

Wildland-Urban Interface in Alaska

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Wildland-Urban Interface

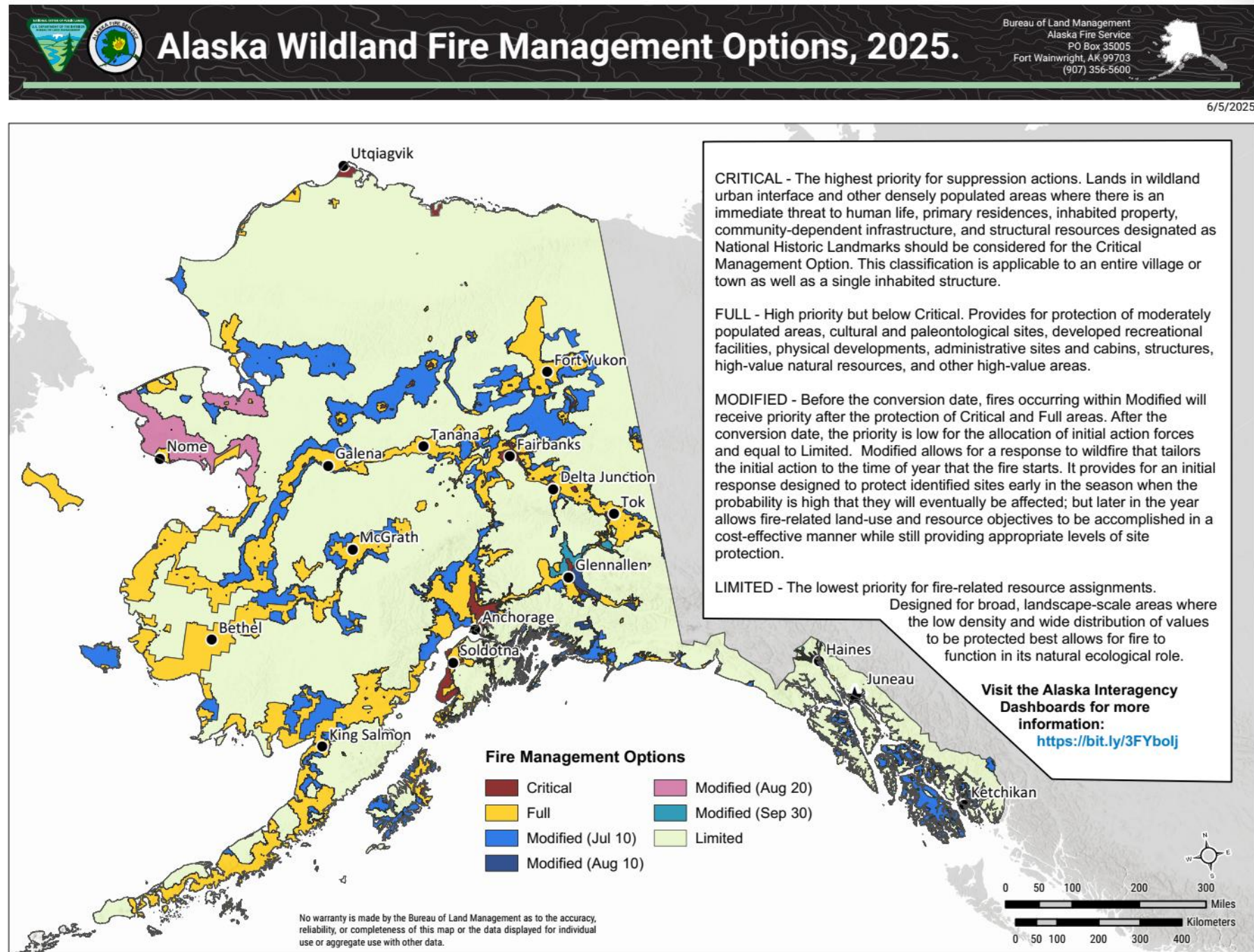
- Wildland-urban interface (WUI) is the area where houses meet or intermingle with undeveloped wildland vegetation.
- Commonly used broad definitions...
 - Urban/barren – no or limited vegetation, so not technically the WUI
 - **Interface** – less wildland vegetation and higher housing density
 - **Intermix** – more wildland vegetation and lower housing density

WUI in Alaska

- Some communities have defined their own WUIs with Community Wildfire Protection Plans
- Currently, there is no standard approach
- There is a national approach, which has been tried, but the results were mixed because Alaska has a large amount of sprawl and small communities

Wildfire Management Options in Alaska

- Revisited each year by wildfire management
- Can be utilized to define a WUI in the absence of a community-created definition

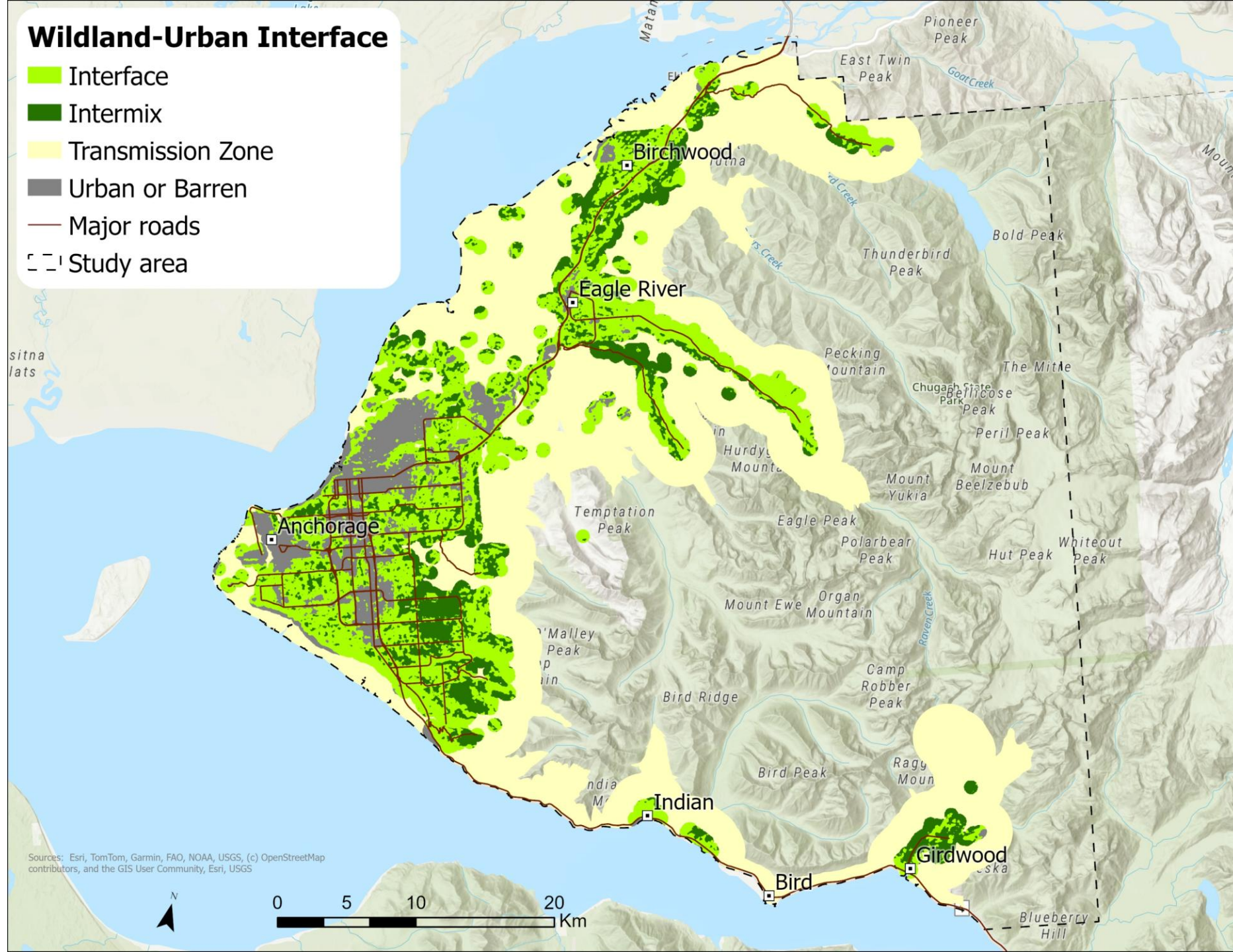


WUI definition used for Anchorage

- Based on wildfire exposure AND Wildfire Management Options
- Urban - is characterized by very low wildfire exposure, with minimal exposure to wildfire hazards (≤ 20).
- **Interface** - is characterized by wildfire exposure that is low to moderate, with these areas being infrequently or somewhat exposed to wildfire hazards (21–60).
- **Intermix** - is characterized by high or extreme wildfire exposure, with these areas commonly or fully exposed to wildfire hazards (> 60).
- **Transmission** zone represents a 2.4 km buffer around the WUI boundary or areas within critical and full wildland fire management options

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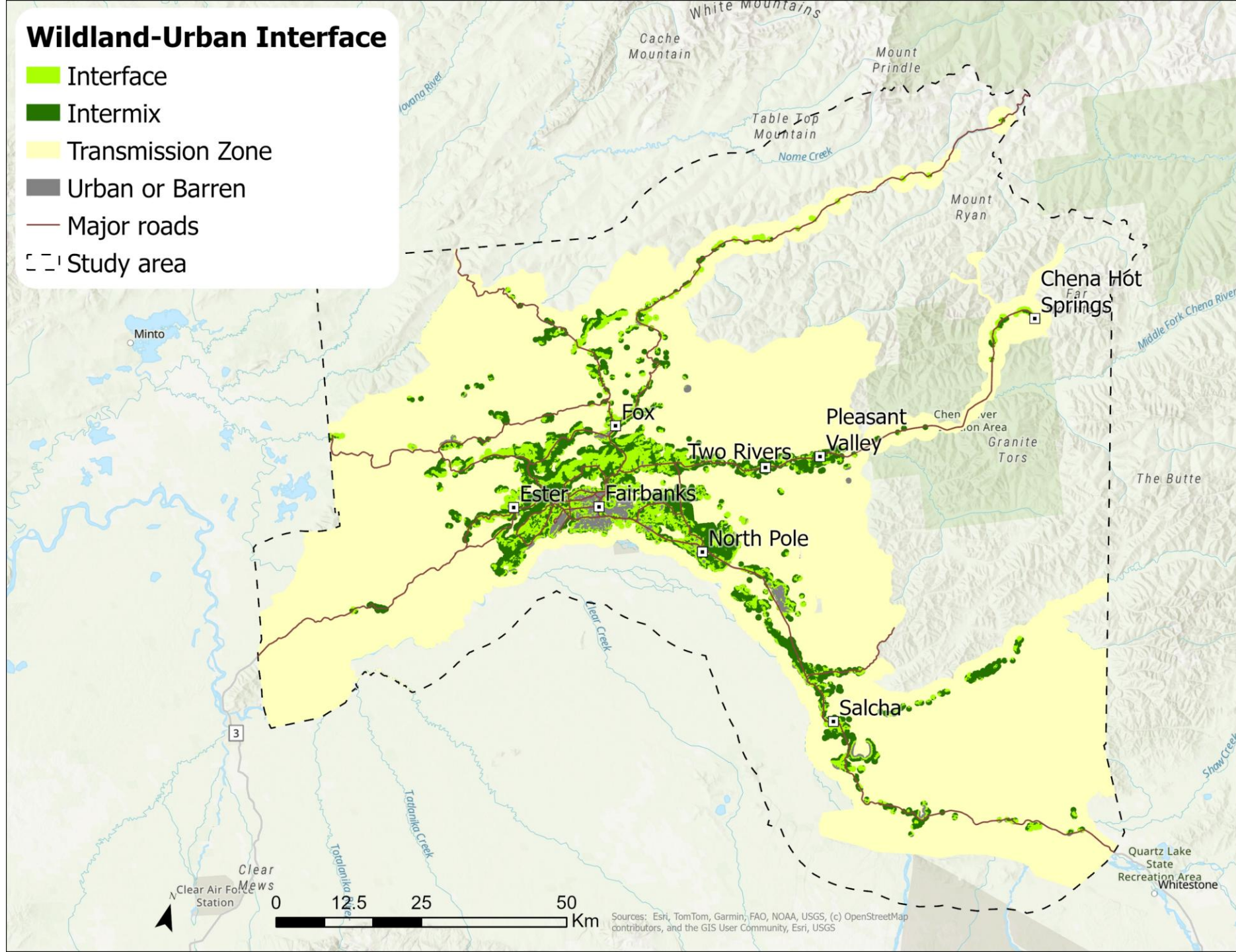
- Interface
- Intermix
- Transmission Zone
- Urban or Barren
- Major roads
- Study area



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Esri, USGS

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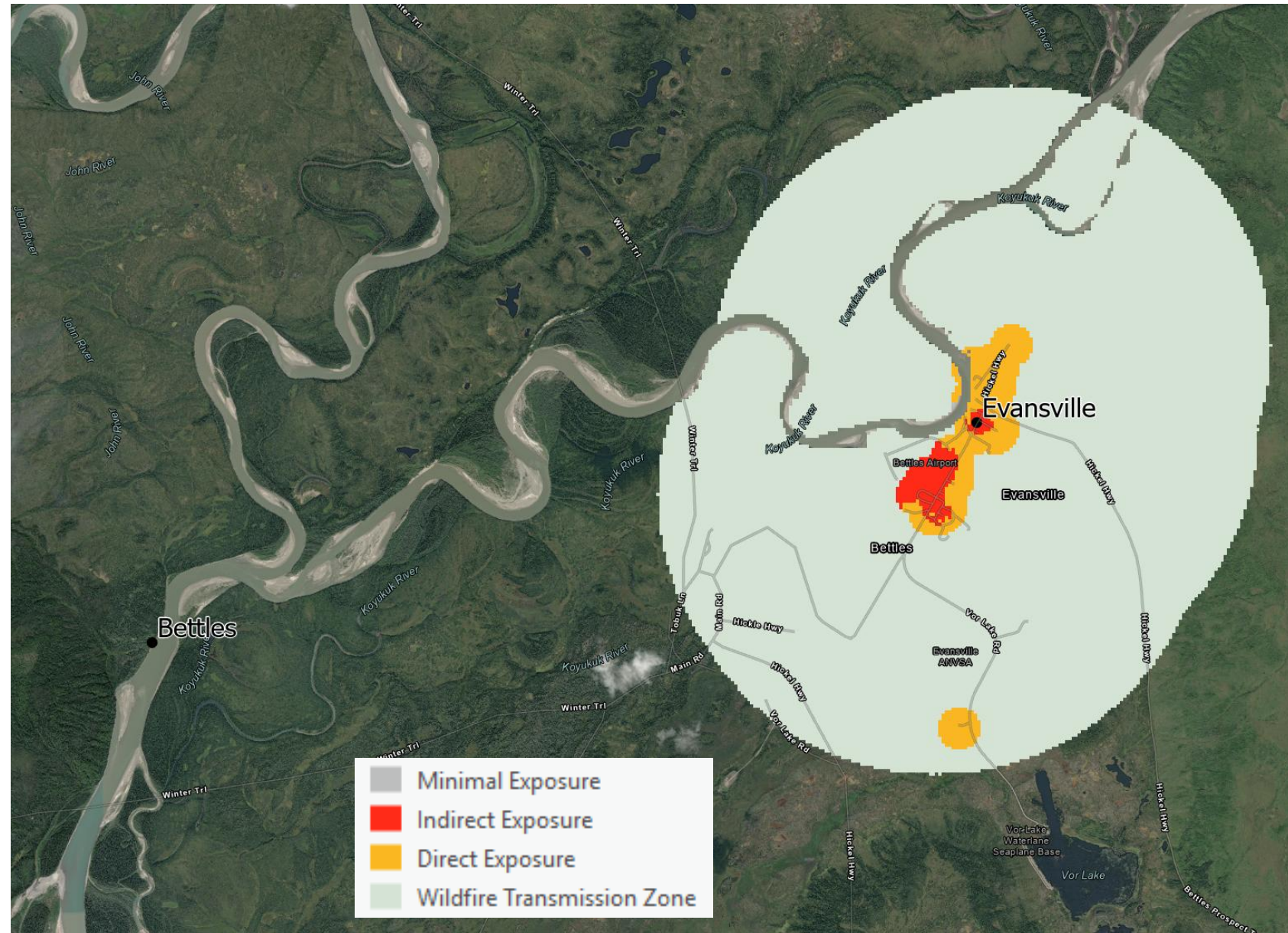
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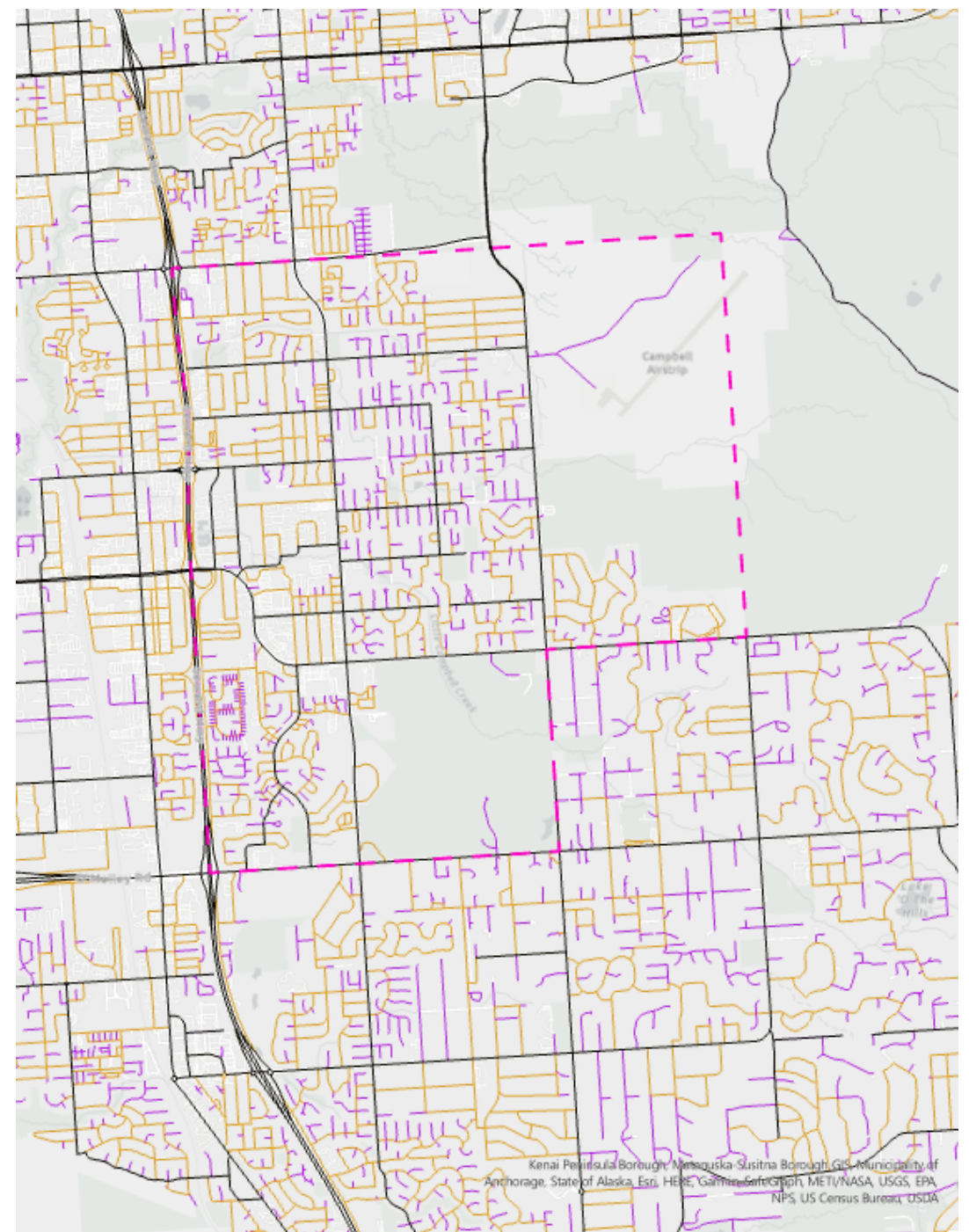
National datasets

- Communities without the capacity to define their own WUI are left to national datasets
- Example: Wildfire Risk Reduction Zones
<https://wildfirerisk.org/>



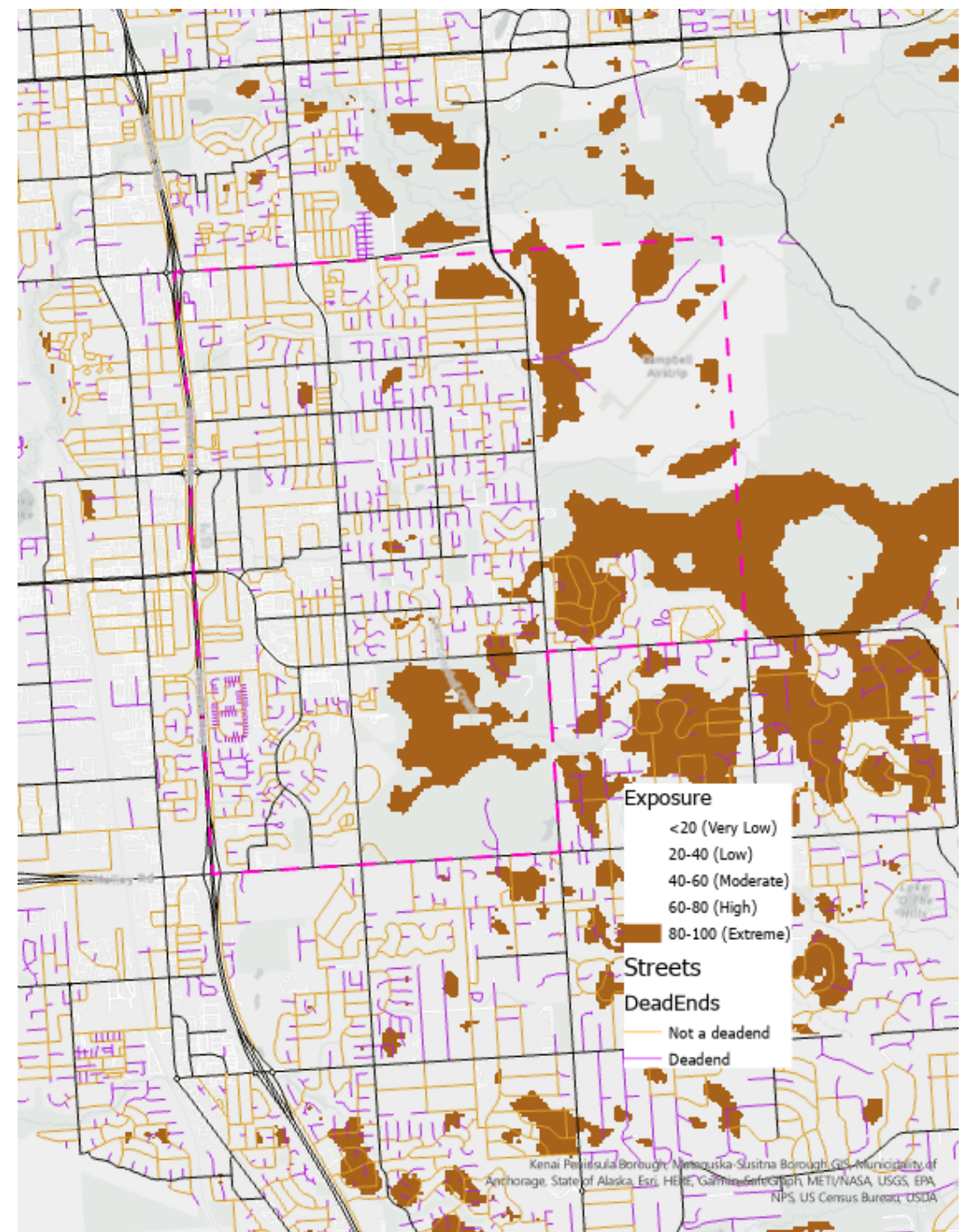
Egress: dead ends

- Purple – dead ends
- Orange – not dead ends



Egress: dead ends

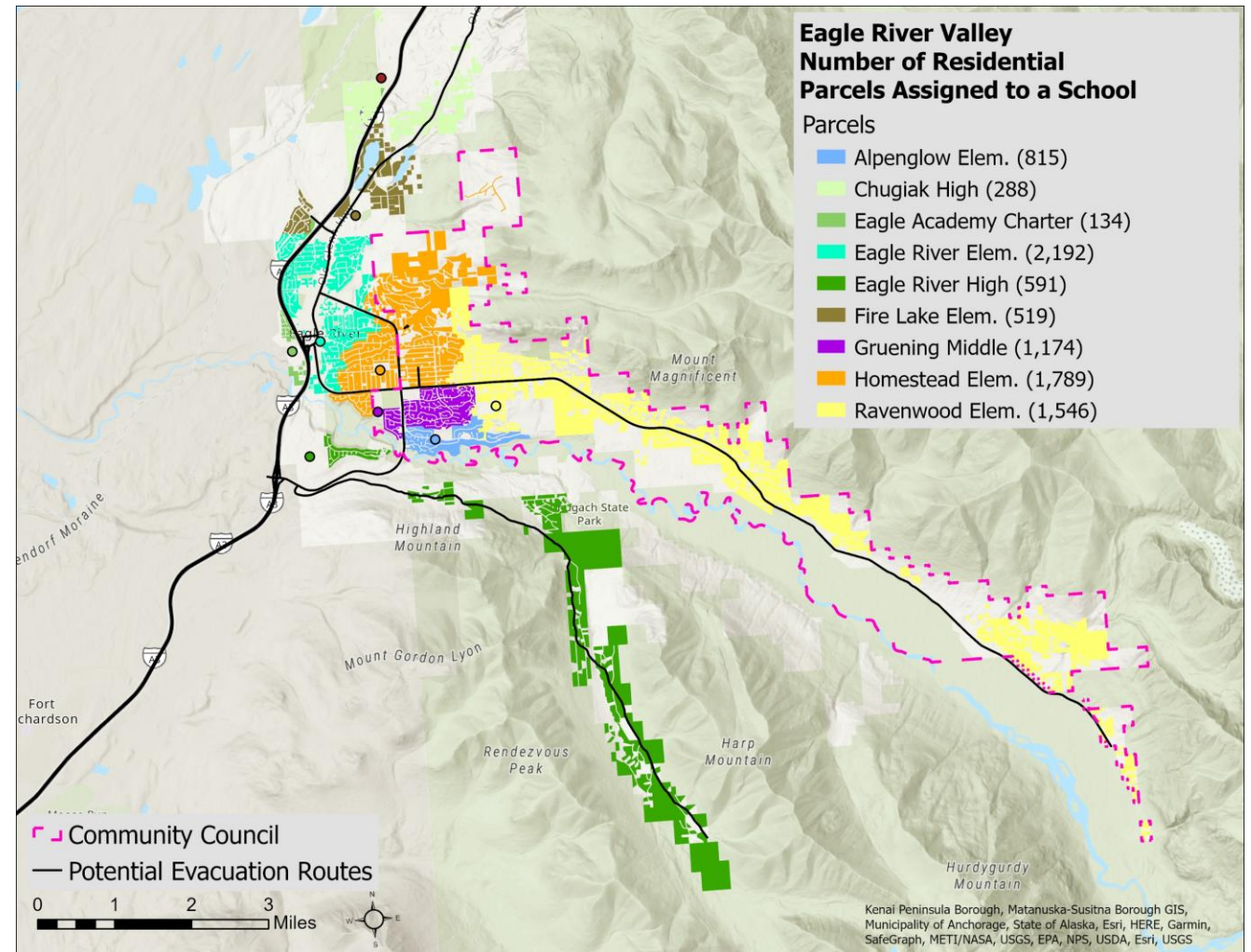
- Improving egress is not just about adding roads
- Can overlay dead ends with high exposure areas to identify vulnerable locations
- Use to target vegetation clearing



Egress: modeling

- Key is having up-to-date GIS data, especially a road network
- Road networks allow you to determine how people will likely evacuate
- We are limited by not having good, open access population data
- Census data has gotten less accurate

Example of using roads and parcels to determine the use of schools during an event



Parcels assigned to the nearest MOA school based on drive time. Numbers in parentheses indicate the number of parcels assigned to a school.

Egress solutions

- Include more than adding roads
 - Widening existing roads
 - Repairing or improving surfaces
 - Avoiding sharp switchbacks
 - Avoiding steep inclines (> 6%)
 - Vegetation management
 - Making sure bridges support response equipment