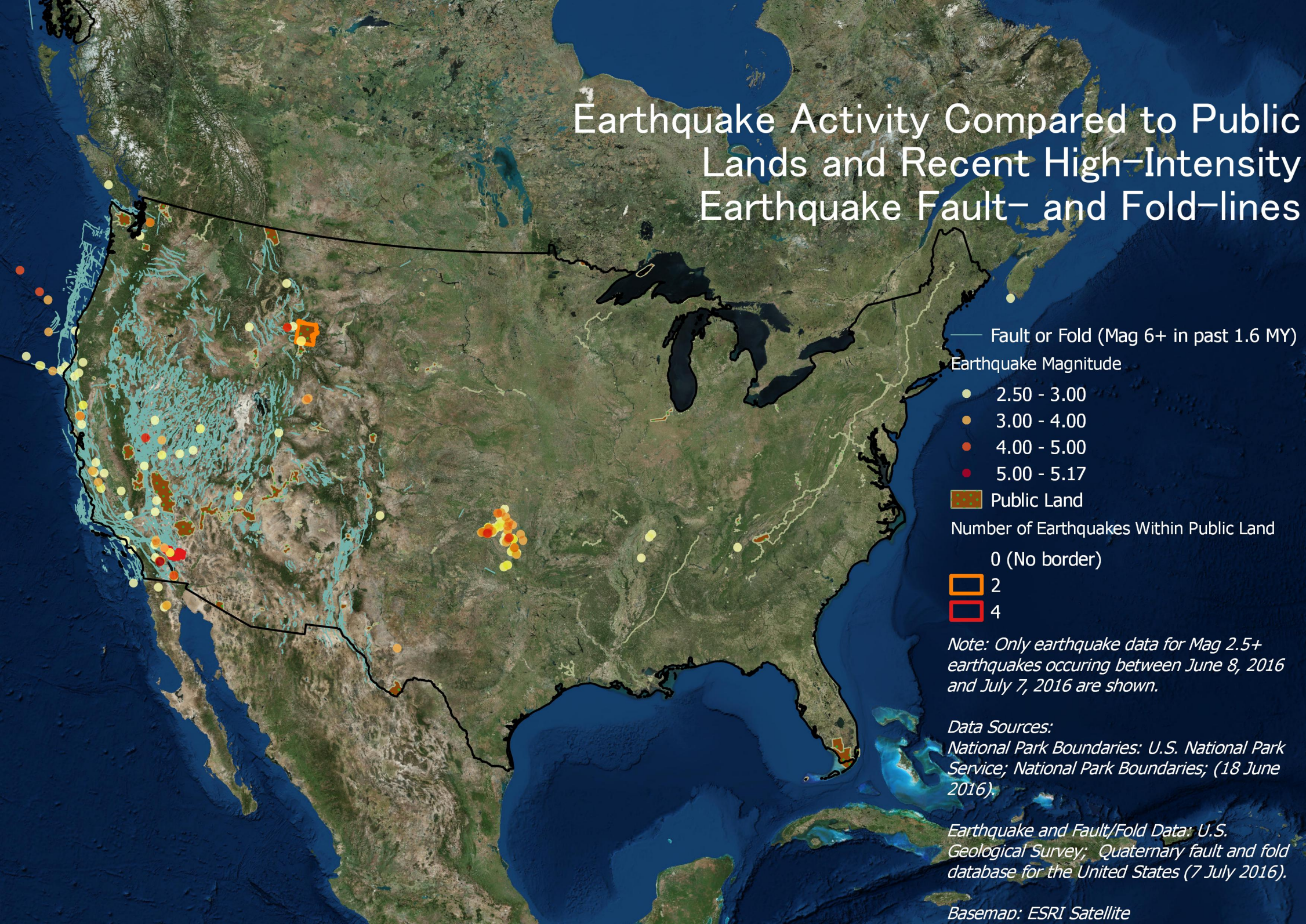
# Public Lands in the Continental United States


*For clarity, only lands with areas greater than 350-square miles are labeled.*

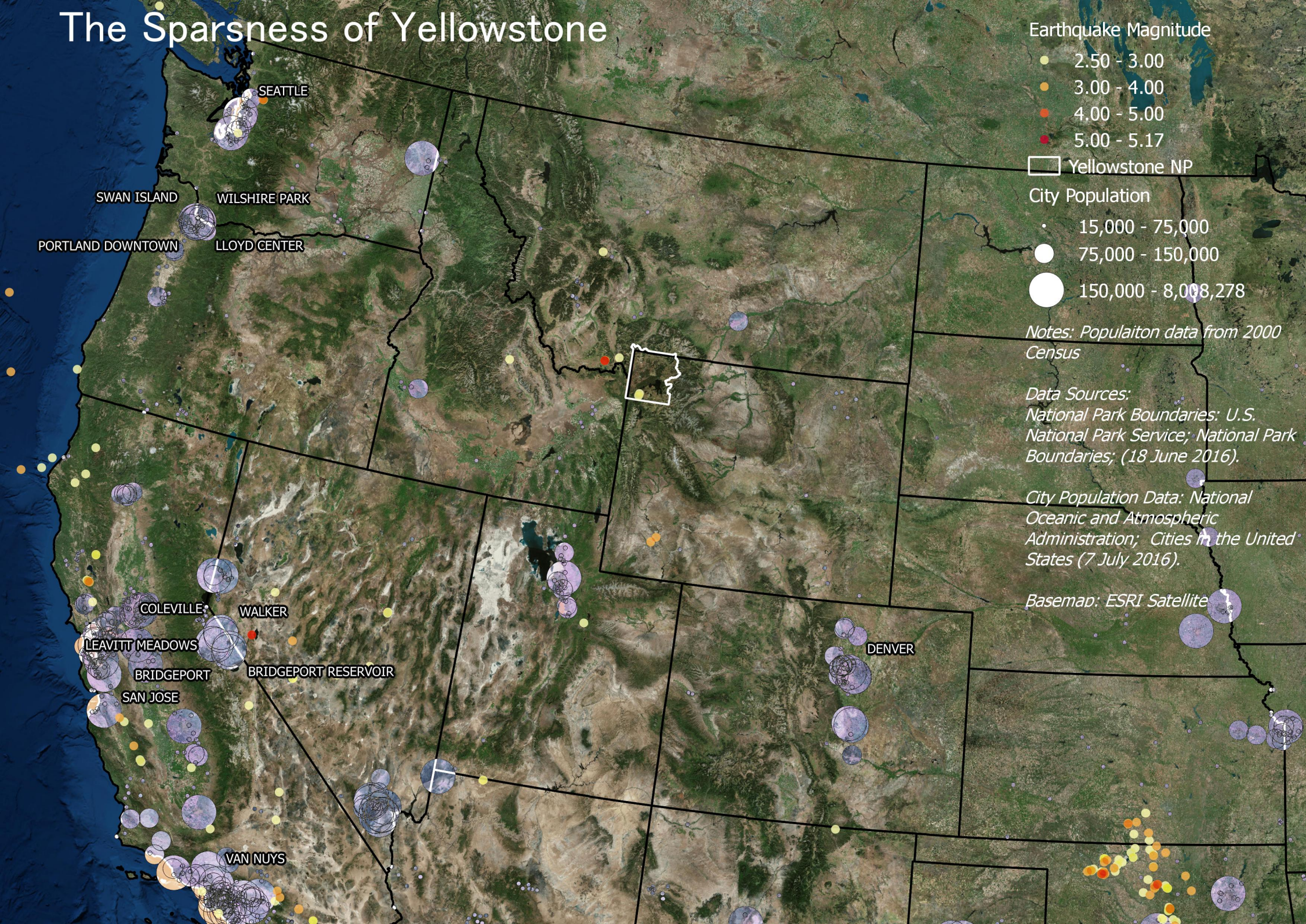
*Data Sources:*

*National Park Boundaries:*
*U.S. National Park Service; National Park Boundaries; (18 June 2016).*

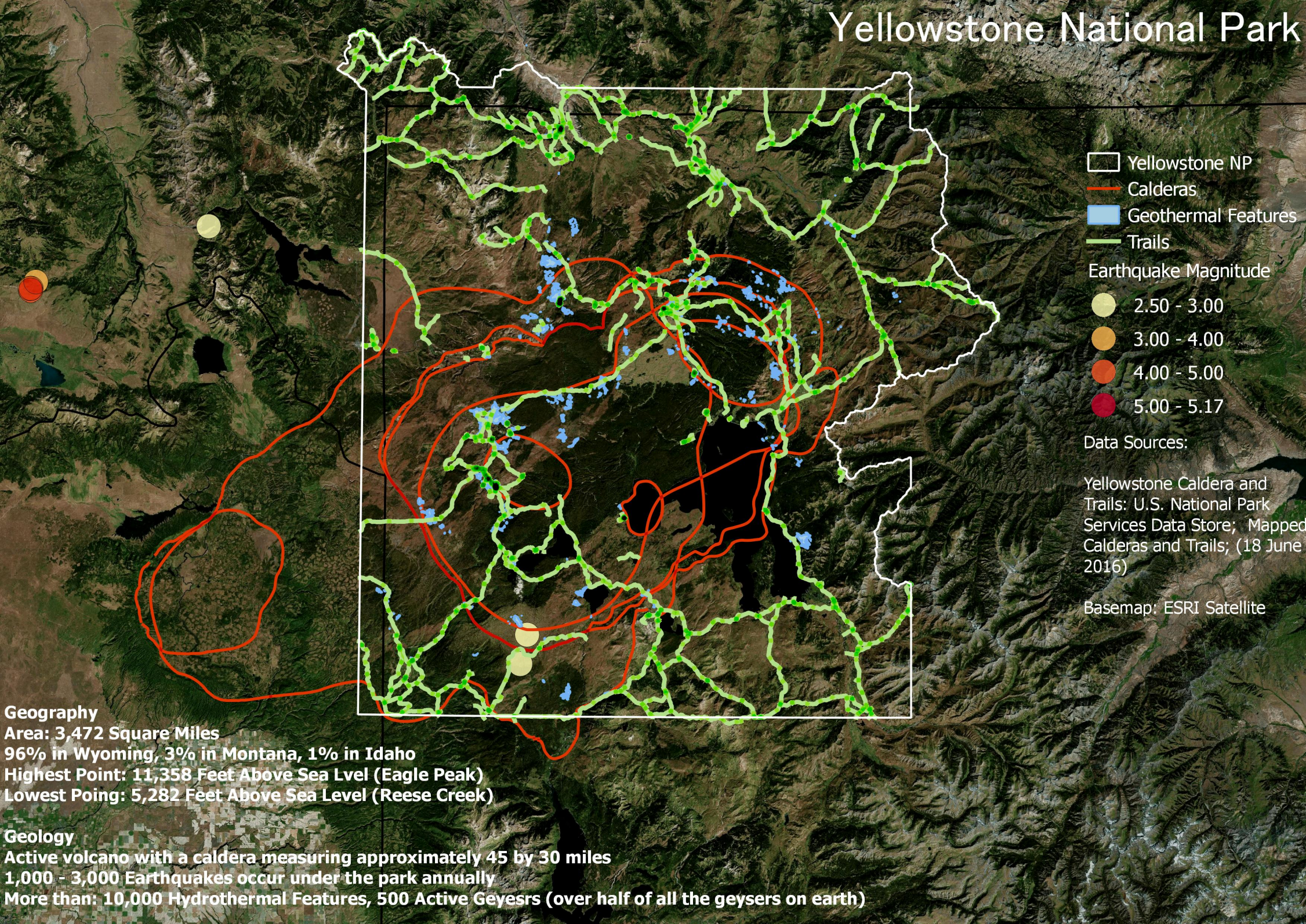
*Basemap: ESRI Satellite*


Earthquake Activity Compared to Public Lands and Recent High-Intensity Earthquake Fault- and Fold-lines
Fault or Fold (Mag 6+ in past 1.6 MY)
Earthquake Magnitude
2.50 - 3.00
3.00 - 4.00
4.00 - 5.00
5.00 - 5.17
Public Land
Number of Earthquakes Within Public Land
0 (No border)
2
4
Note: Only earthquake data for Mag 2.5+ earthquakes occuring between June 8, 2016 and July 7, 2016 are shown.
Data Sources:
National Park Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).
Earthquake and Fault/Fold Data: U.S. Geological Survey; Quaternary fault and fold database for the United States (7 July 2016).
Basemap: ESRI Satellite

# The Sparsness of Yellowstone



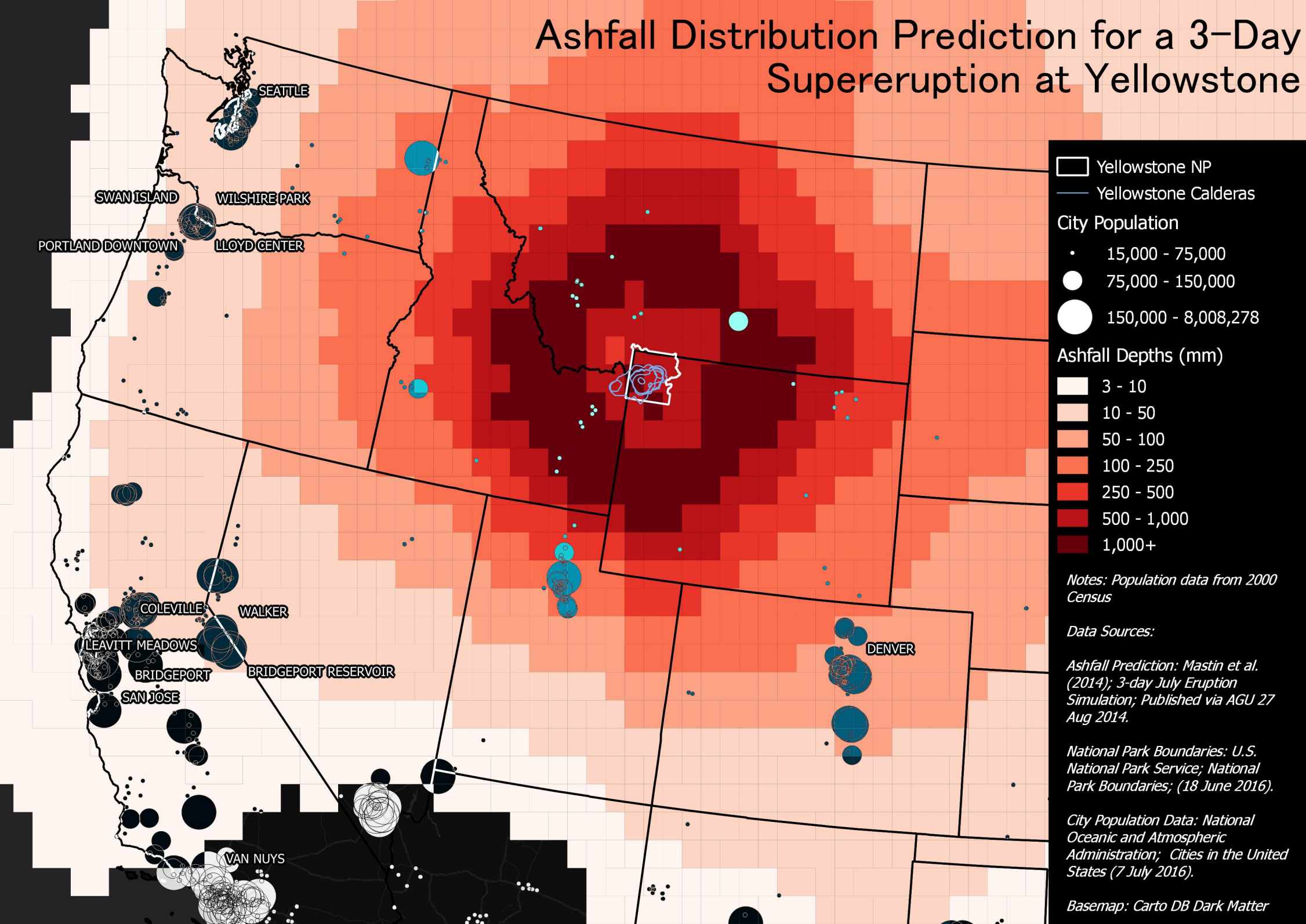
# Yellowstone National Park




**Geography**
**Area: 3,472 Square Miles**
**96% in Wyoming, 3% in Montana, 1% in Idaho**
**Highest Point: 11,358 Feet Above Sea Lvel (Eagle Peak)**
**Lowest Poing: 5,282 Feet Above Sea Level (Reese Creek)**

**Geology**
**Active volcano with a caldera measuring approximately 45 by 30 miles**
**1,000 - 3,000 Earthquakes occur under the park annually**
**More than: 10,000 Hydrothermal Features, 500 Active Geyesrs (over half of all the geysers on earth)**

# Ashfall Distribution Prediction for a 3-Day Supereruption at Yellowstone




*Notes: Population data from 2000 Census*

*Data Sources:*

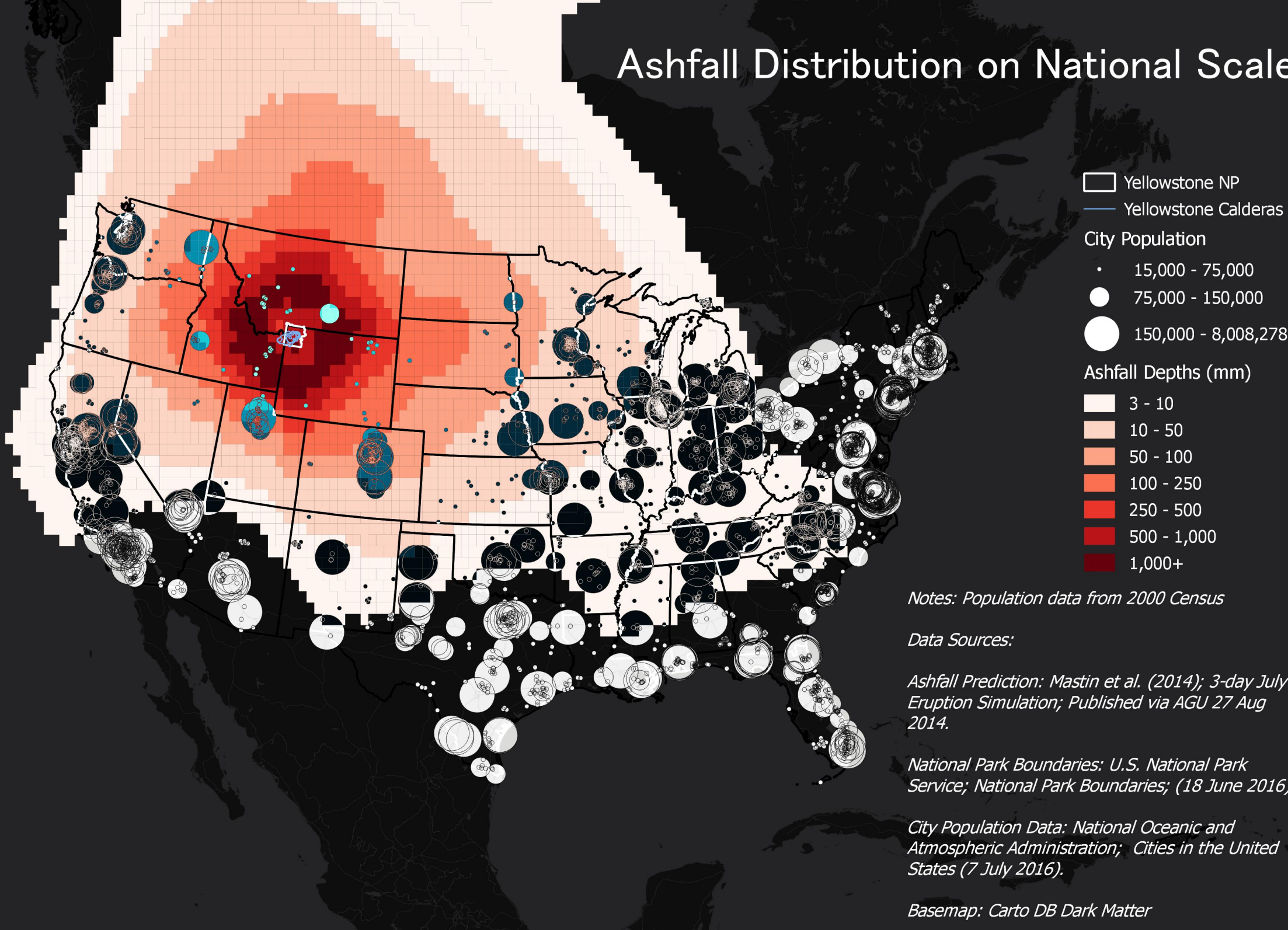
*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*National Park Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*City Population Data: National Oceanic and Atmospheric Administration; Cities in the United States (7 July 2016).*

*Basemap: Carto DB Dark Matter*

# Ashfall Distribution on National Scale




*Notes: Population data from 2000 Census*

*Data Sources:*

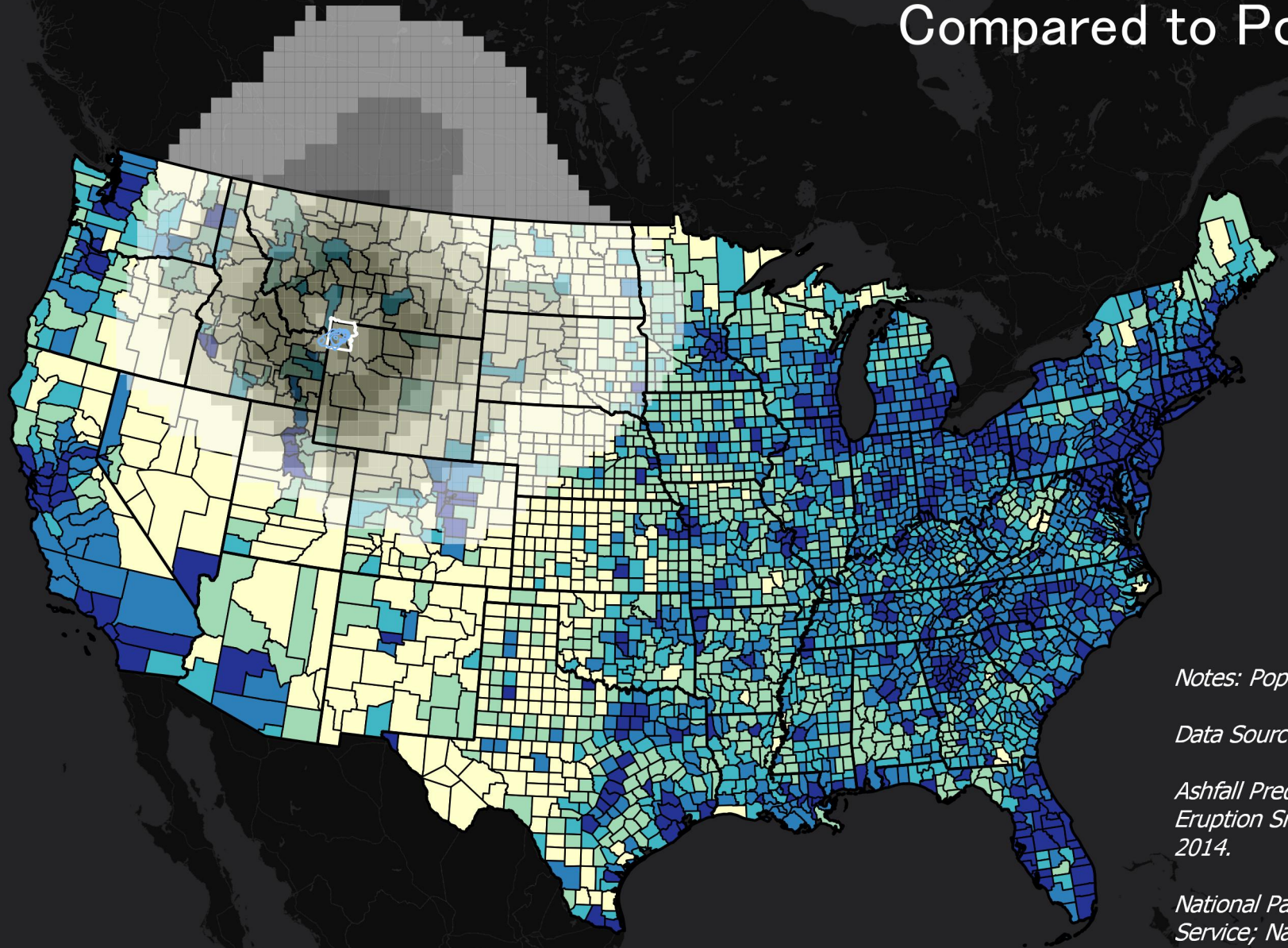
*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*National Park Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*City Population Data: National Oceanic and Atmospheric Administration; Cities in the United States (7 July 2016).*

*Basemap: Carto DB Dark Matter*

# Ashfall Distribution on a National Scale Compared to Population Density



Yellowstone NP

Yellowstone Calderas

Population Per Square Mile

- <10
- 10 to 30
- 30 to 60
- 60 to 200
- >200

Ashfall Depth (mm)

- 50 - 100
- 100 - 250
- 250 - 500
- 500 - 1,000
- 1,000+

*Notes: Population data from 2010 Census*

*Data Sources:*

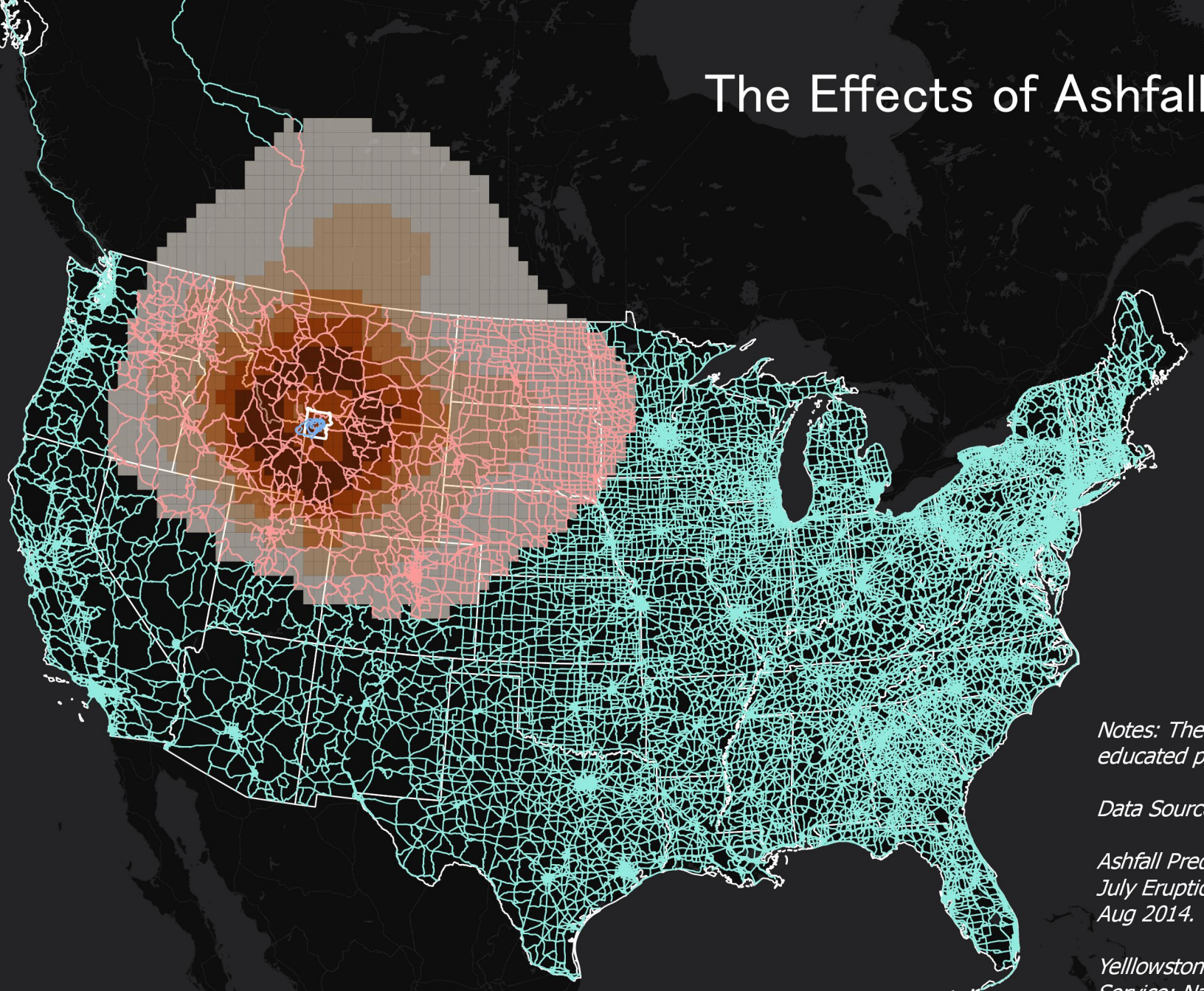
*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*National Park Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*City Population Data: American Fact Finder; Population by County, 2010 Census (7 July 2016).*

*Basemap: Carto DB Dark Matter*

# The Effects of Ashfall on Major Roads



Affected Roads
Minimally Affected Roads
Yellowstone NP
Yellowstone Calderas

Ashfall Depth (mm)

- 50 - 100
- 100 - 250
- 250 - 500
- 500 - 1,000
- 1,000+

*Notes: The hazards illustrated here are only an educated prediction.*

*Data Sources:*

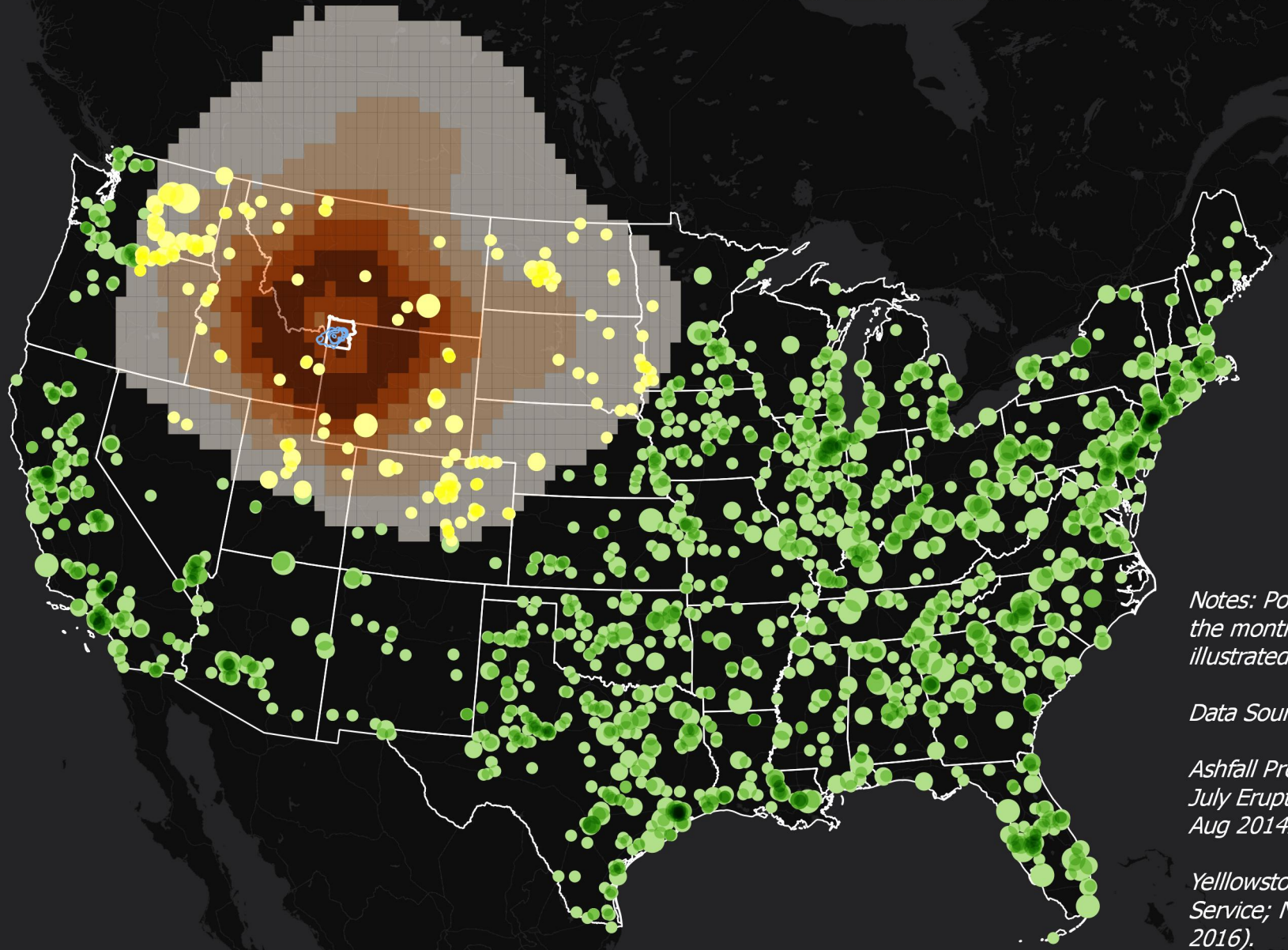
*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*Yelllowstone Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*Roads: TIGER Roads 2015; (12 July 2016).*

*Basemap: Carto DB Dark Matter*

# The Effects of Ashfall on Power Plants



Power Plant Output (MW)

- 100 - 750
- 750 - 2,000
- 2,000 - 4,000
- 4,000+
- Yellowstone NP
- Yellowstone Calderas

Ashfall Depth (mm)

- 50 - 100
- 100 - 250
- 250 - 500
- 500 - 1,000
- 1,000+

*Notes: Power plant generation output shown for the month of November 2015. The hazards illustrated here are only an educated prediction.*

*Data Sources:*

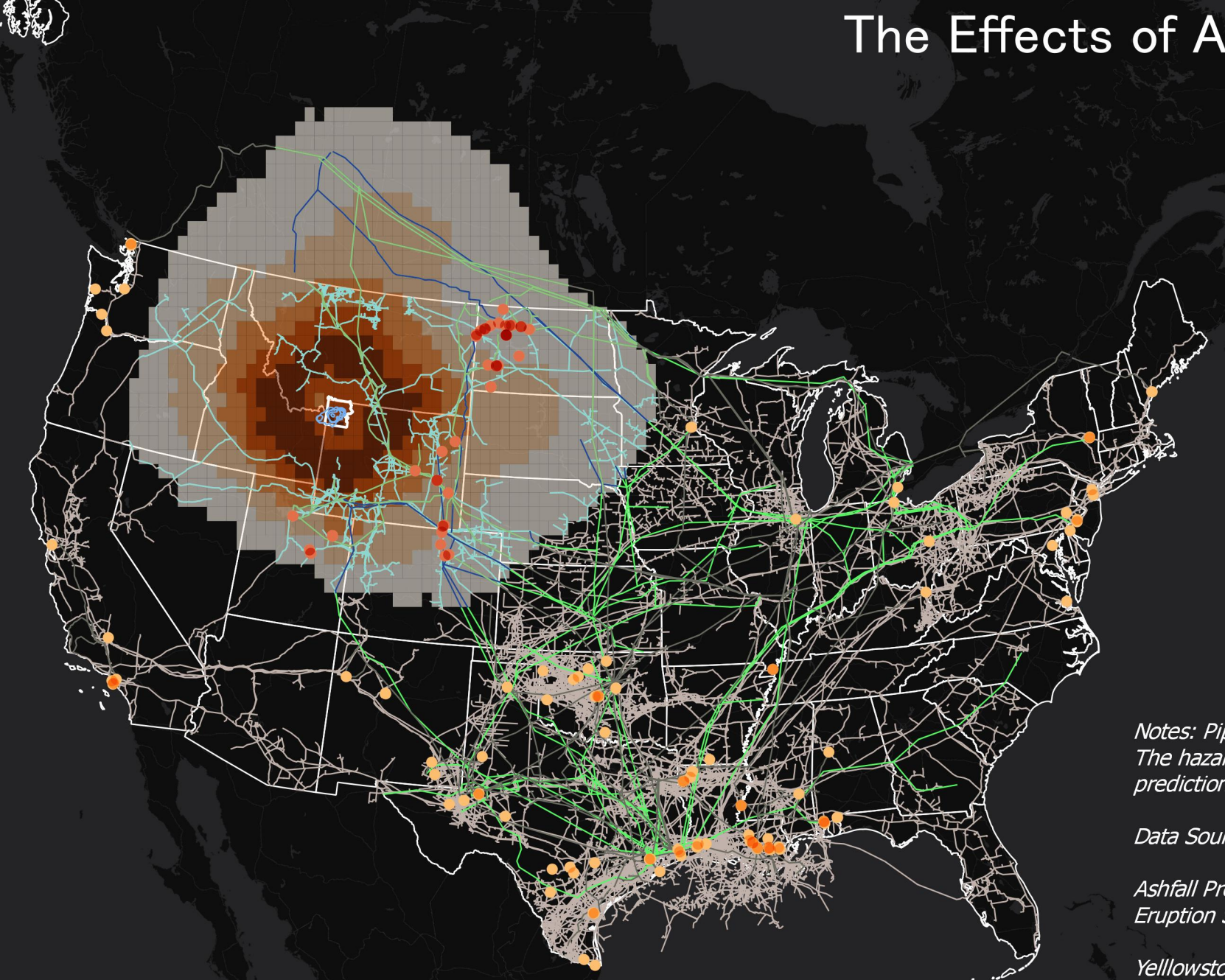
*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*Yelllowstone Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*Powerplants: U.S. Energy Information Administration Monthly Records for 11/2015; (07 July 2016).*

*Basemap: Carto DB Dark Matter*

# The Effects of Ashfall on Domestic Oil Transportation



- At Risk Rail Terminal
- Minimal Risk Rail Terminal
- At Risk Crude Pipeline
- Minimal Risk Crude Pipeline
- At Risk HGL Pipeline
- Minimal Risk HGL Pipeline
- At Risk Natural Gas Pipeline
- Minimal Risk Natural Gas Pipeline
- Yellowstone NP
- Yellowstone Calderas

Ashfall Depth (mm)

- 50 - 100
- 100 - 250
- 250 - 500
- 500 - 1,000
- 1,000+

*Notes: Pipeline and Rail data from November 2014. The hazards illustrated here are only an educated prediction.*

*Data Sources:*

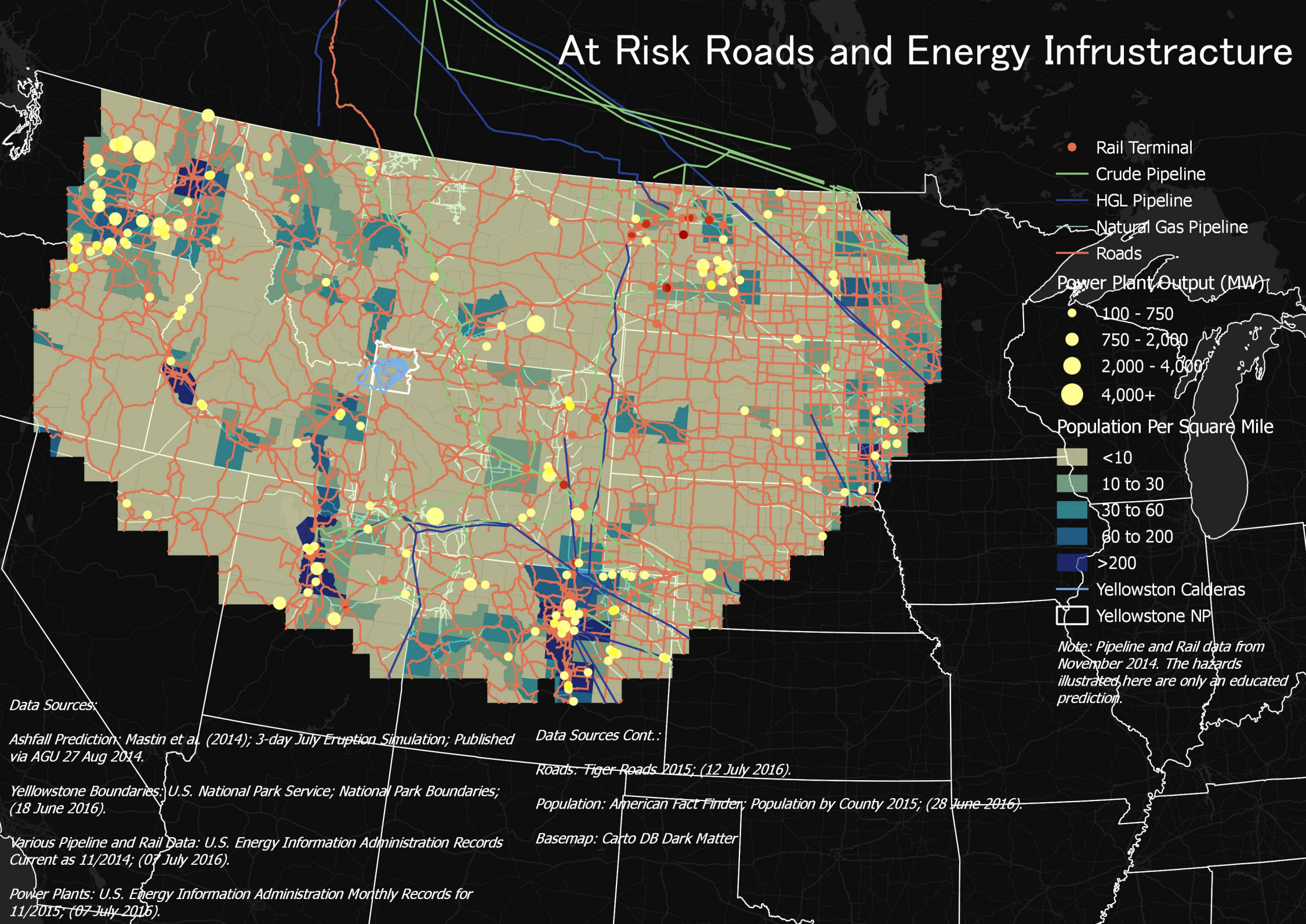
*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*Yelllowstone Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*Various Pipeline and Rail Data: U.S. Energy Information Administration Records Current as 11/2014; (07 July 2016).*

*Basemap: Carto DB Dark Matter*

# At Risk Roads and Energy Infrustracture




*Note: Pipeline and Rail data from November 2014. The hazards illustrated here are only an educated prediction.*

*Data Sources:*

*Ashfall Prediction: Mastin et al. (2014); 3-day July Eruption Simulation; Published via AGU 27 Aug 2014.*

*Yelllowstone Boundaries: U.S. National Park Service; National Park Boundaries; (18 June 2016).*

*Various Pipeline and Rail Data: U.S. Energy Information Administration Records Current as 11/2014; (07 July 2016).*

*Power Plants: U.S. Energy Information Administration Monthly Records for 11/2015; (07 July 2016).*

*Data Sources Cont.:*

*Roads: Tiger Roads 2015; (12 July 2016).*

*Population: American Fact Finder: Population by County 2015; (28 June 2016).*

*Basemap: Carto DB Dark Matter*