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GEOG 521 Fall 2023

Deliverable 1

- The cell values indicate the visibility of each location, for example cell value of 1 would indicate that one location is visible from one of the observation points, etc.

Deliverable 2

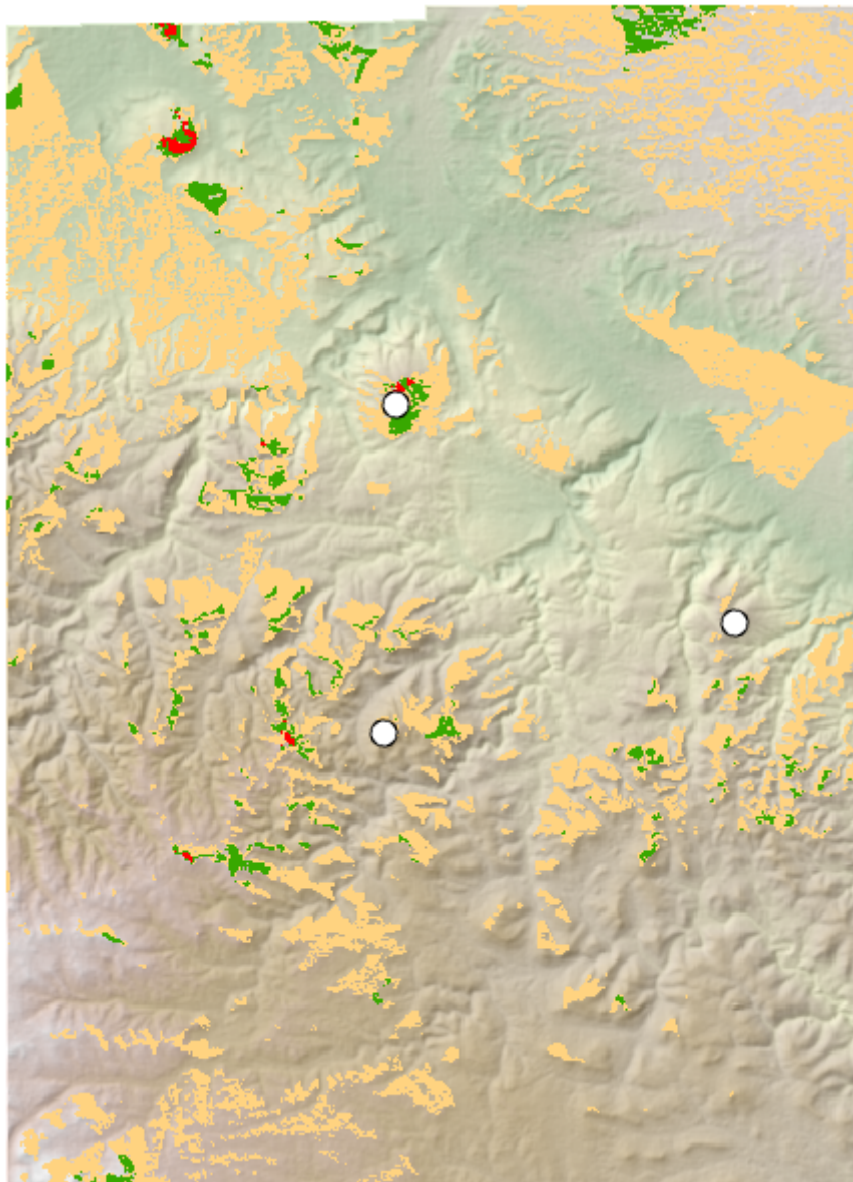
- Displaying the chart based on count of each of the 3 towers:

SUM - MAX / SUM

$229,508 - 185,196 / 229,508 \times 100$

= **19.3%**

Deliverable 3



Deliverable 4

- The cell values depict visibility from each observer point. A value of 1 tells us that the point is visible from 1 other observer point.

Deliverable 5

- Created a new viewshed using all of the summits.
- Used *Extract Values to Points* tool with all Summits as the input, and The newly created viewshed as the input raster.
- Examined resulting features attribute table with new RASTERVALUE field for results.

Deliverable 6

- **Bear Den Mountain** is the most visible, from 9 total summits.

Deliverable 7

- Anchor Hill
- Bear Den Mountain
- Crook Mountain
- Itself
- Pillar Peak
- Whitewood Peak

Deliverable 8

- Calculated the number of none visible cells by summarizing the statistics of the new visibility raster within the park boundary:

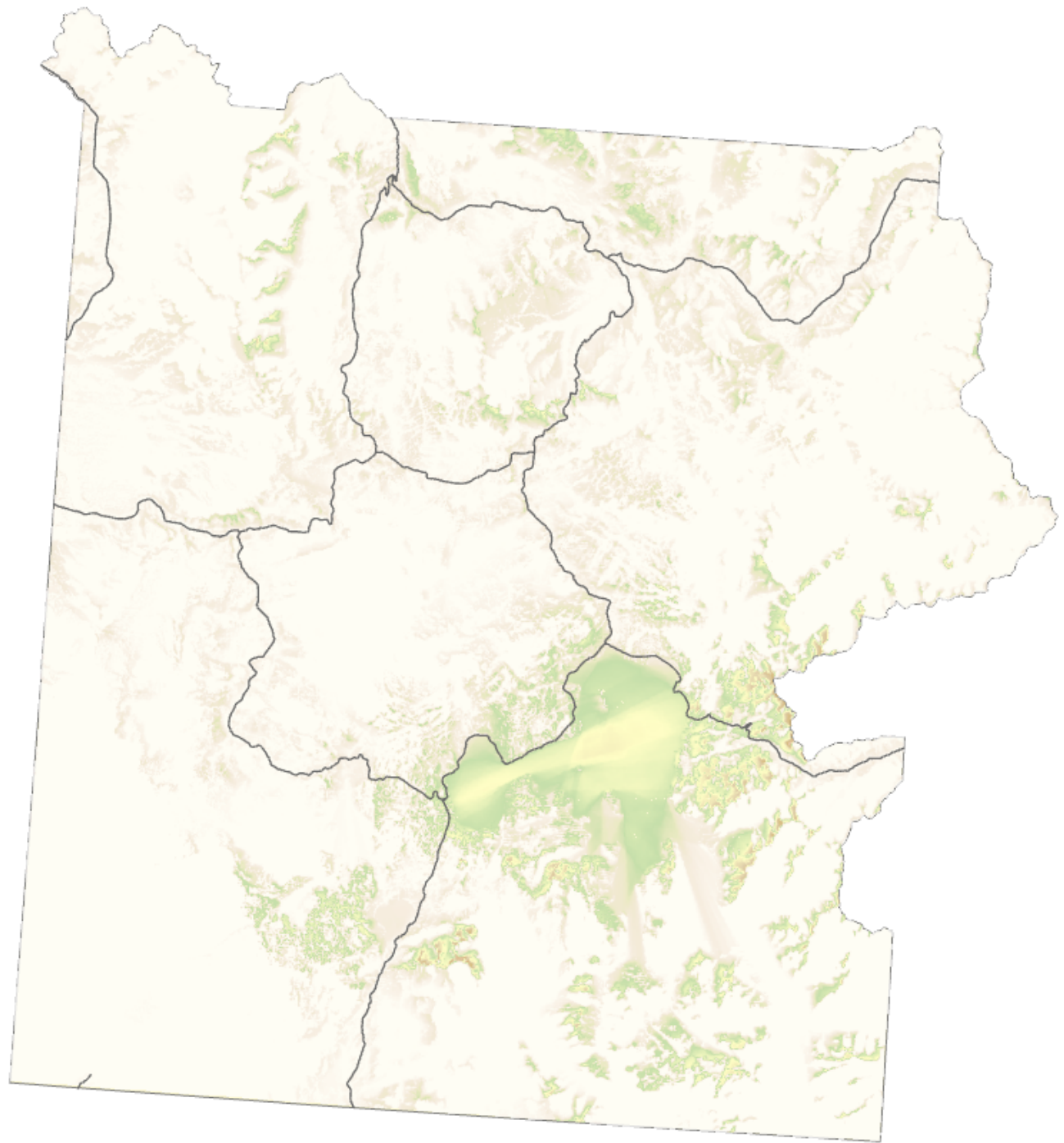
Number of cells not visible = $486,571 / 685,311$ (total number of cells) x 100

= **71%** of the park cannot be seen from the road.

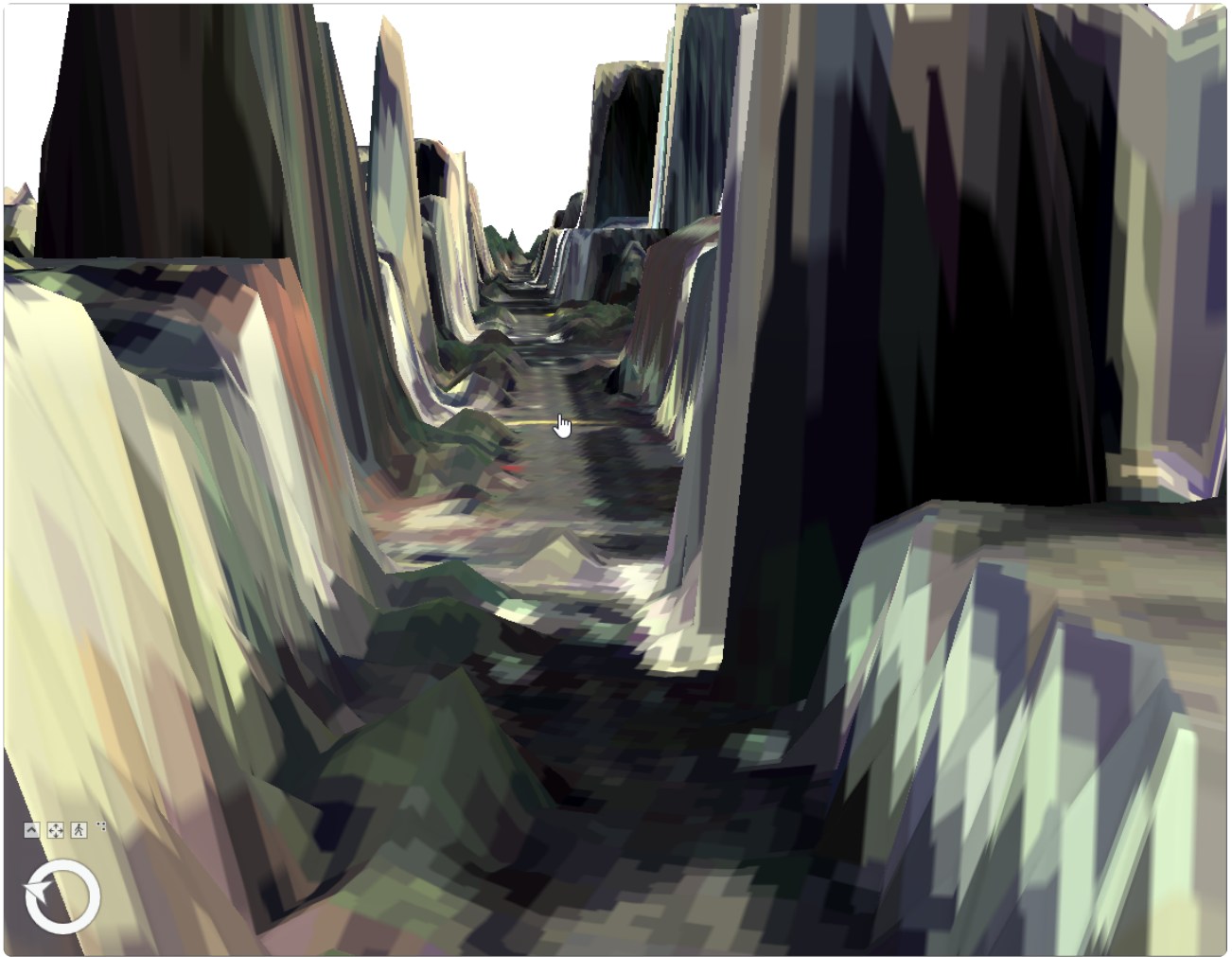
Deliverable 9

- When the observer point is a polyline, visibility values are assigned to each part of the polyline based on whether they have line of sight to other cells.

Deliverable 10



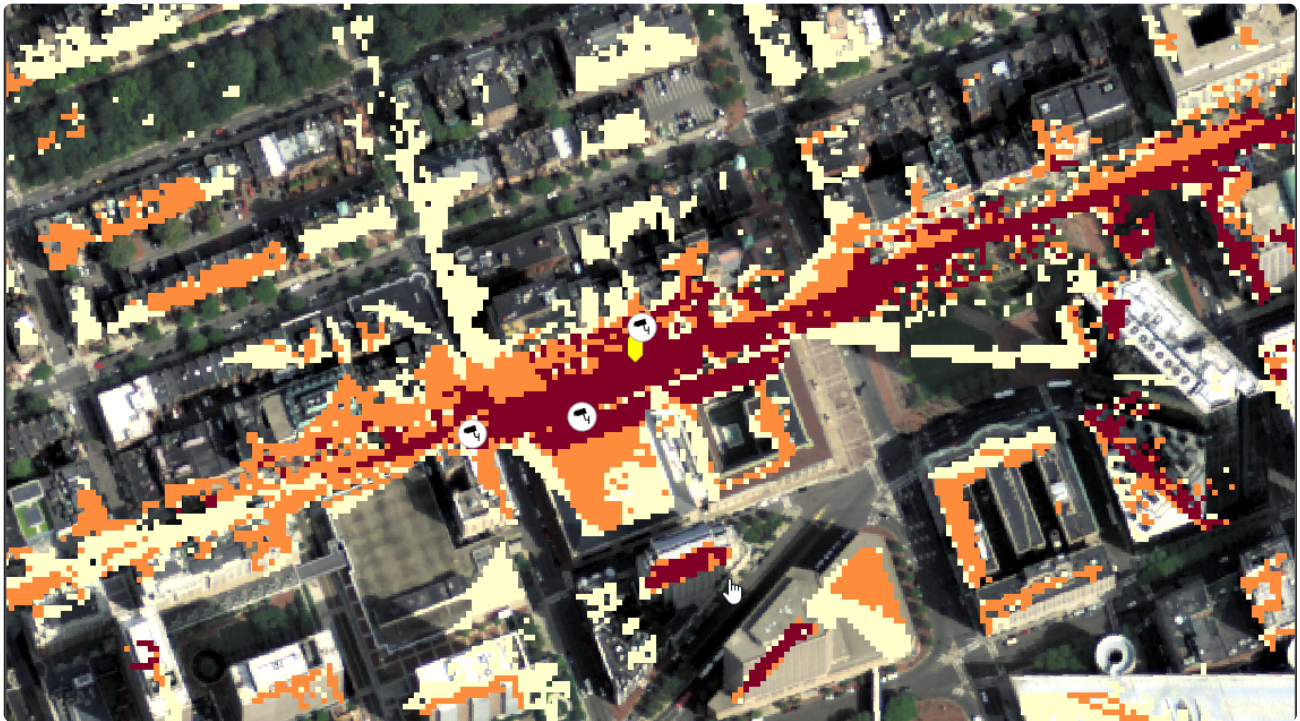
Deliverable 12



Deliverable 13

- The initial camera didn't quite cover the full street, so I added another camera on the street behind at a 90 degree angle to capture the remaining coverage. The second camera was added just before the finish line at a 30 degree angle. This is so it could capture runners coming in right before finish, which beyond the aesthetic purposes could provide more useful data, for example; speed performance of the runners crossing the finish line.

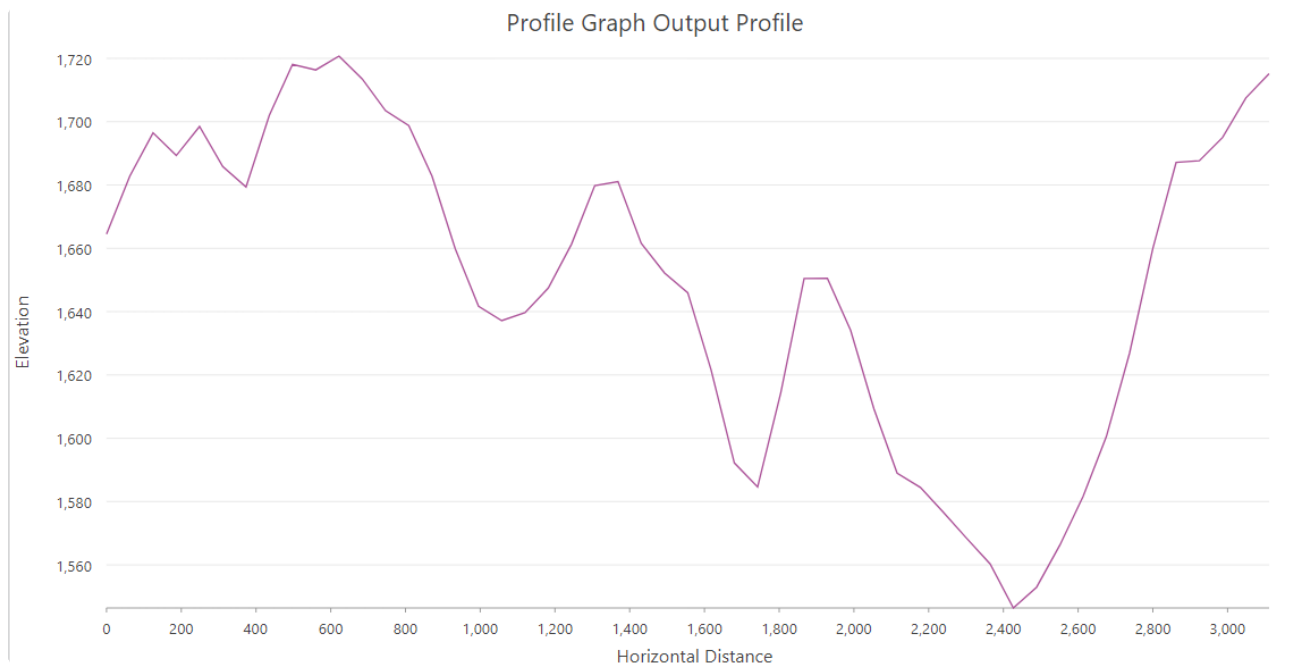
Deliverable 14



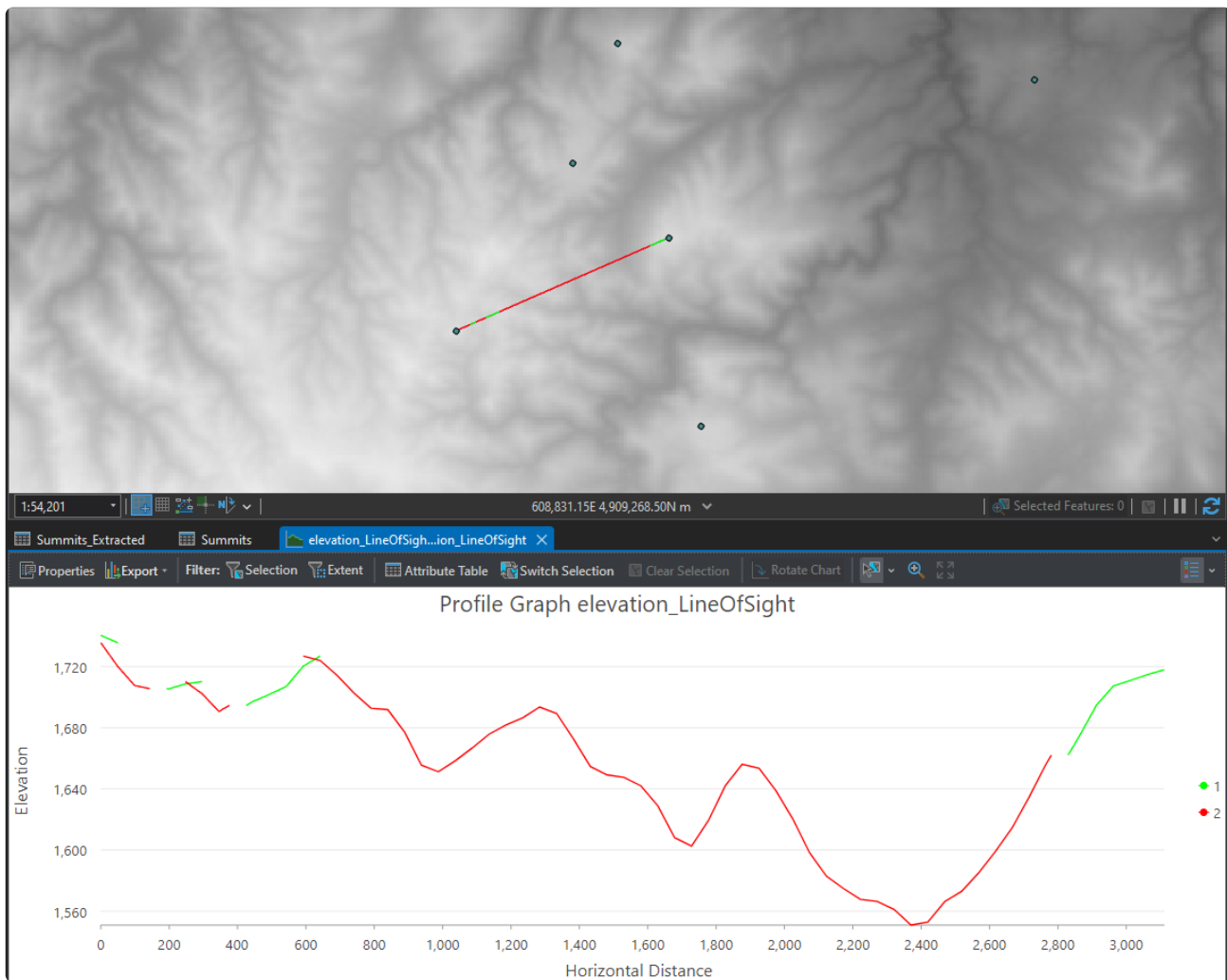
Deliverable 15

- There are 225 sight lines because there are 15 total summit points. Each summit point has a LOS for each other, 15 summit points x 15 lines of sight is 225 sight lines.

Deliverable 16



Deliverable 16



Deliverable 17

- Based on my selected line of sight and the elevation the obstruction points I initially thought there would be an even larger number of obstructions, based on comparing the first two parts of the graph screen capture below:



- Profile Graph



- LOS Graph

But I understand that the observer point is sitting at a higher elevation, so it does make sense that the LOS graph displays these obstructions. When the elevation height is greater than that of the observer it would obscure vision.

Deliverable 18

- **15** total records in the attribute table.
- **OID** is the unique field for each object.
- **Shape** is the geometric shape of the line.
- **SourceOID** is the source of the LOS (in this case it's Pillar Peak).
- **VisCode** is the status of visibility if it is obstructed or not
- **TarIsVis** is a Boolean value of 0 or 1 of the targets visibility.
- **OBSTR_MPID** Identifies features of obstruction.
- **Shape_Length** - Length of the lines.