Agisoft Metashape Orthomosaic Processing Workflow

Prerequisites

Perform manual cleanup of image datasets to remove off-target images (e.g. images acquired while UAS was travelling to the start of the flight path).

1. Add Images
- Open MetaShape and select Workflow from the top menu.
- Workflow > Add Folder.
- Choose the folder containing images.
- Select the multi-camera option when prompted.

2. Calibrate Reflectance
- Tools > Calibrate Reflectance > "locate panels."
- Choose the MicaSense reflectance panel (e.g., RP04-1949229-OB.csv).
- Check both "use sun sensor" and "use reflectance panels."
- Follow reflectance panel instructions.

3. Align Photo:
- Workflow > Align Photos.
- Set Accuracy to the highest.
- Select both generic and reference preselections.
- Leave other settings unchanged and click OK.

4. Optional: Check Coordinate System
- Click Settings on the Reference pane (View > Reference).
- Modify the coordinate system if needed.

5. Add GCPs
- After alignment, View > Reference > 'Import Reference.'
- Choose the .csv file with GCP coordinates.
- Select the appropriate coordinate system (e.g., WGS 84).
- Click OK and confirm if prompted.

6. Optimize Cameras (Batch Process)
- Tools > Optimize Cameras.
- Leave preset check boxes as-is and click OK.

7. Build Dense Point Cloud, DEM, and Orthomosaic

- Workflow > Build Dense Point Cloud.
- Advanced > 'calculate point colors' and 'calculate point confidence.'
- Workflow > Build DEM > Set source as Dense Point Cloud and coordinate projection.
- Workflow > Build Orthomosaic > Set Surface to DEM and coordinate projection.

8. Export Orthomosaic

- File > Export.
- Uncheck "write alpha channel."
- Optionally, add an outer boundary using the 'Draw Polygon' icon.
- Export the polygon as a shape file.

9. Batch Processing (If Applicable)

- Add image folders as separate chunks.
- Calibrate reflectance for each chunk.
- Import GCPs for each chunk.
- Save the project.
- Workflow > Batch Process.
- Add steps 3-8 in the correct order.
- Save the Batch Process as an xml file for reuse.