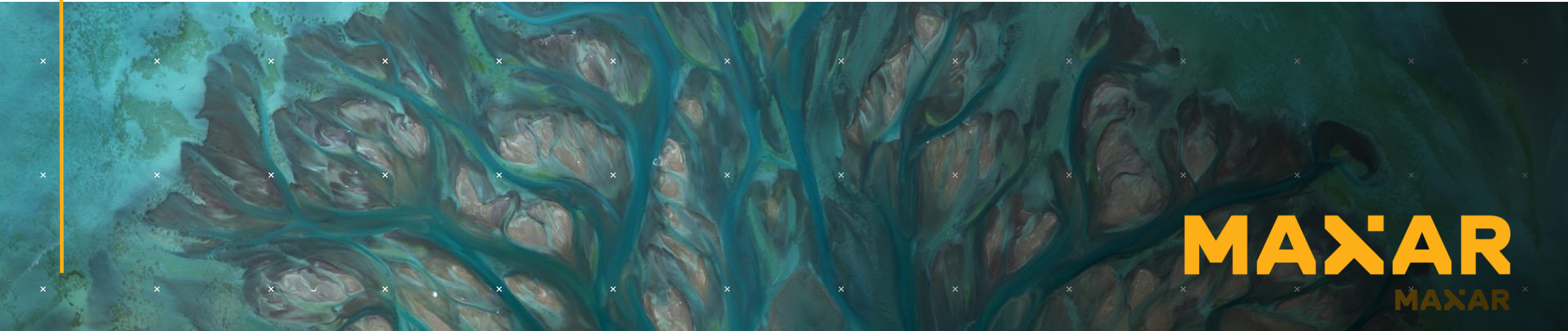# Urban Area Mapping – Ibadan, Kano, & Lagos, Nigeria

Using JOSM Editor

Urban Area Mapping

Urban areas can be incredibly dense, making mapping extremely difficult and time consuming. This workflow will provide guidance and identify several tools to assist in this mapping.

We will use the Java OpenStreetMap Editor (JOSM) to map these areas

Mapping Buildings – Drawing a Basic Building in JOSM

Begin by drawing nodes to make a polygon, the last nodes needs to intersect the 1st node.

Double-click to complete polygon. After you complete the polygon if you need to straighten out the lines you can use the shortcut 'Q'.

In JOSM, use the Select tool (shortcut=S) to select objects. Be aware that you can select both nodes and edges. Often you just want to select a building or a highway by just clicking on the edge to modify the tags.

Square Shape   ^⇧Q

✓ Select mode
✓ Lasso Mode
✓ Draw
✓ Zoom mode
✓ Delete Mode
✓ Parallel
✓ Extrude
✓ Improve Way Accuracy
✓ Draw buildings
✓ measurement
✓ FastDrawing

MAXAR

Mapping Buildings – Buildings Tool

When tracing buildings in JOSM use the buildings plugin. Once enabled in the JOSM preferences, the buildnigs tool will be available on the left-hand toolbar.

The buildings tool will draw rectangular shapes tagged **building=yes.**

To draw buildings parallel to each other, draw the first building, select it, then draw subsequent buildings.

✓ Select mode
✓ Lasso Mode
✓ Draw
✓ Zoom mode
✓ Delete Mode
✓ Parallel
✓ Extrude
✓ Improve Way Accuracy
✓ Draw buildings
✓ measurement
✓ FastDrawing

MAXAR

Mapping Buildings - Terracer Tool

The terracer tool takes a simple quadrilateral way and creates multiple smaller quadrilaterals. The original geometry is not modified.

Once the terraced buildings are created, the user can modify them to more accurately reflect the ground truth.

More information on Terracer Tool

MAXAR
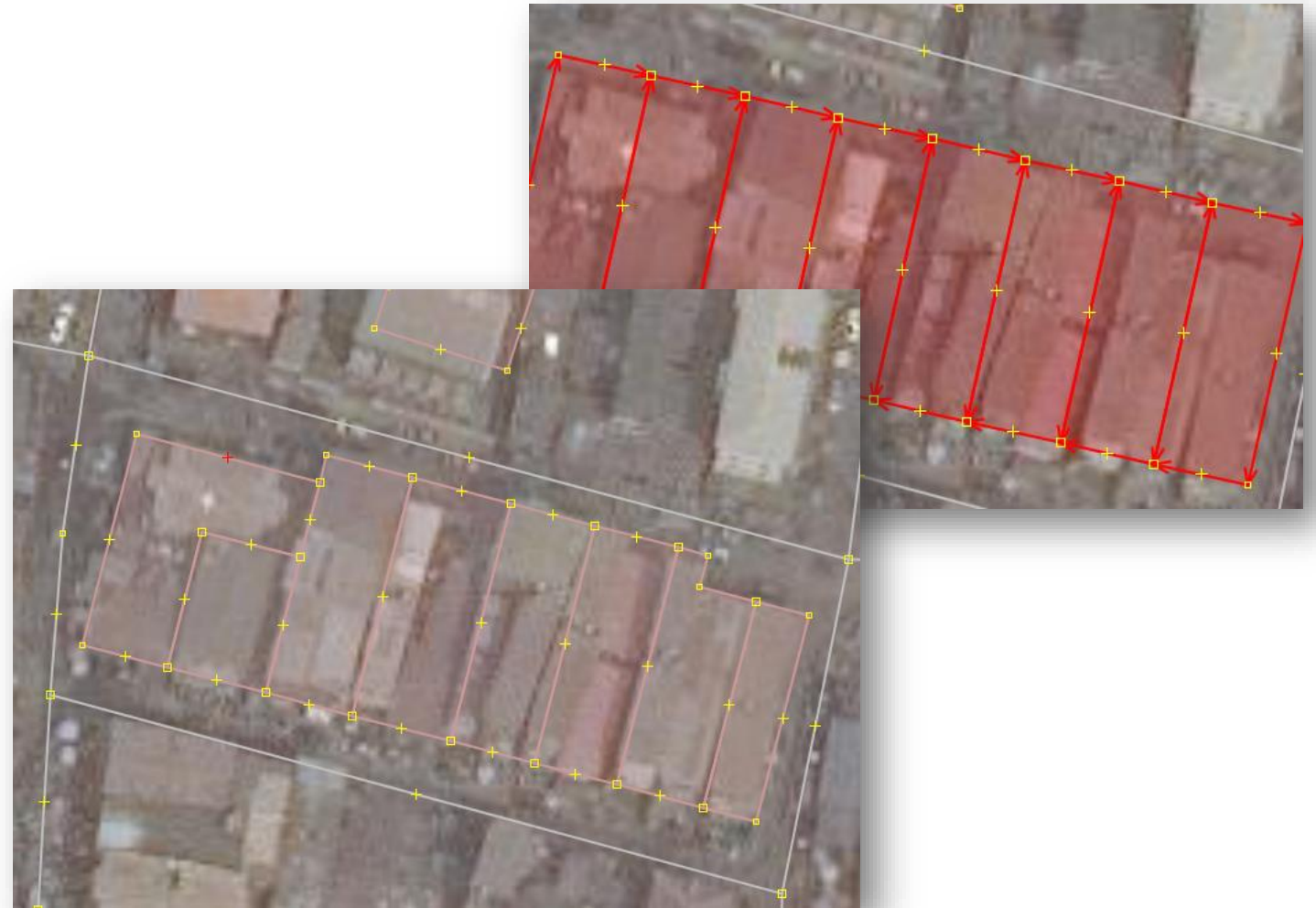
JOSM Advice – Validation Tool

The JOSM Validation tool catches many topological and tagging errors in the data that you have downloaded to JOSM.

Help improve the area you're mapping in by validating the existing data. You may find many overlapping buildings that can be adjusted or highways intersecting buildings.

JOSM Advice – Adjust Imagery Offset
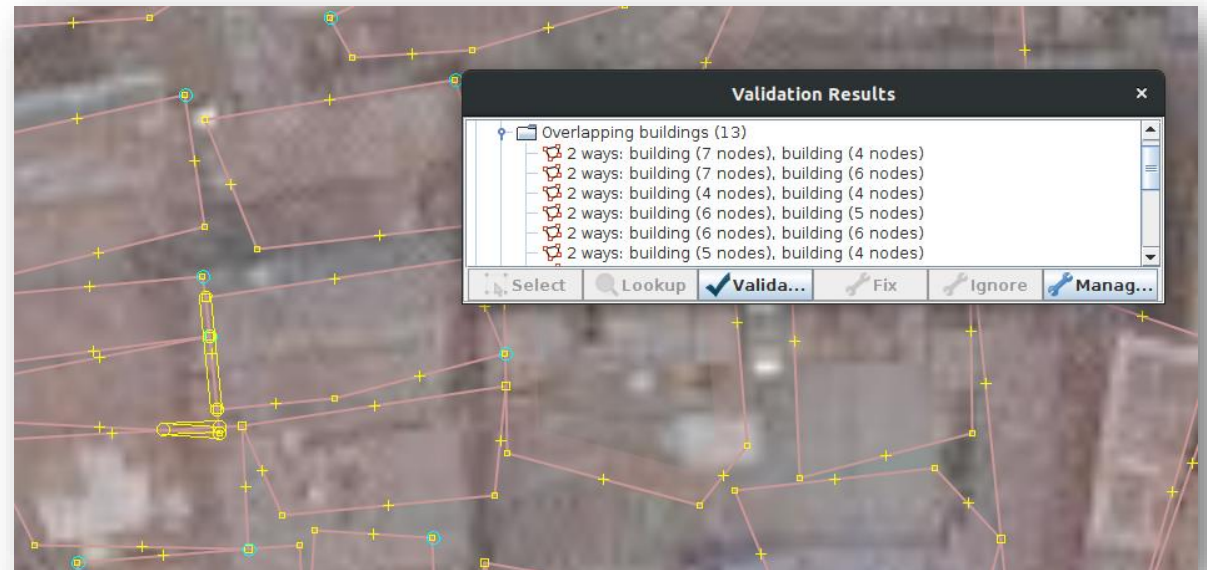
In many urban areas, you will see that buildings and roads may have previously been mapped.

As available imagery in OSM can change often, there may be offests between image layers or even between the same image layer that the feature was originally mapped on.

In the JOSM **Imagery** menu, we can change the offset to align with what has already been mapped. This way, you won't need to adjust all of the preexisting features and new features will be positioned correctly, relative to older features.
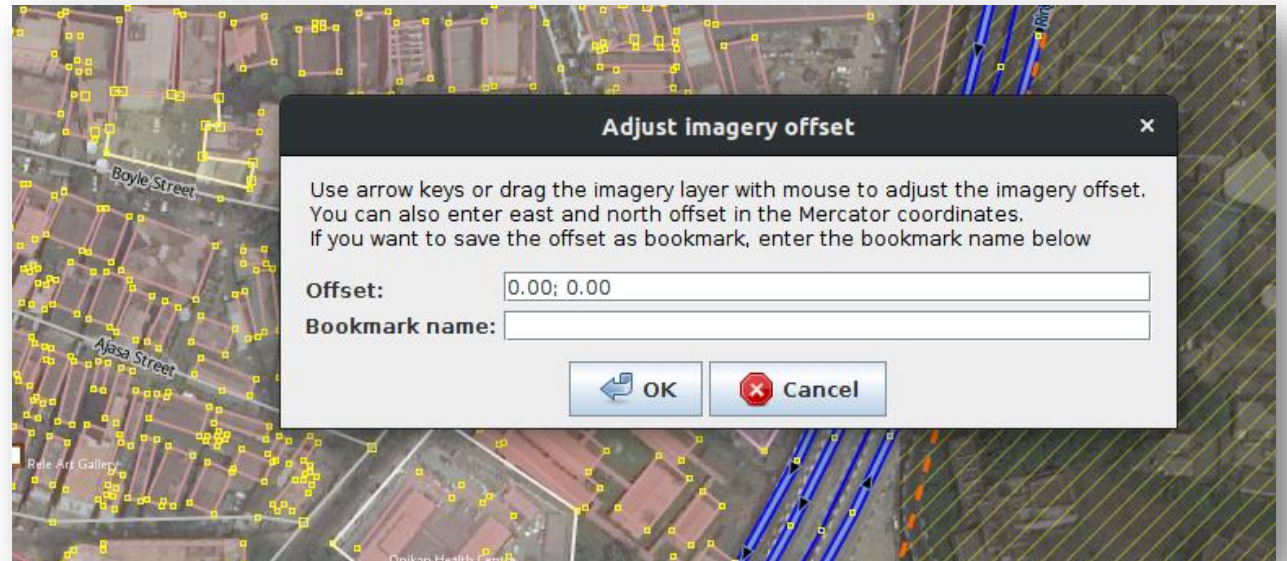
JOSM Advice – Zoom Out

Often times, mappers want to zoom in as close as possible to a feature while mapping it to see the details of the feature.

In an urban area, buildings may overlap and can be built from similar materials, making it difficult to identify where one building ends, and another one ends.

Zooming out to gain better perspective can help you better see the "big picture" of an area and identify where discrete buildings are.

Large Scale/Higher Zoom Level

Small Scale/Lower Zoom Level

MAXAR

JOSM Advice - Squaring Multiple Buildings

If there are numerous buildings that have already be mapped in an area, and you're working to fill in the gaps, try mapping a small predefined area and when the buildings are close to where you want them to be, select them all and press Q to square their corners.

NOTE: Do not do this over a large area or with a large number of buildings as you could create further issues in the data.

Buildings slightly askew

Buildings having been squared

MAXAR

Other JOSM Resources

JOSM Website

https://josm.openstreetmap.de/

LearnOSM

https://learnosm.org/en/josm/

MAXAR

MAXAR

MAXAR.COM