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Mapping the Wildland Urban Interface and Buildings at Risk of Wildfires in Howell (Monmouth County), New Jersey

MONMOUTH
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SCHOLARSHIP WEEK

Purpose:

- Determine the amount of buildings within the WUI in Howell, New Jersey
- Understanding the buildings most “at risk”
- Having knowledge of this risk can help with further planning and mitigation efforts

Data Obtained for Maps:

- Municipal Boundary (Howell) and Building Footprints from Monmouth County, NJ GeoHub
- Monmouth County Wildfire Fuel Hazard from NJDEP Bureau of GIS

How many buildings are within a 1/2 mile, or the wildland urban interface (WUI), from an “Extreme Wildfire Fuel Hazard”?

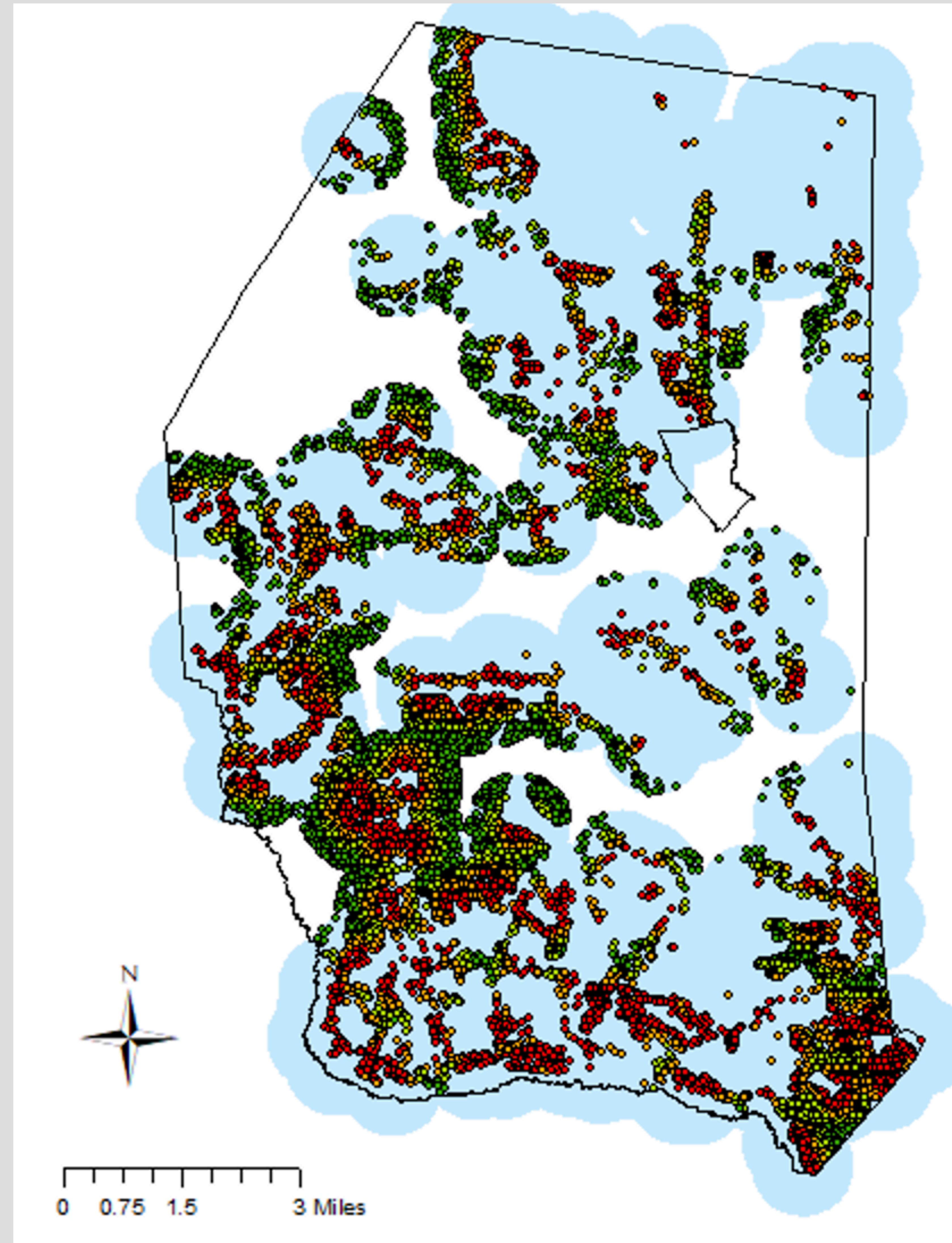


Figure 1: Map of Howell, New Jersey showing the vulnerability (based on proximity) of the buildings within the WUI to the “Extreme Wildfire Fuel Hazards”. The red points represent the buildings with the highest vulnerability (based on distance) to the wildfires, while the other points (going from orange, to yellow, to green) indicate *their* distance(s) from these wildfires. Lastly, the blue zones show the WUI or 1/2 mile buffer of the “Extreme Wildfire Fuel Hazards”.

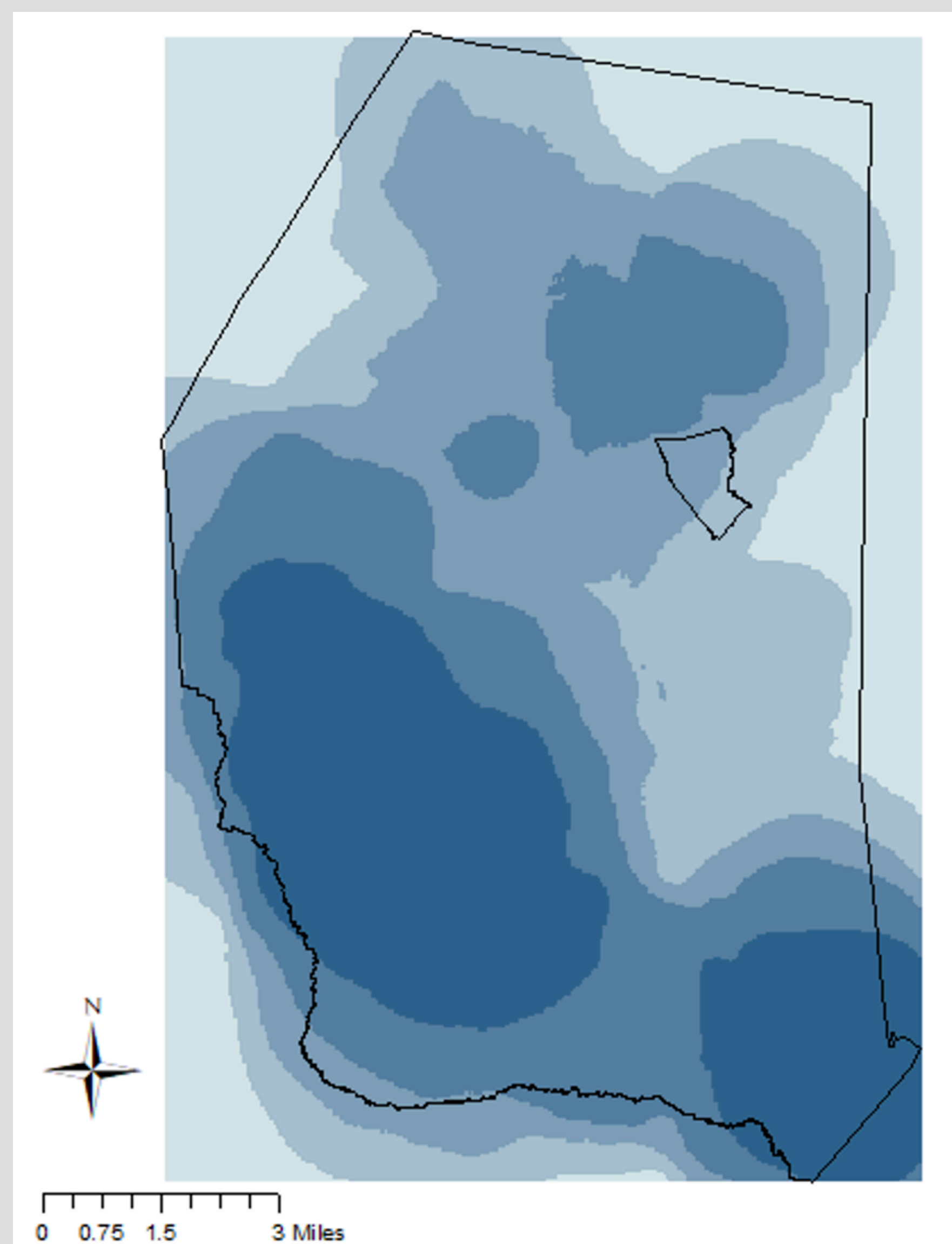


Figure 2: Point density map of the buildings that are within the WUI from the “Extreme Wildfire Fuel Hazards”. The dark blue areas represent the most clustered buildings in the “Extreme Wildfire Fuel Hazards” WUI, while the light blue areas represent the opposite.

Methods:

- Map of buildings based on distance from the wildfire fuel hazard area (Figure 1)
- Buffer zones are 2640 feet (1/2 mile) to represent the wildland urban interface (WUI)
- Colors indicate the level of risk (i.e. green is less vulnerable than red)
- Point density of the buildings that are within the WUI (Figure 2)
- Dark blue areas indicate high clusters, while light blue areas represent little-to-no clustering

Outcomes:

- Determined that >14,000 buildings are within the WUI from an “Extreme Wildfire Fuel Hazard”
- Established a ranking system for the buildings to assess their risk (based on distance) in the WUI
- Created a point density map to show the clusters of buildings within the WUI

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