Quality Issues with UAS Data and Orthoimages

Image Post-processing with Ground Control Points


P
BUILDING

Equipment Needed

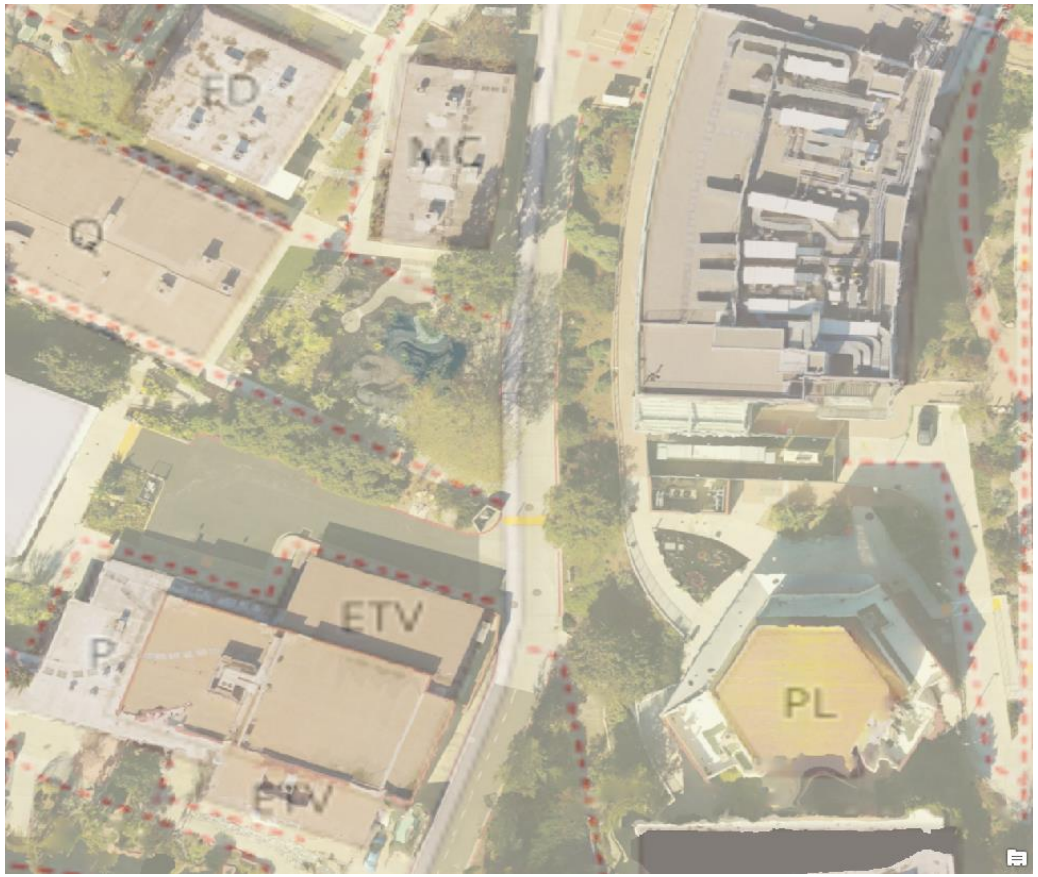
- **UAV** to collect aerial images (e.g. Phantom 4)
- *(Optional)* **Mission Planning Software** (e.g. DroneDeploy)
- **Real Time Kinematic GPS** to collect ground control points (e.g. ProMark 120)
- **Software** to process drone images and ground control points (e.g. PhotoScan)

Onboard GPS is Not Perfect:

Comparison of UAS ortho and OpenStreet Map basemap

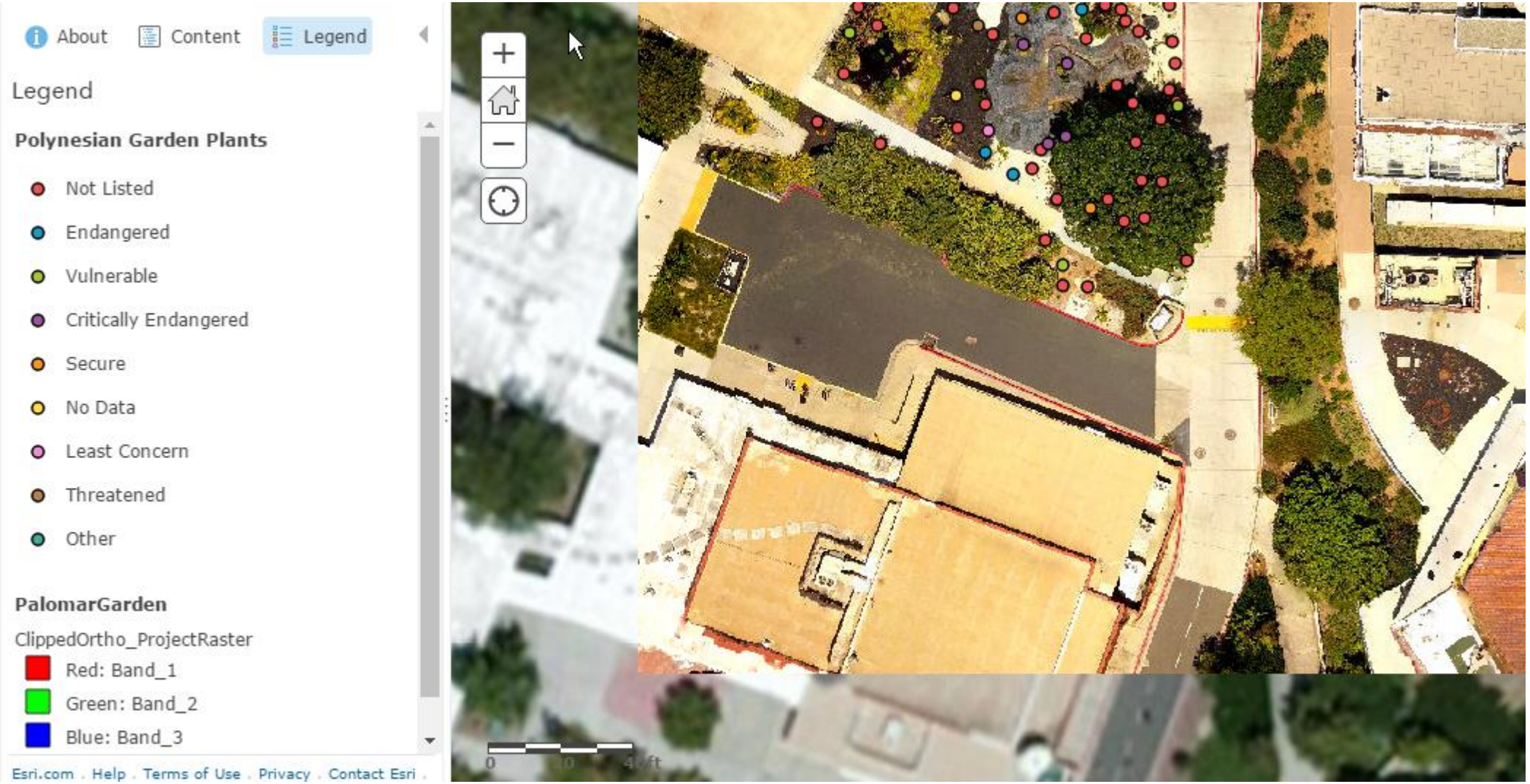
With onboard GPS+GLONASS only

Post GCP correction with RTK GPS



Polynesian Garden Service Learning Project:

Comparison of UAS Orthoimage with ESRI Imagery Basemap



Key Takeaways

- Good illustration of data accuracy considerations
  - Hi resolution (spatial, temporal) ≠ hi spatial accuracy
  - Need to review accuracy assessment report (not available in all software)
  - Document accuracy in metadata
  - Accuracy needed depends on application