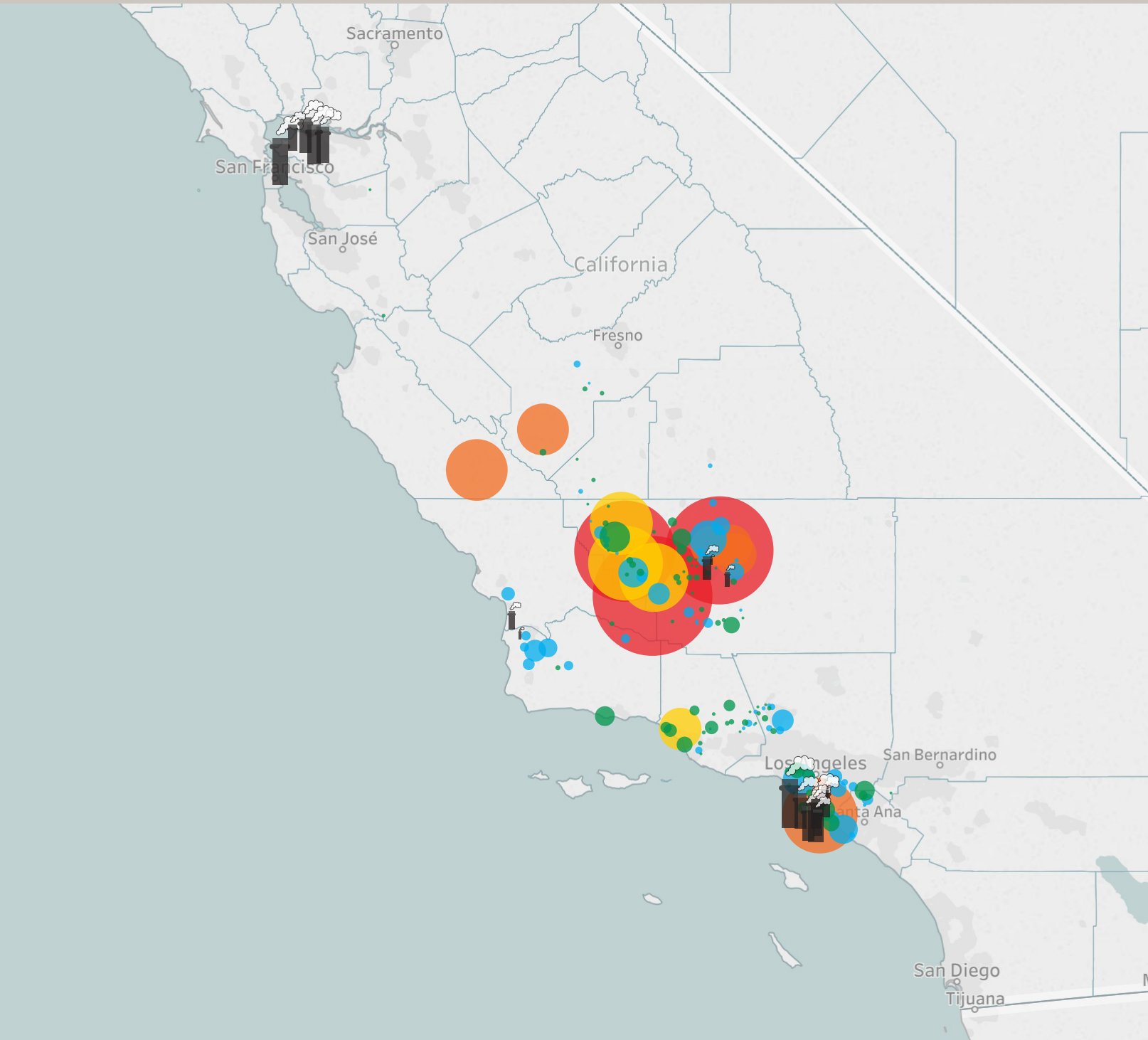


Mapping California's Oil Climate Risks

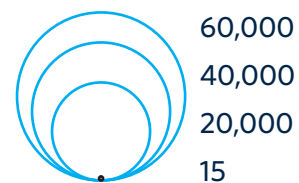


Risk Category:

- High Risk: Critical Climate Oils
- Medium Risk: High GHG Oils
- Medium Risk: High Production Oils
- Potential Risk: Enhanced Recovery Oils
- Potential Regional Risk
- 🏭 California Refineries

Estimated Daily Emissions

(metric tons CO₂ equivalent per day)

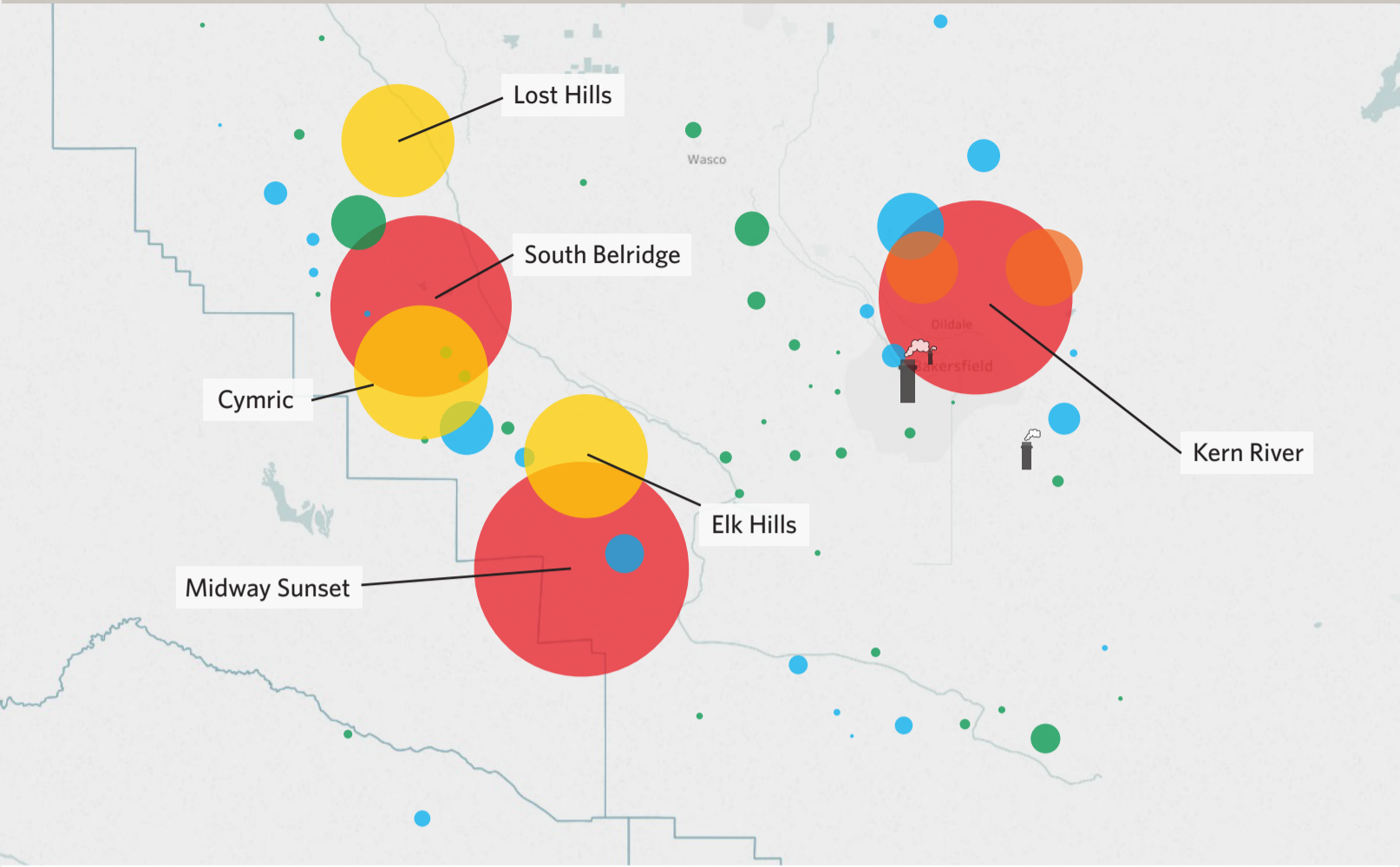


*To compare lower and higher emitting oils by DOGGR districts throughout California [click here](#).

**To view an interactive version of this map and to see more information about each of these oils [click here](#).

***For an alphabetical listing of California oil fields' provisional GHG emissions modeled through the OCI [click here](#).

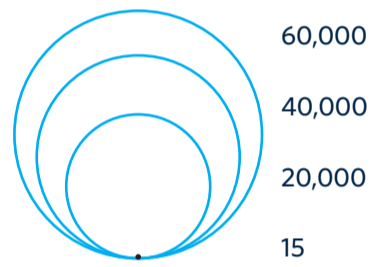
San Joaquin Valley Oils



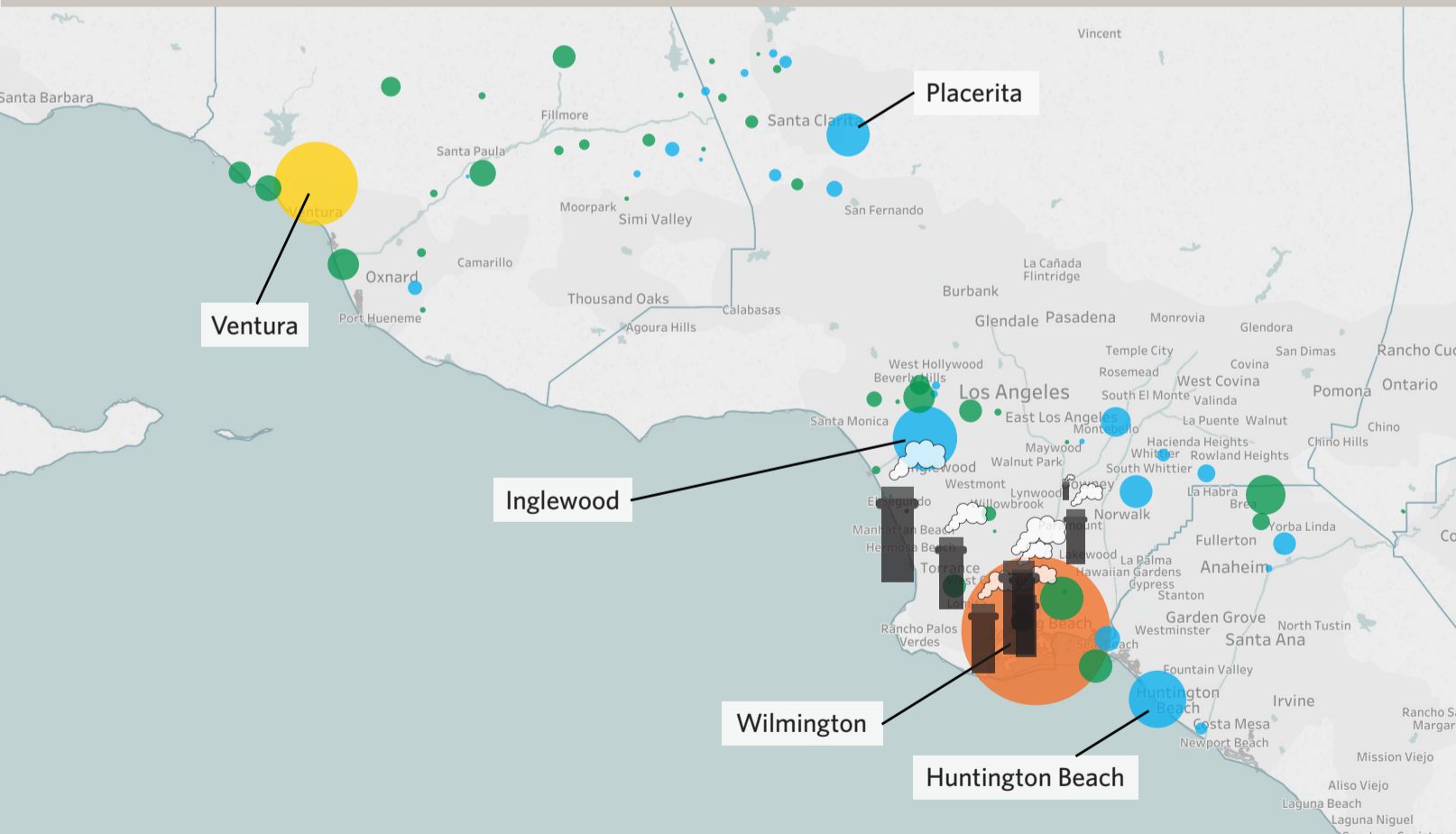
Risk Category:

- High Risk: Critical Climate Oils
- Medium Risk: High GHG Oils
- Medium Risk: High Production Oils
- Potential Risk: Enhanced Recovery Oils
- Potential Regional Risk
- California Refineries

Estimated Daily Emissions (metric tons CO₂ equivalent per day)



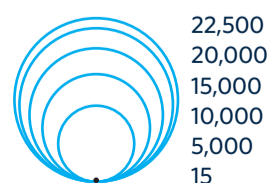
Central and South Coast Oils



Risk Category:

- Medium Risk: High GHG Oils
- Medium Risk: High Production Oils
- Potential Risk: Enhanced Recovery Oils
- Potential Regional Risk
- California Refineries

Estimated Daily Emissions (metric tons CO₂ equivalent per day)



Map Key

Risk Category	Risk Assignment Limits	Descriptions and Examples
<p>High Risk: Critical Climate Oils</p>	<p>Total Emissions > 600 kilograms CO₂ equivalent per barrel</p> <p>Production Volume > 60,000 barrels per day</p>	<p>These oils pose California's highest climate risks in terms of their elevated total greenhouse gas (GHG) emission intensities together with their high production volumes.</p> <p>Examples include: Midway Sunset, Kern River, and South Belridge.</p>
<p>Medium Risk: High GHG Oils</p>	<p>Total Emissions > 600 kilograms CO₂ equivalent per barrel</p> <p>60,000 barrels per day > Production Volume > 8,000 barrels per day</p>	<p>These oils pose medium climate risks owing to their high GHG emission intensities coupled with moderate production volumes.</p> <p>Examples include: San Ardo, Coalinga, and Wilmington.</p>
<p>Medium Risk: High Production Oils</p>	<p>Total Emissions < 600 kilograms CO₂ equivalent per barrel</p> <p>Production Volume > 8,000 barrels per day</p>	<p>These oils pose medium climate risks owing to their high production volumes coupled with their moderate GHG emission intensities.</p> <p>Examples include: Ventura, Lost Hills, and Cymric.</p>
<p>Potential Risk: Enhanced Recovery Oils</p>	<p>Total Emissions > 525 kilograms CO₂ equivalent per barrel</p> <p>Production Volume < 8,000 barrels per day</p>	<p>These oils pose potential climate risks, depending on future use of enhanced oil recovery techniques that could increase their GHG emission intensities and/or production volumes. While their lower production volumes currently convey lower climate risks, these oils that are found across the state should engage in data reporting to avoid elevated climate risk in the future.</p> <p>Examples include: Huntington Beach, Arroyo Grande, and Raisin City.</p>
<p>Potential Regional Risk</p>	<p>Total Emissions < 525 kilograms CO₂ equivalent per barrel</p> <p>Production Volume < 8,000 barrels per day</p>	<p>These oils pose the lowest climate risks at present owing to their lower GHG emission intensities and lower production volumes. However, these oils can pose regional risks in terms of relative climate and air quality impacts and should be monitored and engage in data reporting.</p> <p>Examples include: North Belridge, South Elwood Offshore, and Beverly Hills.</p>
<p>California Refineries</p>	<p>Not Applicable</p>	<p>These 15 California refineries have the highest daily crude throughputs reported by the California Energy Commission. Since refineries do not currently report which oils they refine and oil assays are not available, the average refining GHG emission intensity for all Californian proxy oils was used to estimate emissions. Greater data transparency is needed to model and track individual refinery GHG emission intensities. Configurations for individual refineries were selected based on data provided by the 2016 World Refining Survey published by Oil & Gas Journal. These refining emissions estimates also include average end use product combustion for all California proxy oils modeled.</p>