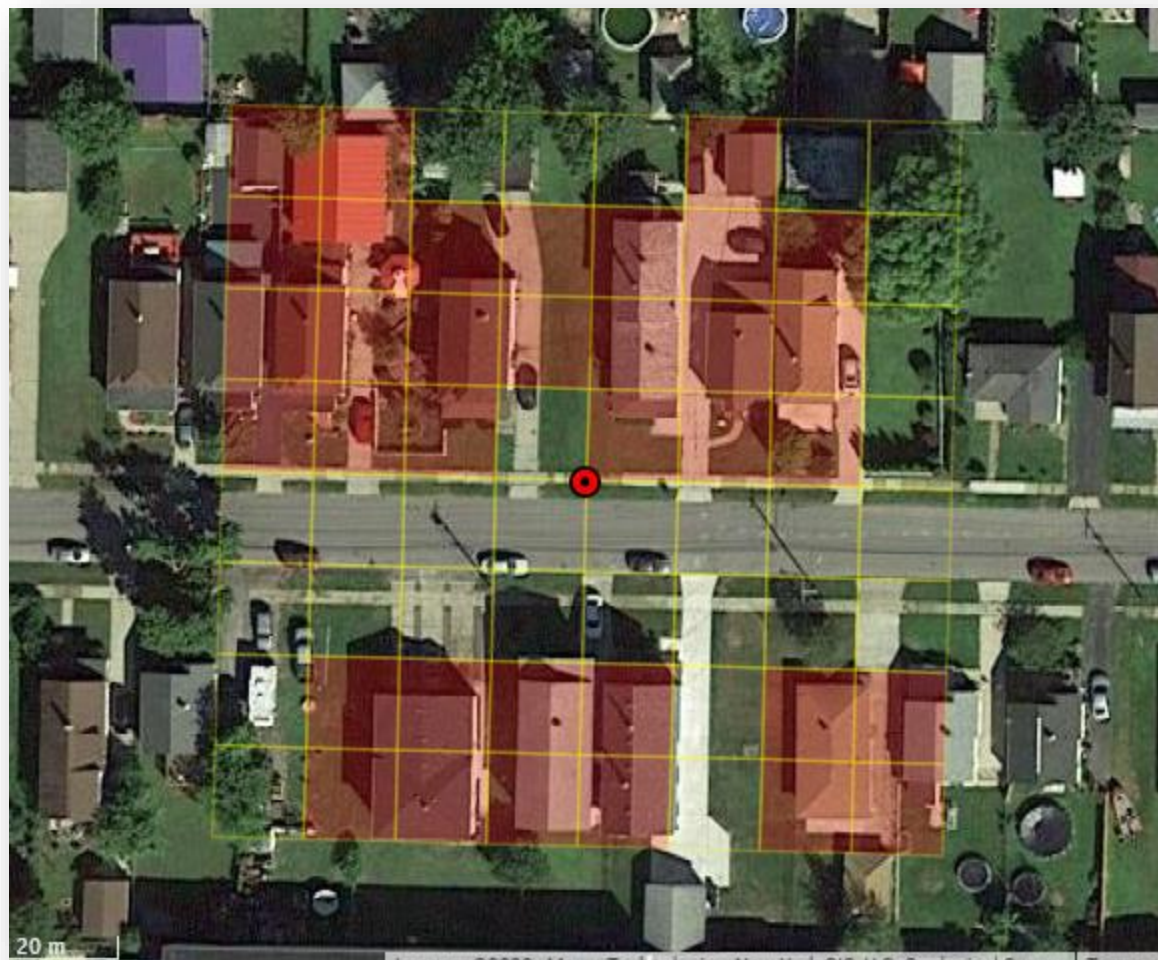
Rules for Identifying Change between Google and Bing Images

- **Change matters only in built-up areas:** In Step 2, when looking for change, we only consider change in built-up areas, e.g., a new building appeared, or existing building disappeared inside the big box
- **Not interested in what is outside the big box:** Ignore any changes in built-up that you can see happening outside of the big box
- **Not interested in non-built-up:** Ignore any changes that are not built-up, e.g., change of forest to cropland, as we are not interested in these types of land cover changes
- **Shifts are NOT changes:** Sometimes you will see shifts of buildings between the Google Maps and Bing images. These shifts are NOT changes, but they are due to slight differences in how the images have been georegistered.
- **Be aware that different perspectives of the same scene are not changes:** Sometimes you will see differences in Google Maps and Bing because of changes in the sensor angle. Hence, you will see different perspectives of the same scene. In such cases it is difficult to identify changes in built-up. If you are unsure about whether you can see change in this situation, just choose 'not sure' in step 2
- **In Step 2 press button "No built-up" for no changes:** If you don't see any built-up in either the Bing or Google Maps imagery, click on **No built-up** in step 2 and this will move you automatically to the next point
- If you see a building in the Bing image but no built-up in the Google Maps, then answer 'yes' in step 2 and push the Submit button to move to the next validation point

Examples of built up areas. All sub-pixels, even with the smallest portion of built-up should be marked as such, but swimming pools are excluded; see below:



Examples of built up areas. If you have any doubts, use both Google and Bing imagery to analyze if what you see is a building or another feature that might be considered as non-built-up



Example of built-up in a remote area in the northwest of Africa. On the left side there are few scattered houses

Global built-up surface validation ▾

Homepage

☒ Don't show any overlays

Geocoding

Global built-up surface validation

Stop

Select tool:



About

Leaderboard

Quick Start Guide

Sample Set Progress:

Overview:

Your validations:726

Your quality score:0

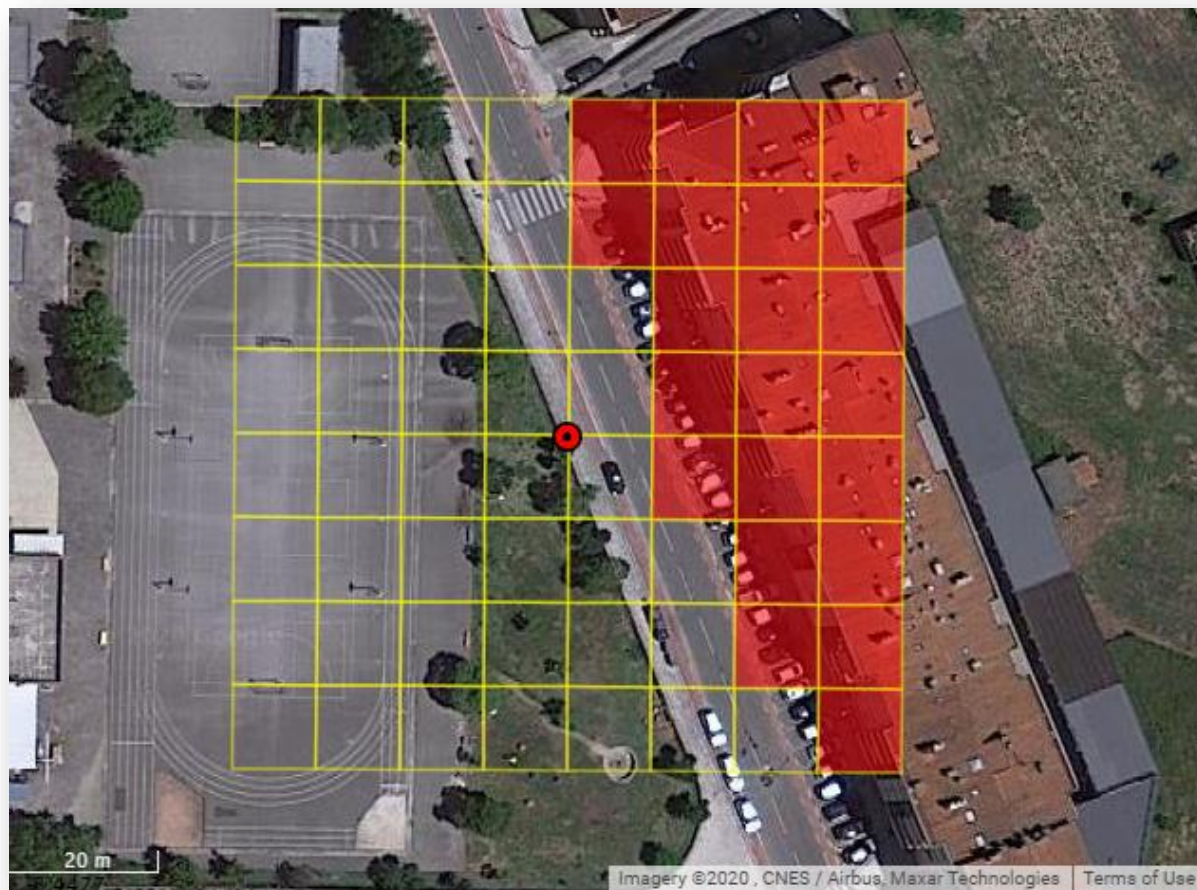
Point ID:1027554



Examples of built up areas. All sub-pixels, even with small portion of built-up should be marked as such; see below:



Example of built-up and less built-up areas



Example of shadows, when to shade them, and when not to



I don't know was shaded here since there is such a small part of the building in the square that it could be considered either built-up or not

Shadows only so not shaded as built-up



Example of change in Google and Bing images. On the left bottom of the page, you see the Bing image, from 2013. On it, you see the red circles which show the lack of buildings on these locations in comparison with the Google image from 2020.

GLOBAL BUILT-UP SURFACE VALIDATION

Global built-up surface validation

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Select tool:

Step 1: Examine the images
Bing image date: 2013-06-16
Google image date: 2020-06-30
Start toggle between Google/Bing imagery
[current imagery: Google Maps]
Interval speed (100ms - 5000ms):

Step 2: If there is built-up
Can you see any change in built-up between the two images?
☒ yes ☐ no ☐ not sure
No built-up

Step 3: Select a class to shade the cells
You must use Google imagery for shading

☒ Built-up
☐ I don't know
[clear pixel]
Comment:

Submit Skip