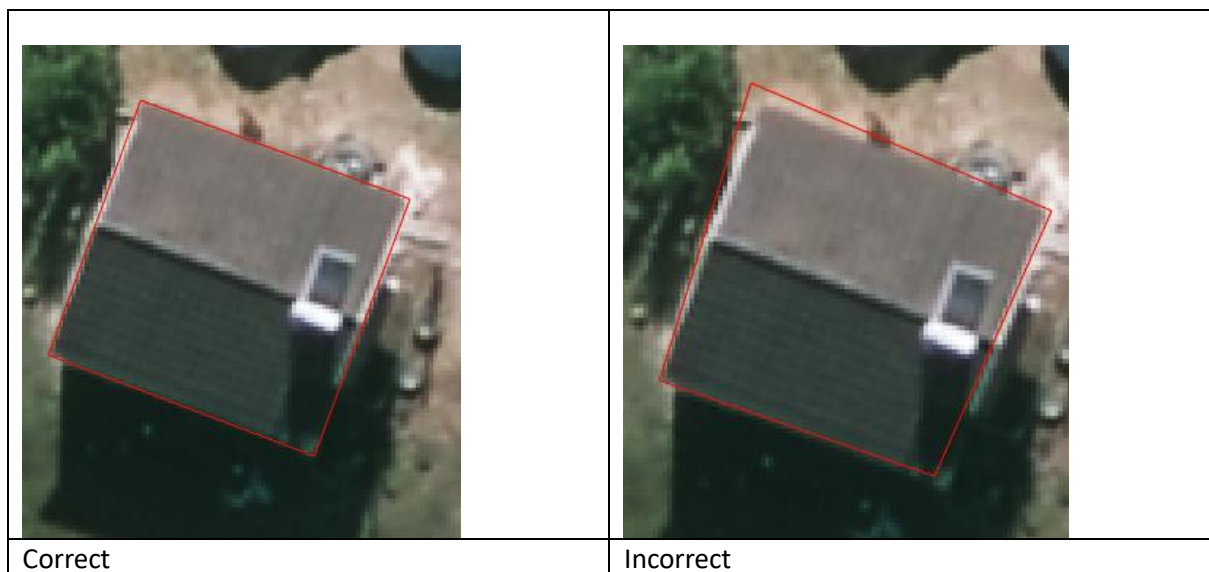


This document is meant to be used in conjunction with the BEAM label creation guideline, which describes the process to follow for creating and saving polygon labels. This document serves to highlight best practice for label creation, and aims to provide a consistent set of rules to follow when creating training data for the BEAM model.

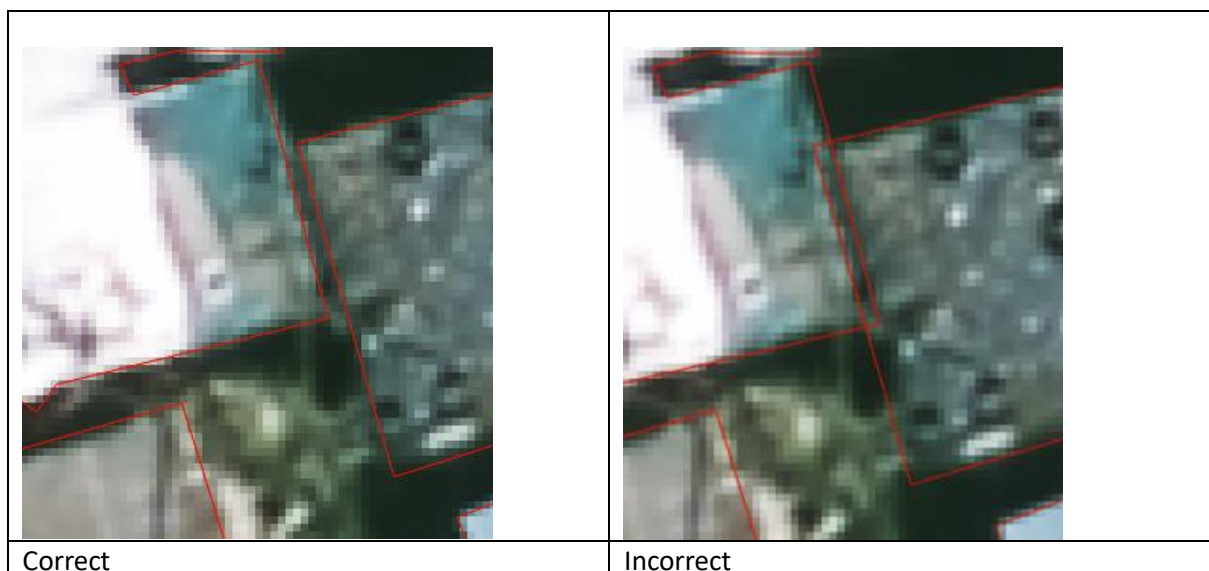
Overview

Generating accurate labels is important for the quality of the BEAM model and its performance. The aim when generating labels is to capture the entirety of each structure's rooftop using as few vertices as possible. The key point is to cover the entirety of the structure within one or two pixels of accuracy. In some instances, this is straightforward, and the most important consideration is simply tracing the rooftop of each structure accurately (to within one or two pixels of its edges):



However, in other cases, particularly in complex scenes or areas with high levels of informality, it is not always clear where one building starts and another one stops, or what the true shape of a building is if it is covered by overhanging trees or shadows. In these situations, it is essential that:

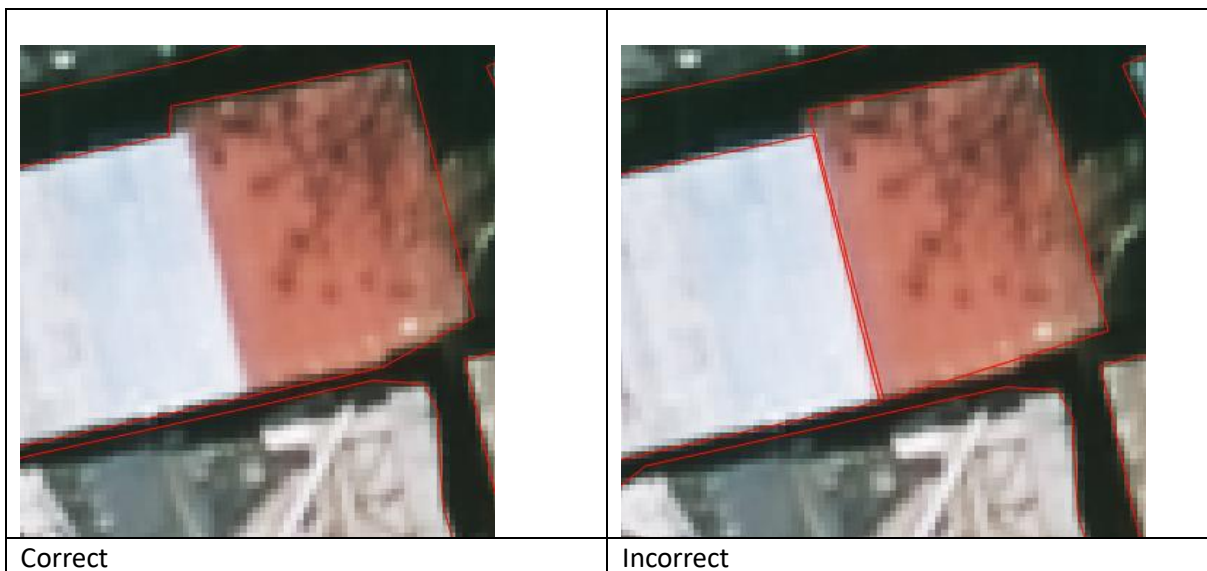
- Polygons for buildings that are close together do not overlap



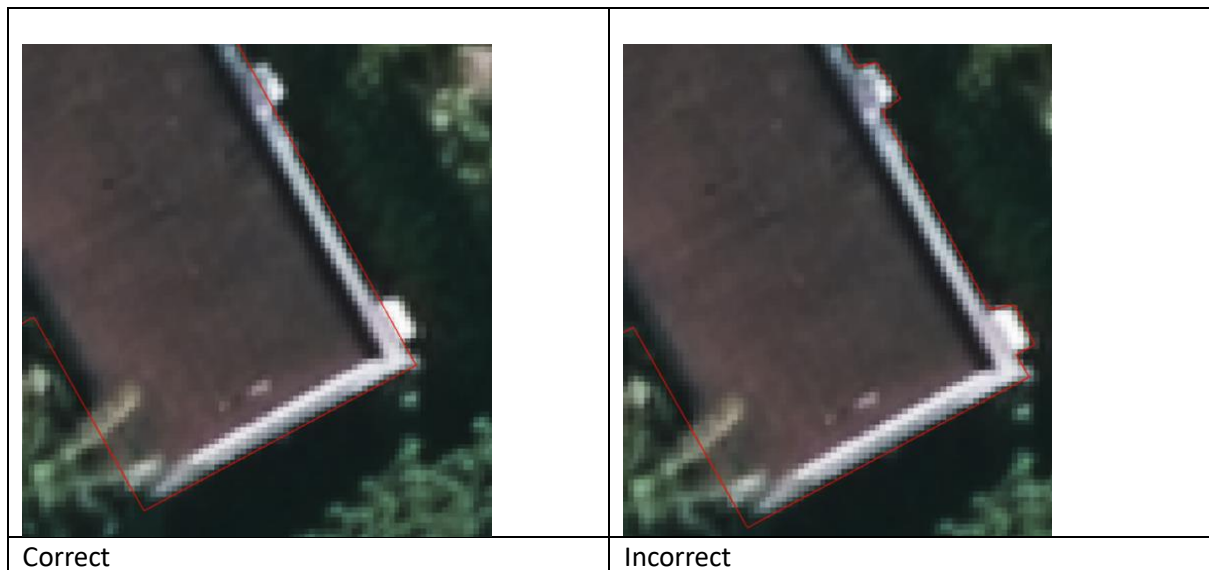
- Building shapes are not compromised by the presence of trees or shadows (this can mean inferring the shape of a building)



- Every effort is taken to ensure that individual structures are correctly discerned. This can mean cross-referencing different sources of imagery or closely inspecting structures to discern where gaps or shadows are visible. Particularly in informal settings, this can be confusing as large structures are often built from several different types of roofing material. In this situation, it is important that the structure is captured as a single polygon.



Finally, labels should accurately capture building shapes without being overly prescriptive about jutting facades and other irregularities that will complicate polygons and increase the number of vertices used:



In general, the following guidance applies:

- Avoid modifying the labels to accommodate shadows, trees, or other image-dependent features.
- Label only the visible rooftops of buildings in off-nadir imagery, and avoid capturing building facades, windows, and so on
- Use additional image sources for added context and detail, but avoid using outdated or inaccurate sources to infer anything that is not visible on the image itself