



## Viewing an Eruption Of Mt.Hood

Identify the best sites in the Portland  
Metro Area to view a volcanic eruption  
of Mt. Hood  
Cindy Olson

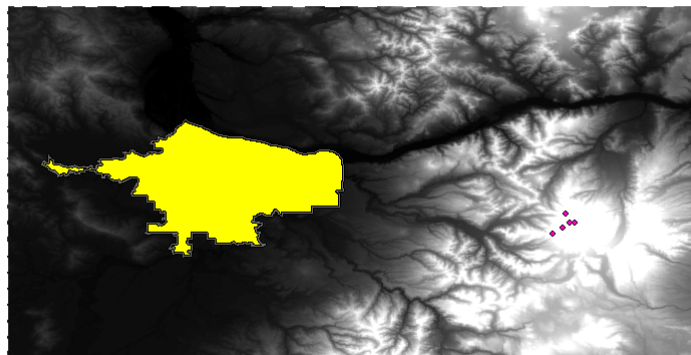
## Data

- DEM from USGS
- Metro Boundary and Neighborhoods from RLIS

## Methods

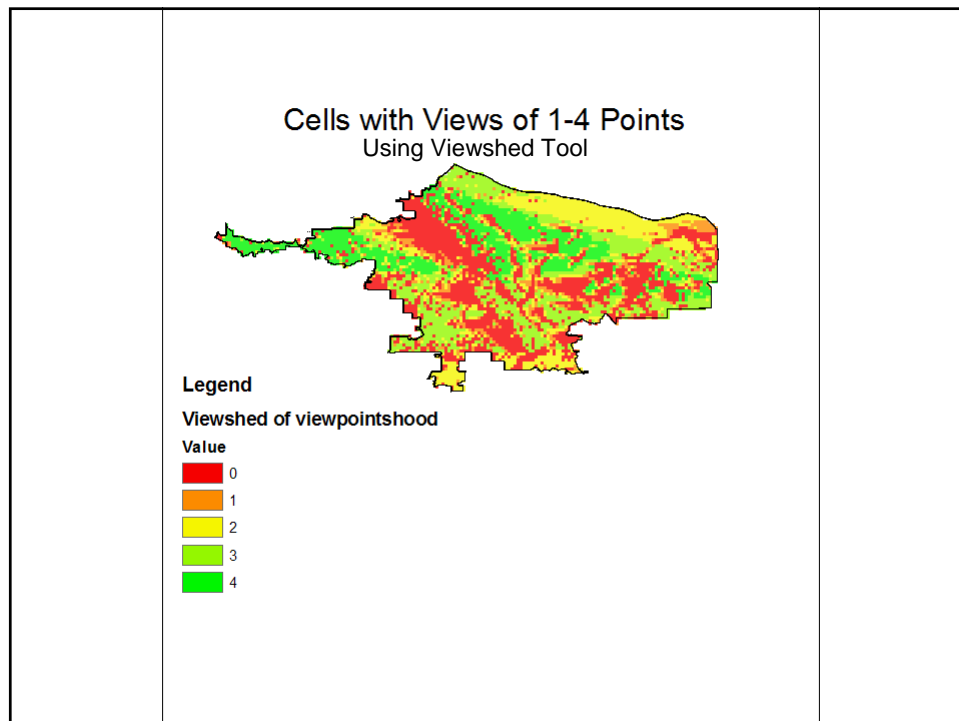
- Project Raster Tool in Data Management Toolbox—projected DEM to state plane NAD1983 and convert meters to feet.
- Edit Tool-created a point layer by editing five points on Mt. Hood to serve as “the view”.
- Elevations of 5059,6003,6582,8851,11094 feet.

## DEM with Metro Boundary and Edited Points

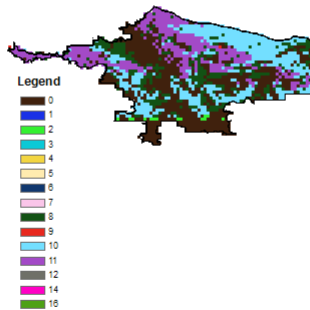


## Methods

- Viewshed Tool in 3D Analyst-created an output layer of cells that have a view of 1-4 points.
- No cell could see one of the points.
- Observer Point Tool in 3D Analyst-created an output layer of cells that have a view of 1 to 5 points.
- No cell could see all 5 points.

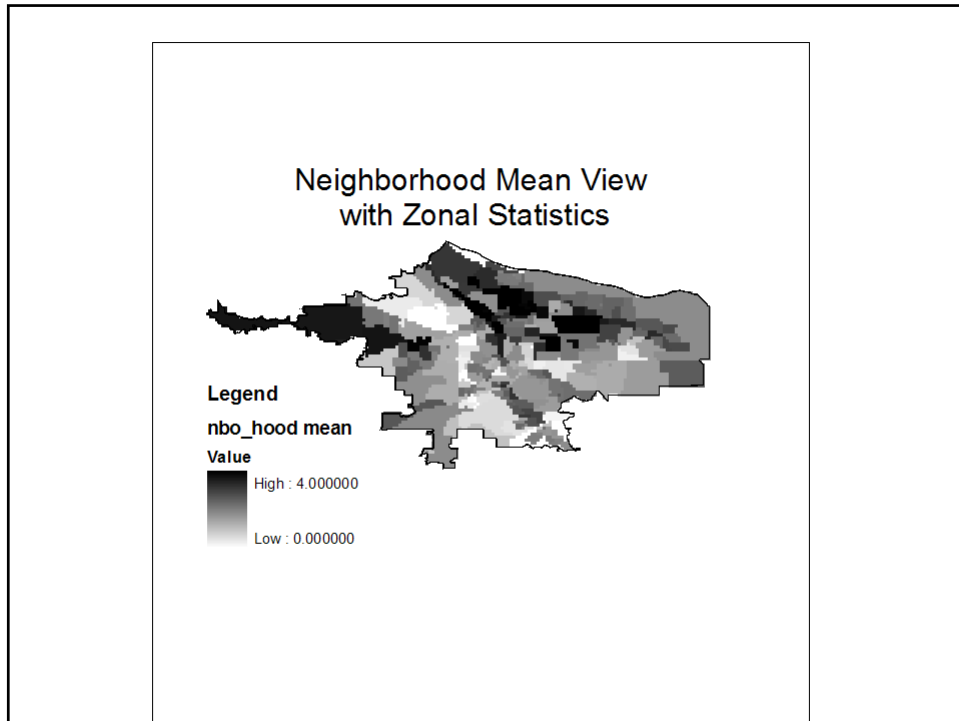


### Cells With Views of 1-5 Points using Observer Point Tool



## Methods

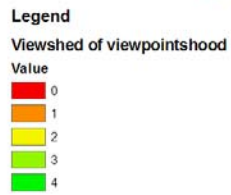
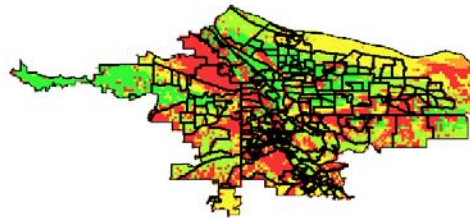
- Clipped layers to Portland Metro Boundary
- Zonal Statistics Tool in Spatial Analyst Toolbox-calculated the mean of each neighborhood view.



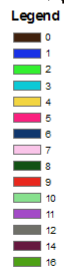
## Results/Conclusions

- Several Neighborhoods would have a good view of Mt. Hood during a volcanic eruption. The top five being:
- Forest Park Northwest District
- Rock Creek
- Arbor Lodge
- Foster-Powell
- King

Best Views of Mt. Hood  
Using Viewshed Tool



Best Views of Mt. Hood  
using Observer Point Tool



## Limitations

- Errors in original data measurement
- Subjective choice of points
- My errors while using the tools

Thanks to David for all the help.