OpenDroneMap

Drone Camp

ONLINE

Open Source Data Processing with OpenDroneMap

EXERCISES

DroneCamp

July 28, 2021

IGIS UC ANR

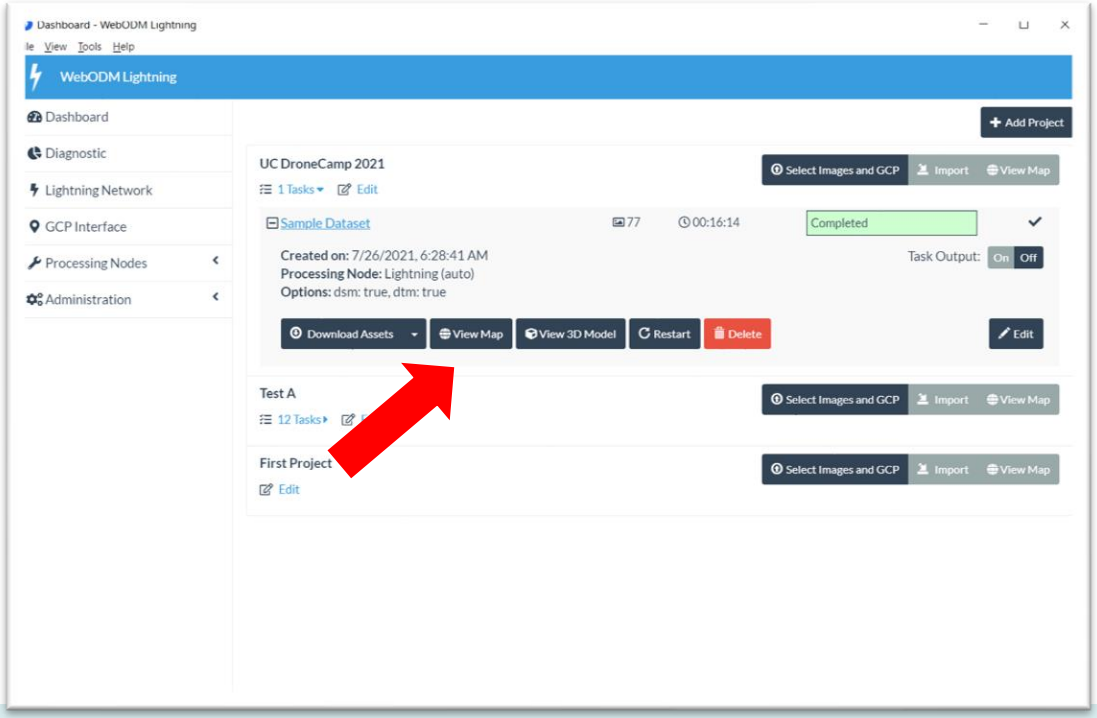
California State University MONTEREY BAY

UNMANNED AIRCRAFT SYSTEM SAFETY

DART DRONES AUTOMATION & ROBOTICS TECHNOLOGIES

UC SANTA CRUZ

Exercises – 2D Orthophoto

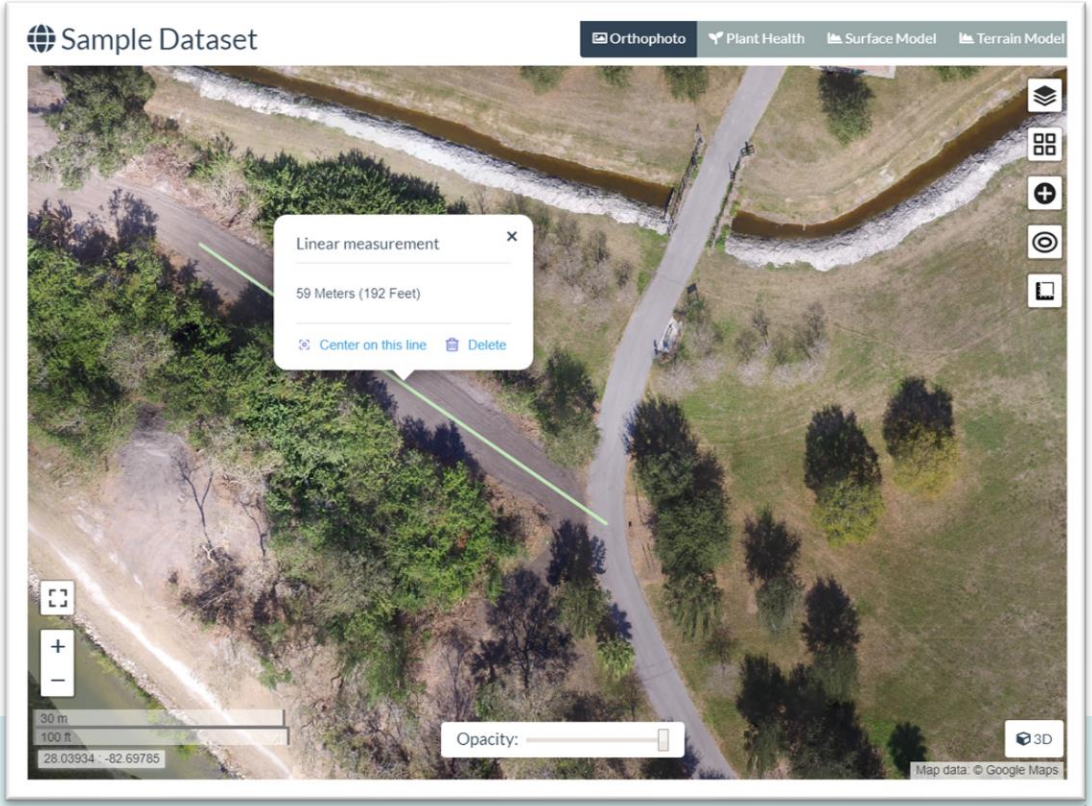


#1 – Orthophoto - Navigate

A. Click+hold = move map
B. Scroll wheel = zoom in/out
C. Map controls +/- = zoom
D. Map control square = full screen
E. Top buttons:
    A. Ortho
    B. Plant Health
    C. Surface Model
    D. Terrain Model

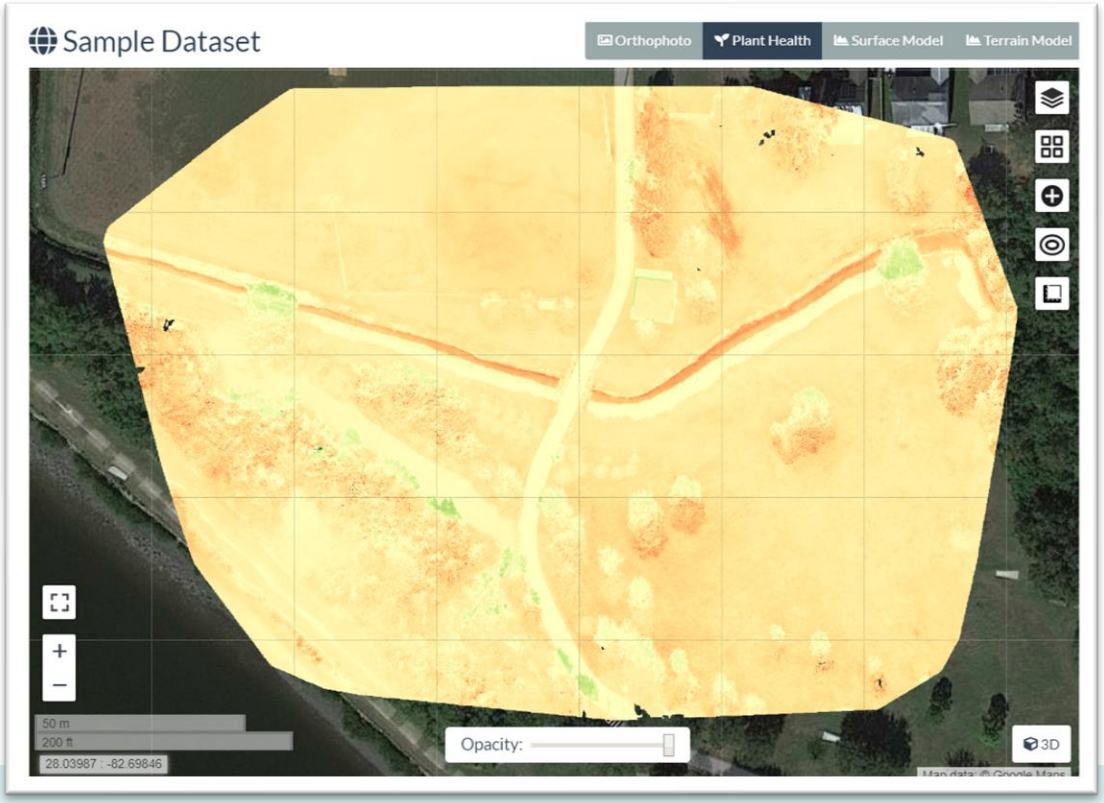
#2 – Orthophoto - Measure

A. Click ruler (5th on right)
B. Create new measurement
C. Click 2 points on map
D. Click “Finish measurement”
E. View calculations in white balloon
F. Close balloon with “x”
G. Click ruler again, new measurement
H. Click 4 points on map to make a box, click “Finish”
I. View calculations
J. Click “Delete” to remove it



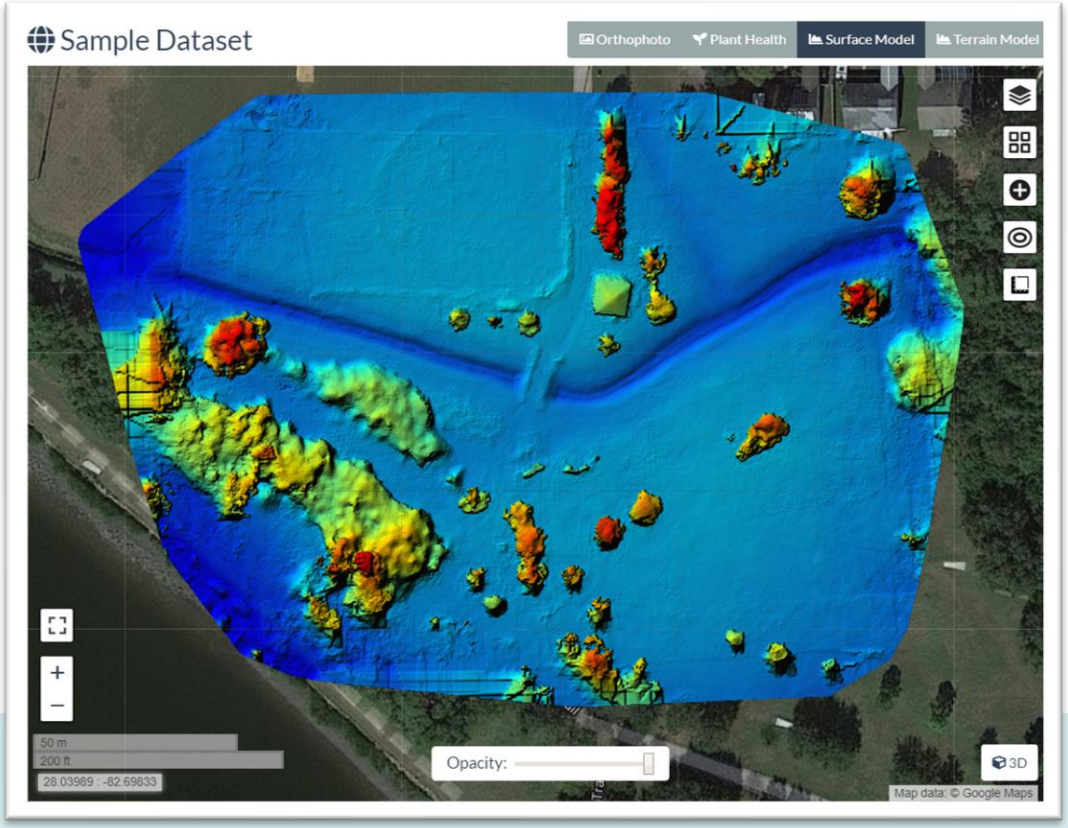
#3 – Plant Health

A. 2nd Top Button: Plant Health
B. Note color differences in different grassy areas
C. Click top right “layers” icon
D. View “Algorithm” options
E. View “Color” options
F. Drag min/max bars
G. Export GeoTIFF



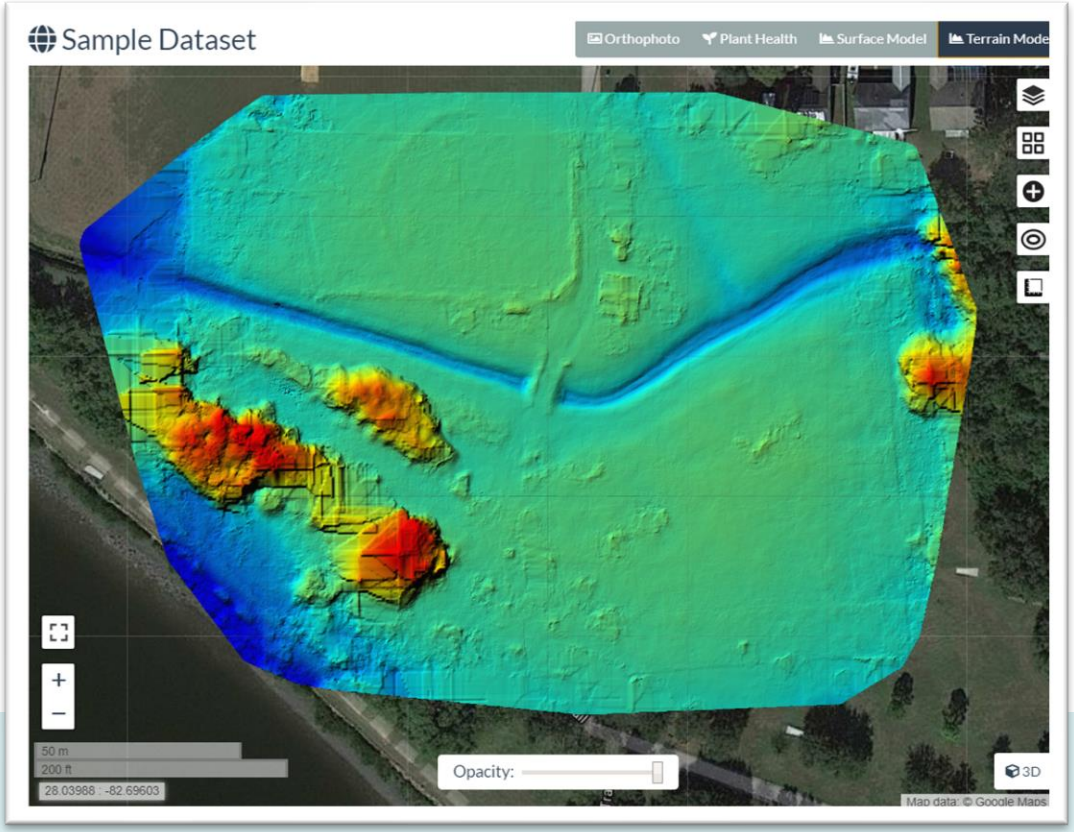
#4 – Surface Model (DSM)

A. 3rd Top Button: Surface Model
B. Wait for calc/load
C. Note color varies by altitude
D. Click top right “layers” icon
E. View “Color” options
F. Drag min/max bars
G. Wait for refresh
H. Export GeoTIFF

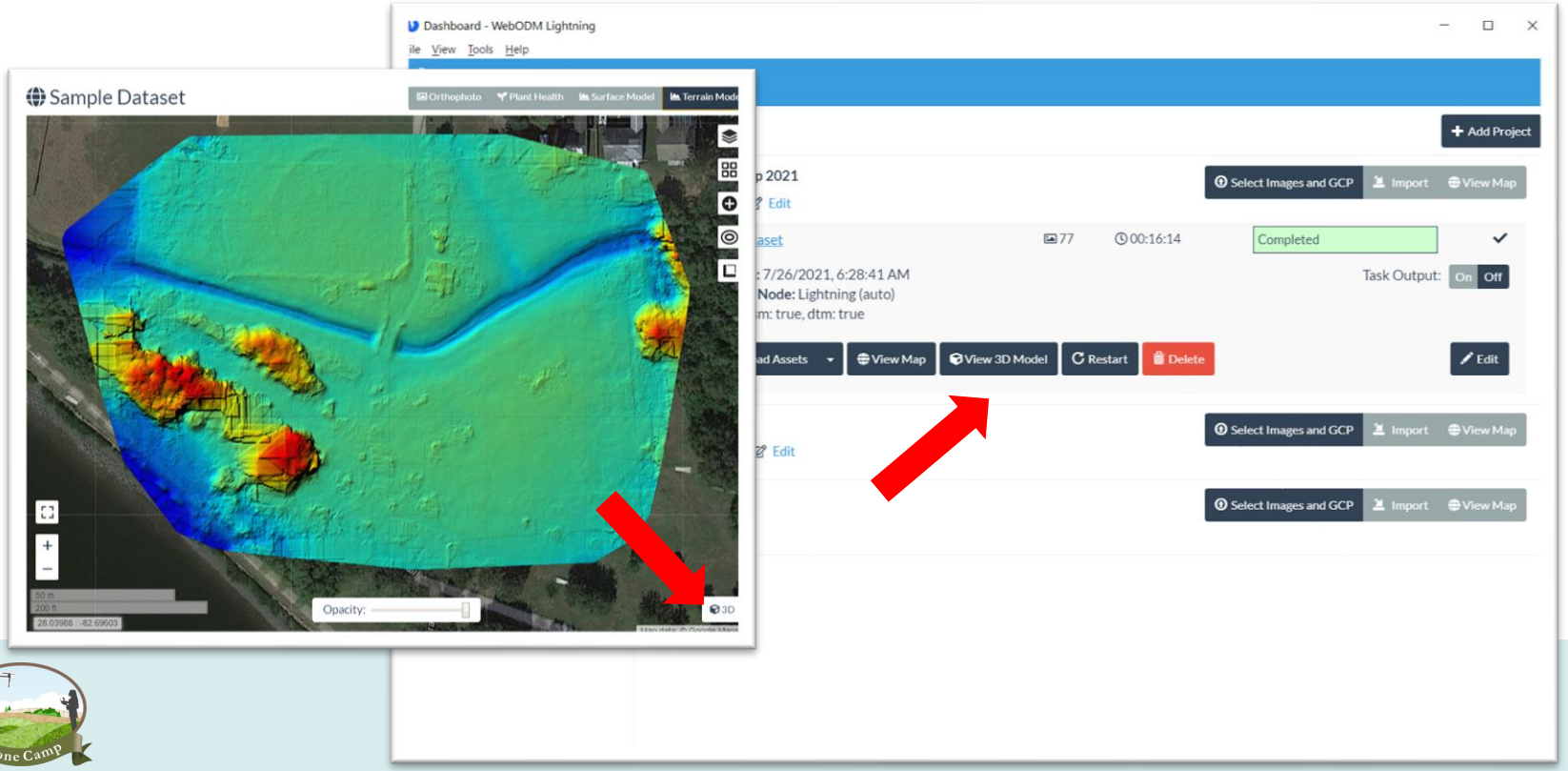


#5 – Terrain Model (DTM)

A. 4th Top Button: Terrain Model
B. Wait for calc/load
C. Note color varies by altitude
D. Click top right “layers” icon
E. View “Color” options
F. Drag min/max bars
G. Wait for refresh
H. Export GeoTIFF

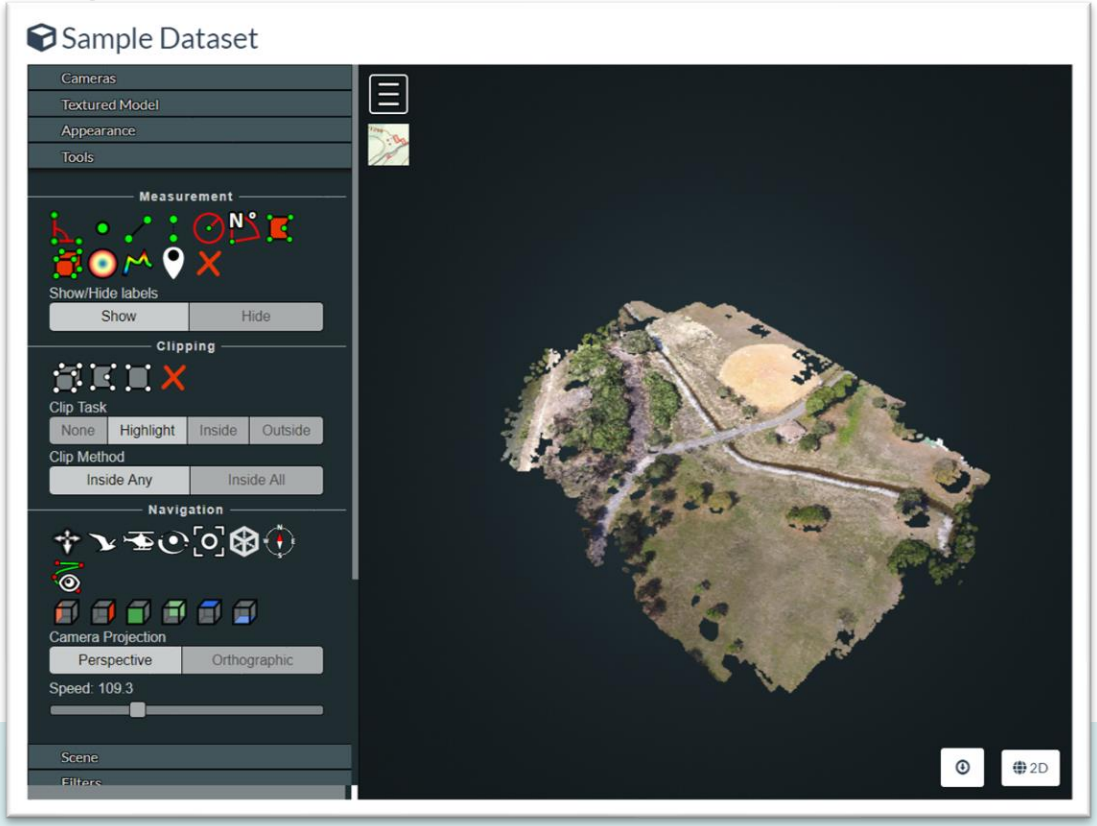


Exercises – 3D Model



#6 – 3D Model - Navigate

A. Left click+drag = rotate model
B. Right click+drag = move model
C. Scroll wheel = zoom in/out
D. Top left (3 bars) button = collapse tools
E. Top left (map) button = show model location
F. Tools
    A. Measure
    B. Navigation
G. Appearance
H. Scene



#7 – 3D Model – Measure (Linear)

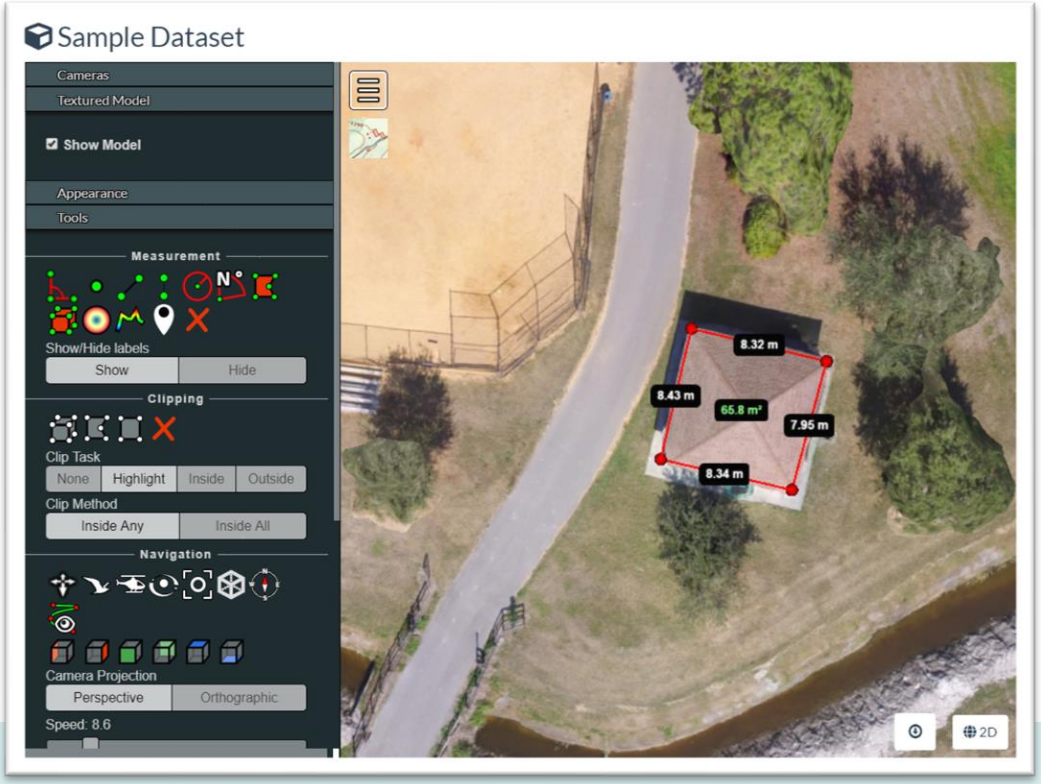
A. Adjust the model so you can see
B. Click 3rd Measurement tool (angled line)
C. LEFT click 2 points on the map
D. Now RIGHT click the last point to finish
E. View measured distance (m)
F. Click red “X” in measurement tools, to delete

#8 – 3D Model – Measure (Area)

A. Adjust the model so you can see
B. Click top right Measurement tool (red box)
C. LEFT click 4 points on the map
D. Now RIGHT click the last point to finish
E. View measured distances (white)
F. View measured area (green)

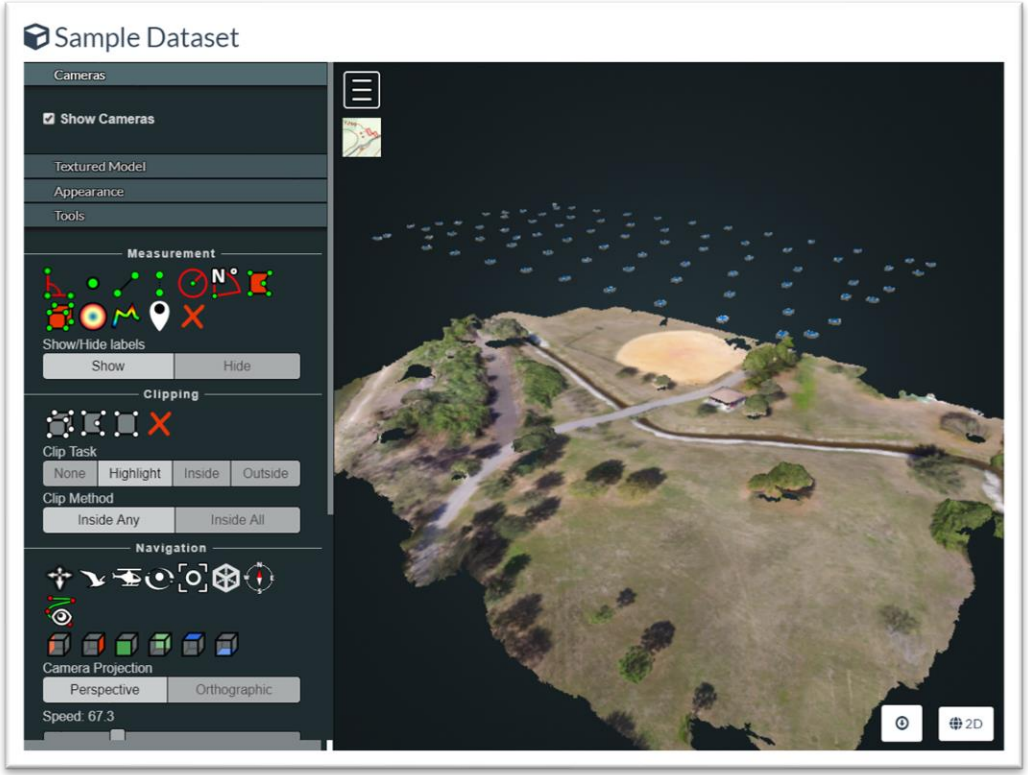
#9 – View Textured Model

A. Find “Textured Model” near the top of the tool menu
B. Click to expand, then click “Show Model”
C. Wait a few seconds
D. View how the scene becomes more detailed, holes are filled
E. Uncheck and check the box to turn off, and on
F. Move the model around to view other parts
G. Edges of model = lots of error
   Interior of model = better precision

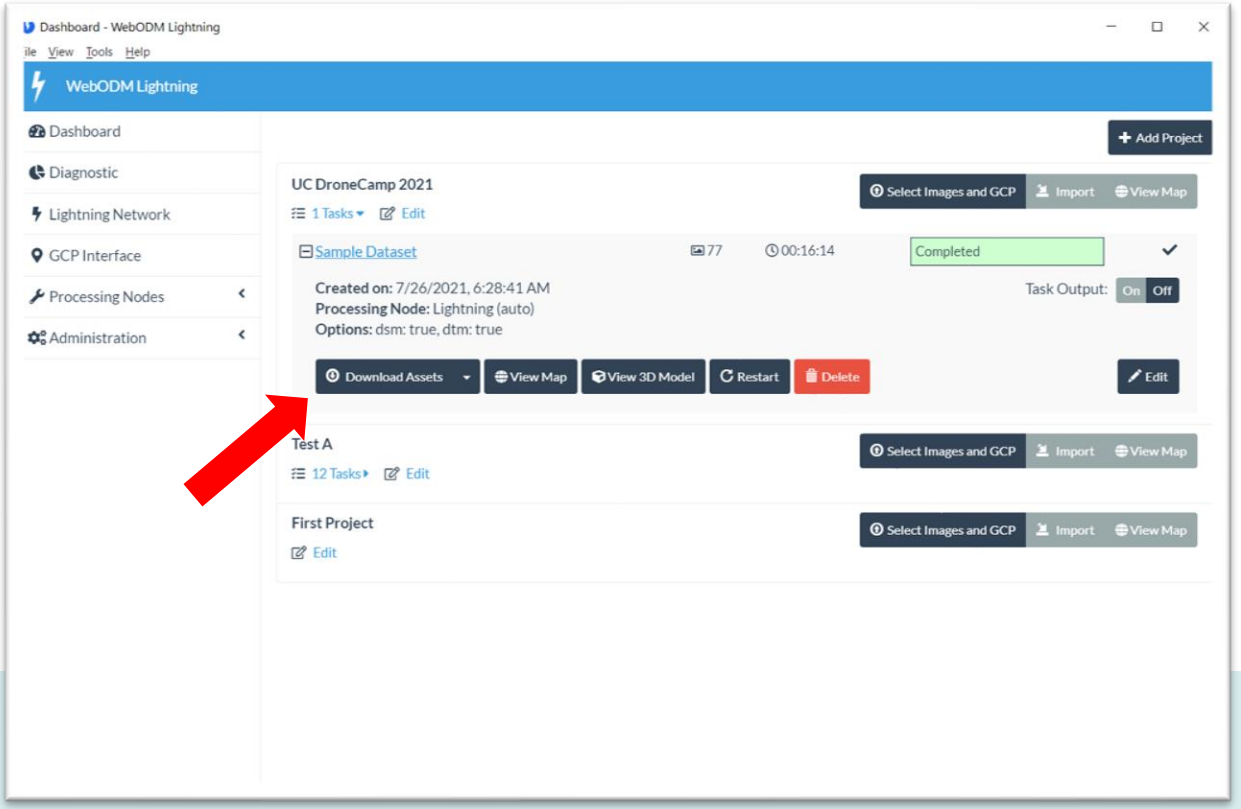


#10 – View Cameras

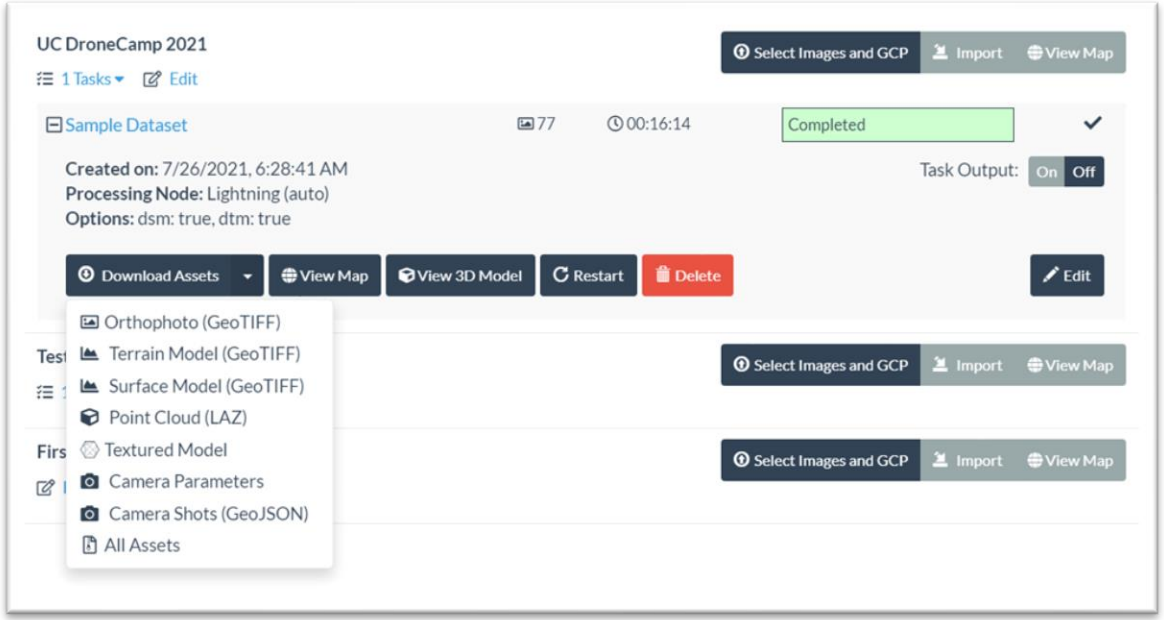
A. Find “Cameras” near the top of the tool menu
B. Click to expand, then click “Show Cameras”
C. Zoom out (scroll) until you see the blue squares floating above the scene
D. Note positions, angles of cameras
E. Click one camera to see the photo from that position



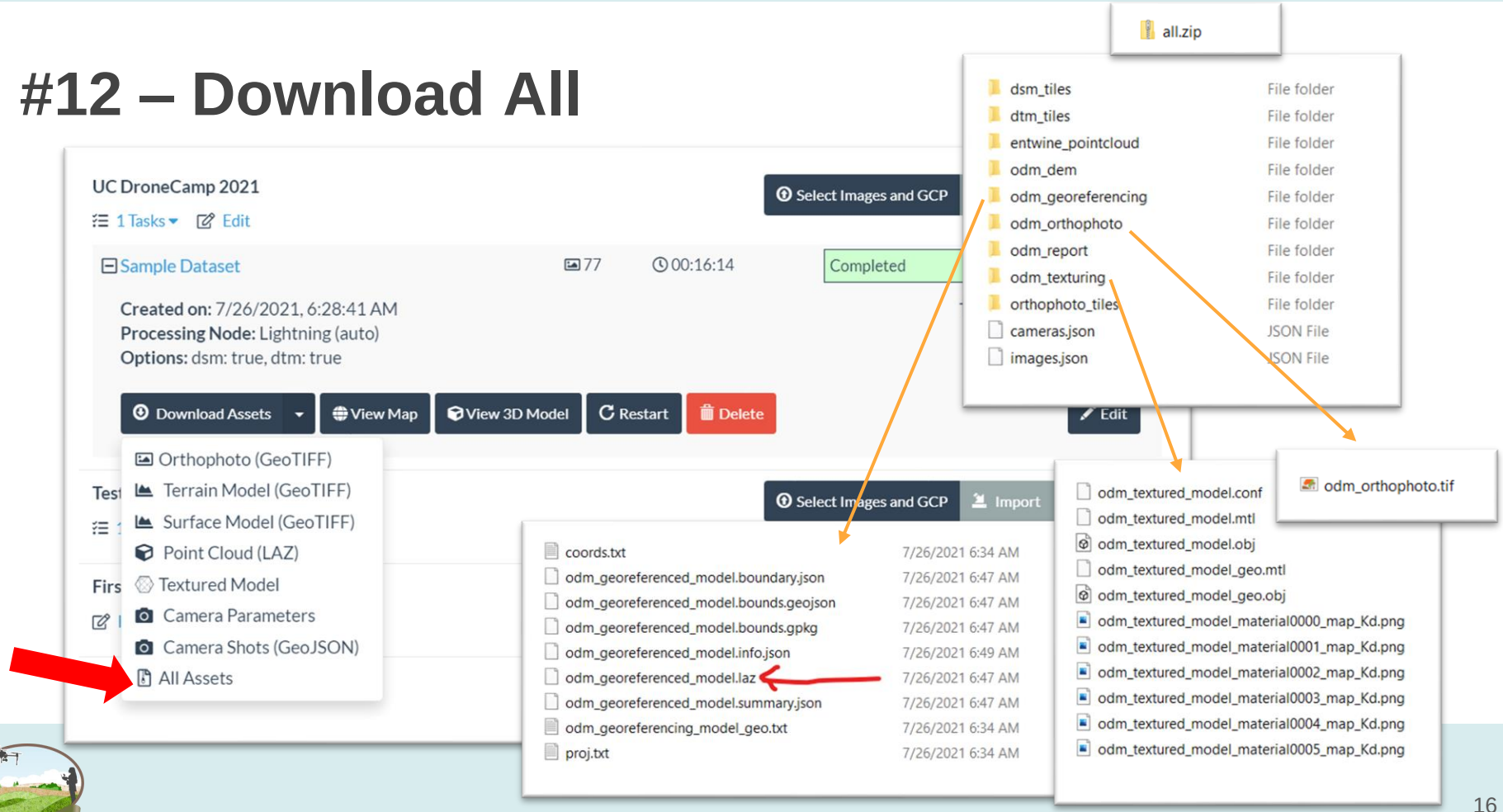
Exercises – Download



#11 – Download Specific Outputs



#12 – Download All



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OpenDroneMap
https://opendronemap.org

Thank You!