Georeferencing in Agisoft Metashape

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Data collected with Erin N. DiMaggio Pennsylvania State University

> Tutorial notes September 19, 2019



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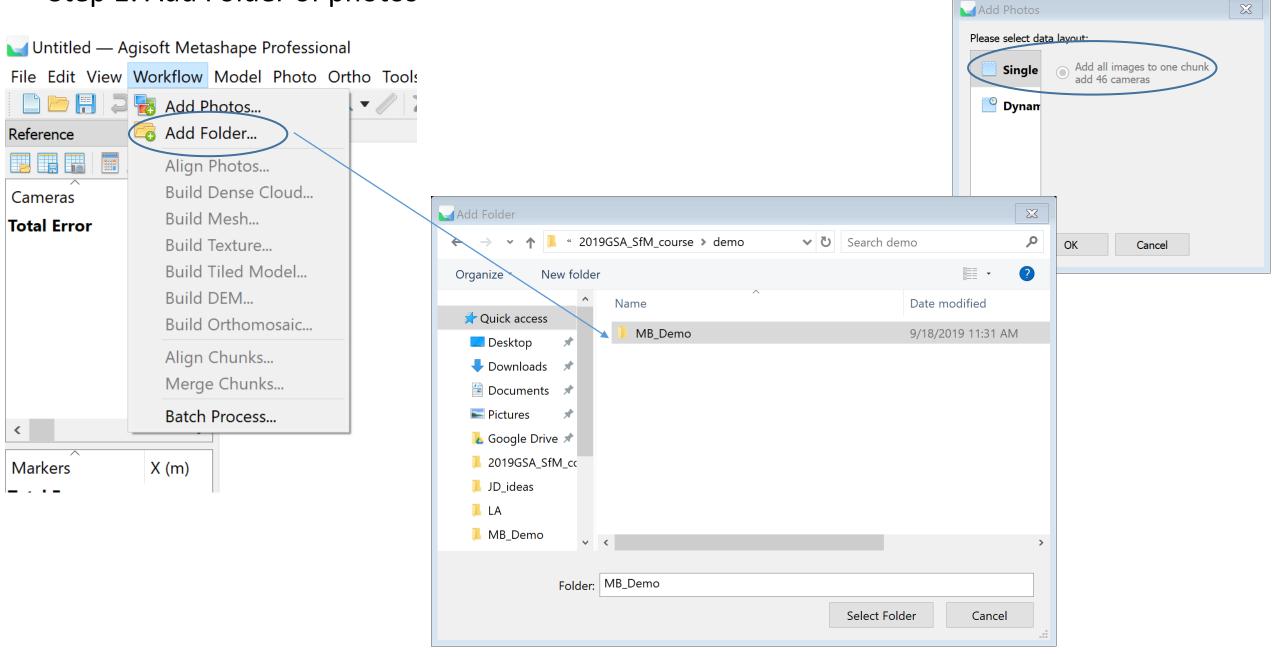
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Google Farth

Step 1: Add Folder of photos



Step 2: Align photos (=SIFT plus Structure from Motion)

In this case, the image locations are bad. So, in the Reference pane select all the images and then uncheck. That way the software won't be confused.

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Then, Align Photos from the Workflow menu. Unselect the Generic and Reference preselection. Don't be too greedy on accuracy.

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Satellite RTK for ~dm positioning



WGS84 Marker Locations # H rms V rms Longitude

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Submeter, Decimeter, Centimeter Multi-Constellation

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Step 3: External georeferencing

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Step 3: External georeferencing

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This is marker 13. Right click and place marker right in the middle of it

Step 3: External georeferencing, cont'd

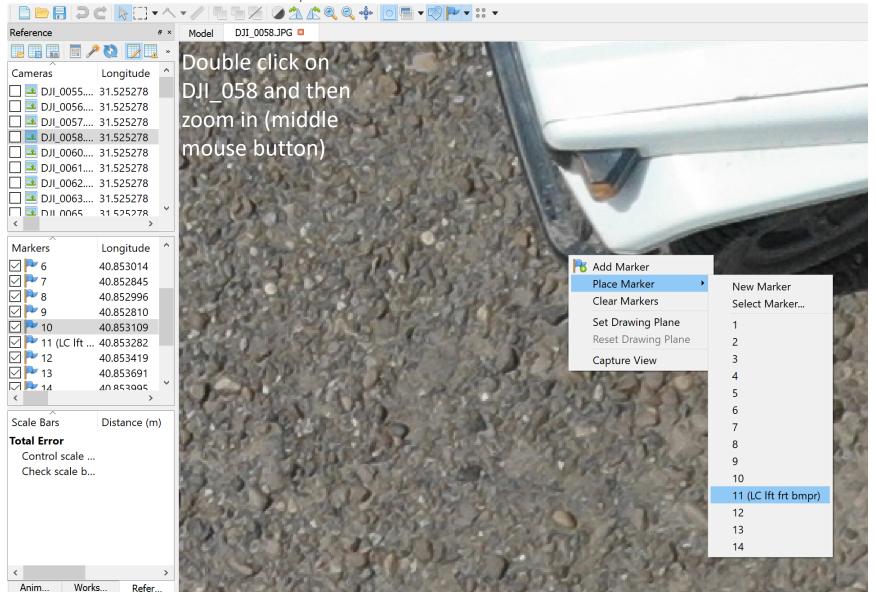
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This is marker 13 with an estimate of where it should be (red dashed line). Right click and place marker right in the middle of it

Step 3: External georeferencing, cont'd

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This is marker 11 (left front bumper of the Landcruiser). Right click and place marker right in the middle of it

Step 3: External georeferencing, cont'd

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Step 3: External georeferencing, cont'd

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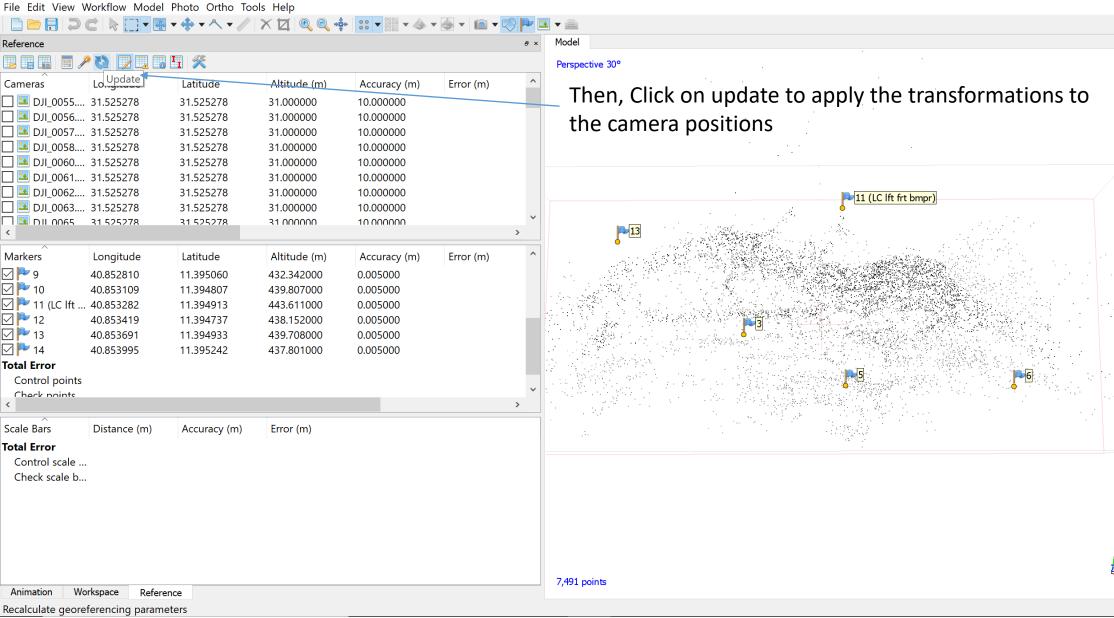
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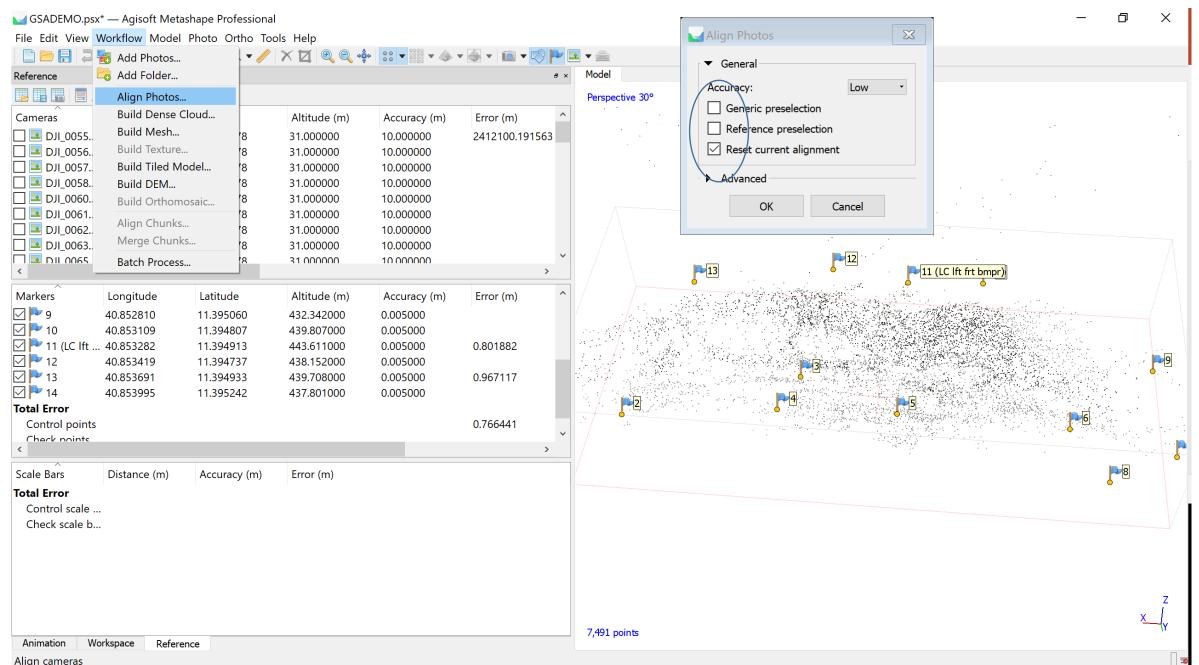
File Edit View Workflow Model Photo Ortho Tools Help

Move through all the photos a couple of time and add and update the markers

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Step 4: Reset the current alignment



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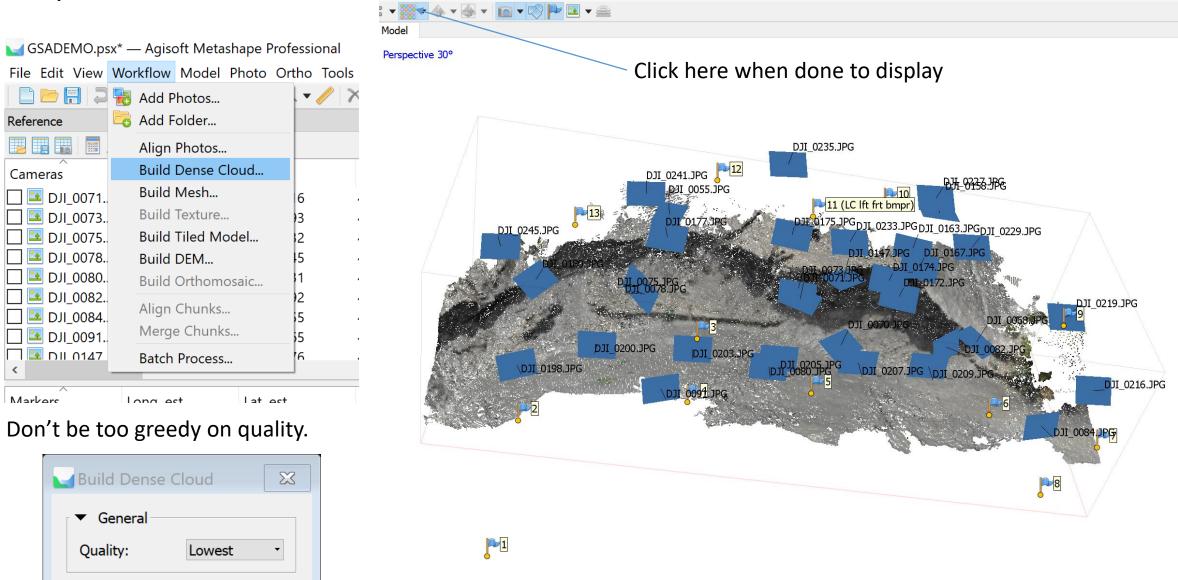
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Step 5: Build the dense cloud (multiview stereo)



points: 239,688

Advanced

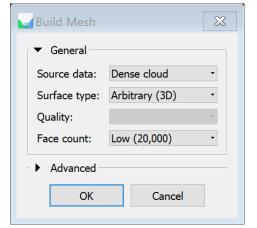
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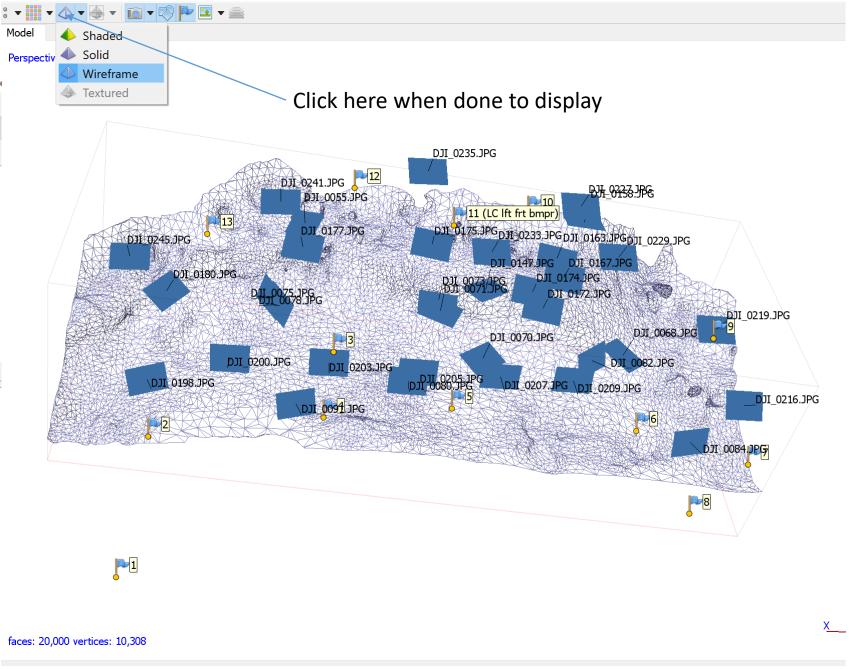
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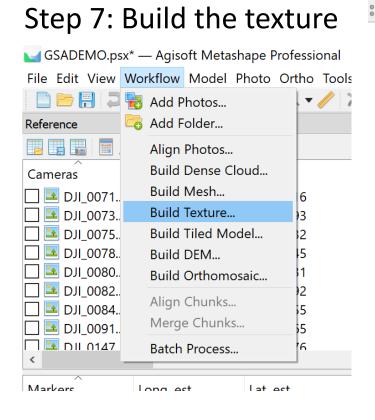
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Step 6: Build the mesh GSADEMO.psx — Agisoft Metashape Professional Perspectiv File Edit View Workflow Model Photo Ortho To-📄 🗁 📄 🥃 😽 Add Photos... - // 🔄 Add Folder... Reference Align Photos... Build Dense Cloud... Cameras Build Mesh... 🗌 🛂 DJI 0071.. Build Texture... 🛂 DJI_0073.. 🔼 DJI_0075. Build Tiled Model... 🛂 DJI_0078.. Build DEM... ..0080.ILD 🔤 Build Orthomosaic... 🛂 DJI_0082.. Align Chunks... 🗍 🛂 DJI_0084. Merge Chunks... 🔲 🛂 DJI 0091.. ח147 🔝 🗖 Batch Process... Markore lat oct Long oct

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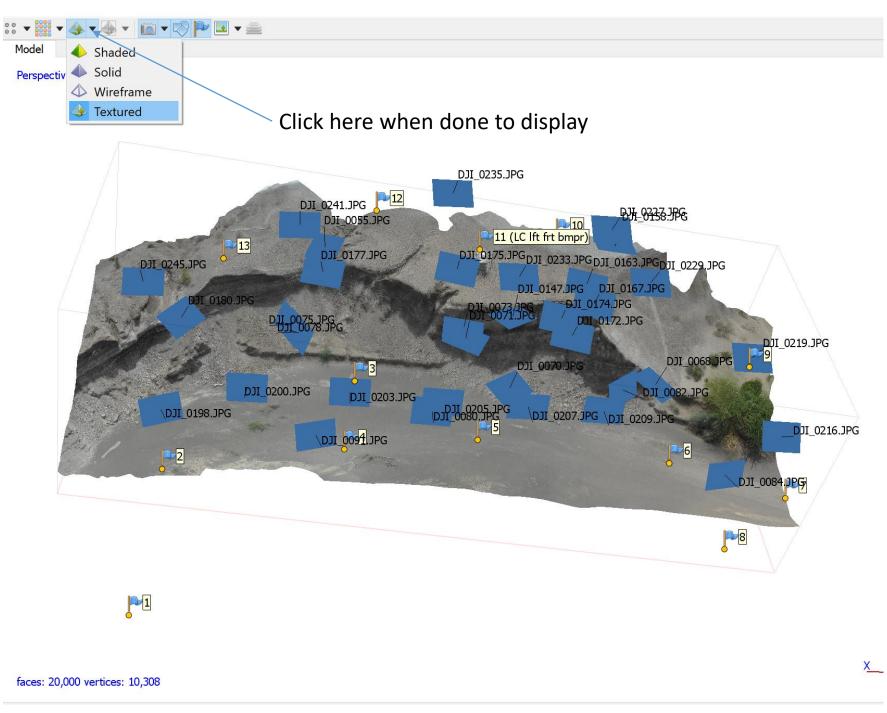






Don't be too greedy on quality.

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Step 8: Rerun to increase quality and create derived products

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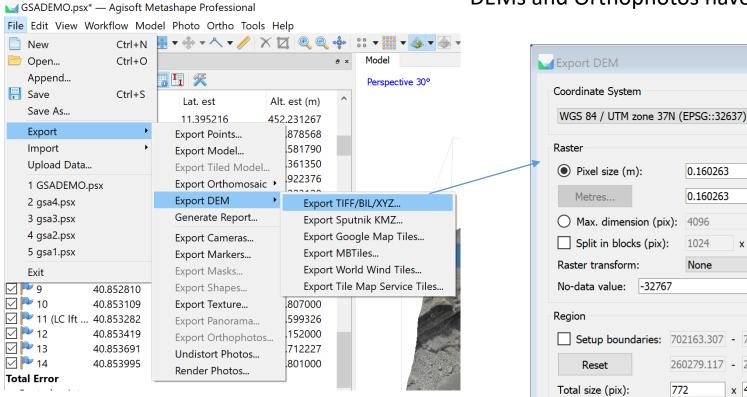
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After you have run through everything, keep saving and then you can start again through the sequence, progressively increasing quality.

You will probably want to <u>Build a DEM</u>, and Build the Orthomosaic

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Step 8: Rerun to increase quality and create derived products



DEMs and Orthophotos have to be built before they are exported.

- 🌿

You could change the coordinate system here on export as well

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Step 9: Quick check with ArcMap if the exported product is in the right place

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