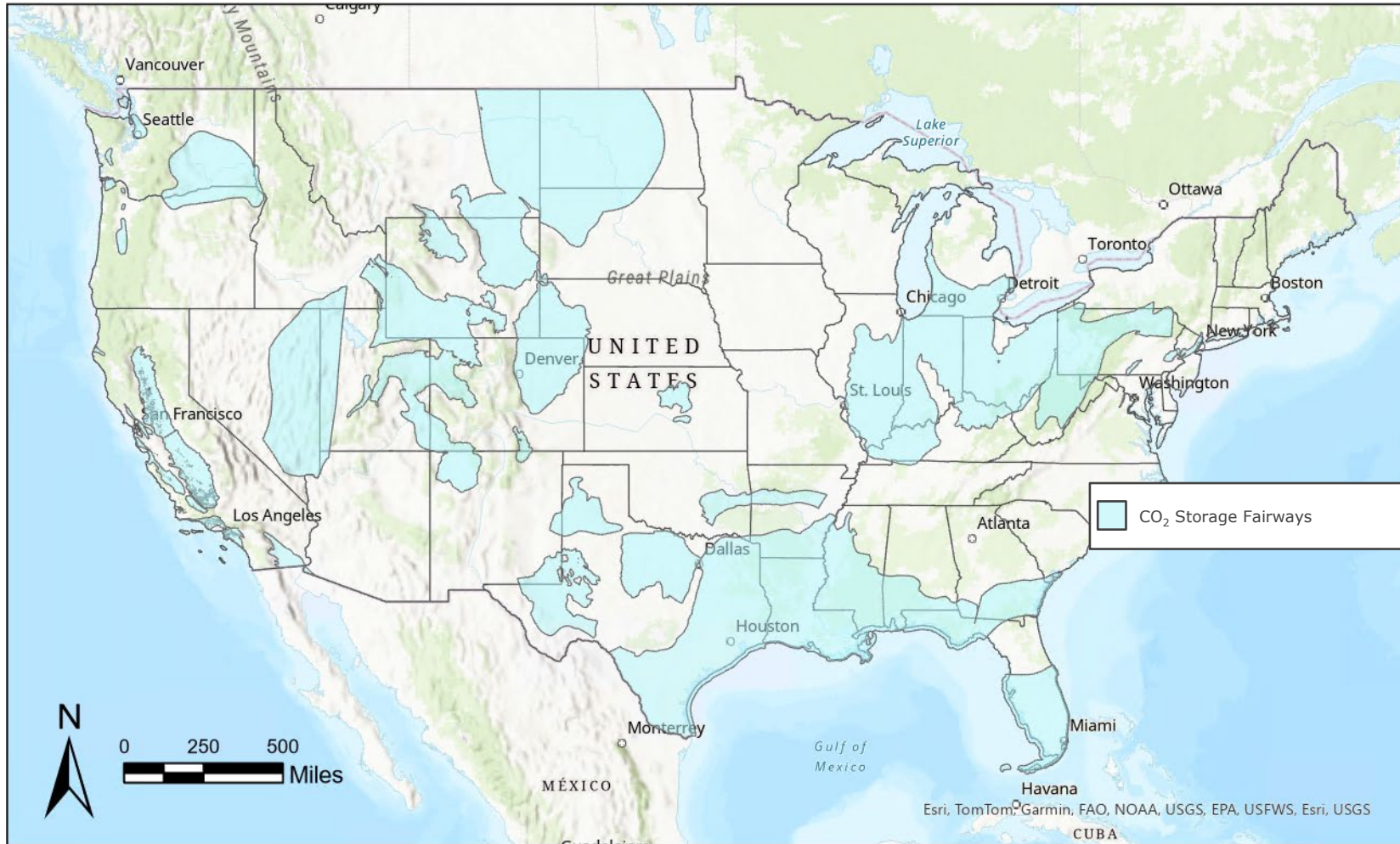


Coupled Geothermal Power and Direct Air Capture with Storage

Fairway Maps, Contiguous United States

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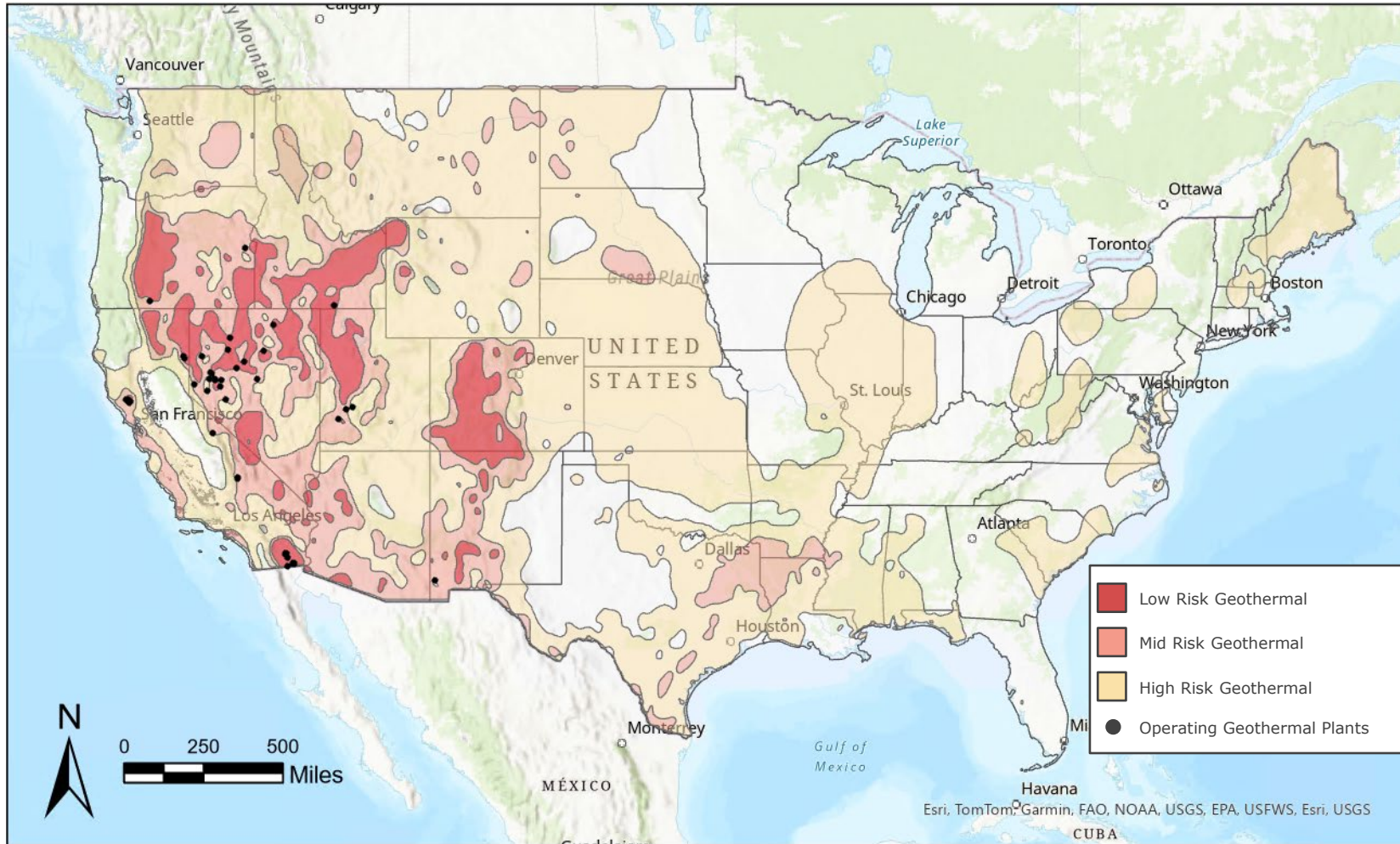
National CO₂ Storage Fairways



This map shows key basins, fairways, and storage assessment units that have been or are being evaluated for geological CO₂ storage. Inclusion of a fairway or basin in this map does not imply proven CO₂ storage capacity, only that formations have been identified in the region with characteristics (depth, temperature, porosity, seal) that are favorable for CO₂ storage. These regions are likely overbroad, and commercially viable storage prospects are likely to account for a fraction of this acreage.

Sources: Midwest Regional Carbon Initiative (MRCI), Southwest Regional Partnership on Carbon Sequestration (SWP), Southeast Regional Carbon Sequestration Partnership (SECARB), West Coast Regional Carbon Sequestration Partnership (WESTCARB), Cao et al., (2024).

Simplified NREL Geothermal Favorability Fairways

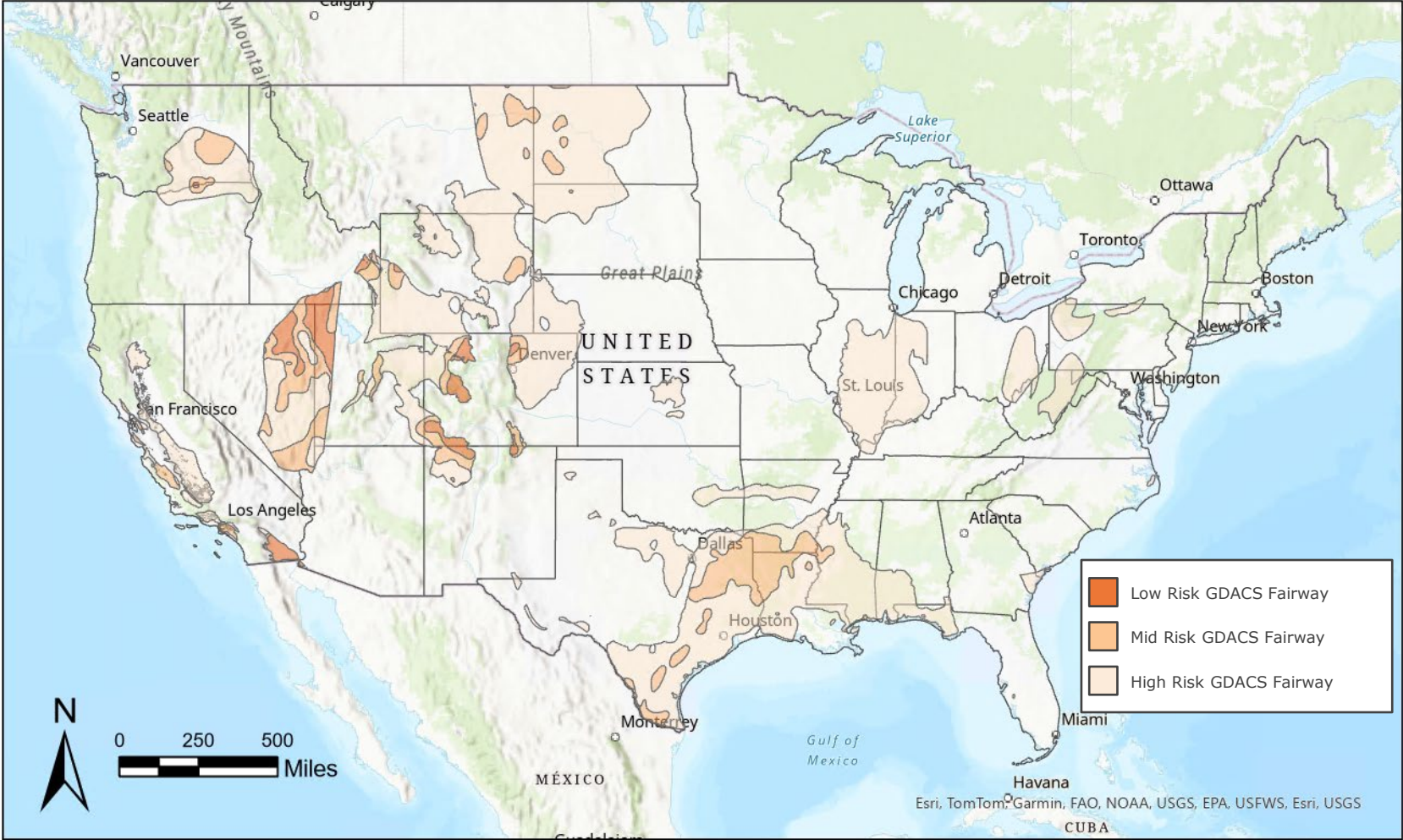


This map is a simplified version of the Roberts et al. (2018) Enhanced Geothermal Systems Favorability map, preserving the most favorable areas as low, mid, and high risk for development success and discarding the least favorable areas. Other maps of regional or national geothermal favorability were assessed (including GeoMap Subsurface Favorability and EGS LCOE mapping from Aljubran & Horne [2024]), but these maps contain numerous variables (making them highly interpretive and increasing uncertainty) and did not have publicly available datasets. These regions are likely overbroad, and commercially viable geothermal prospects are likely to account for a fraction of this acreage.

Source: NREL

<https://www.nrel.gov/gis/geothermal.html>

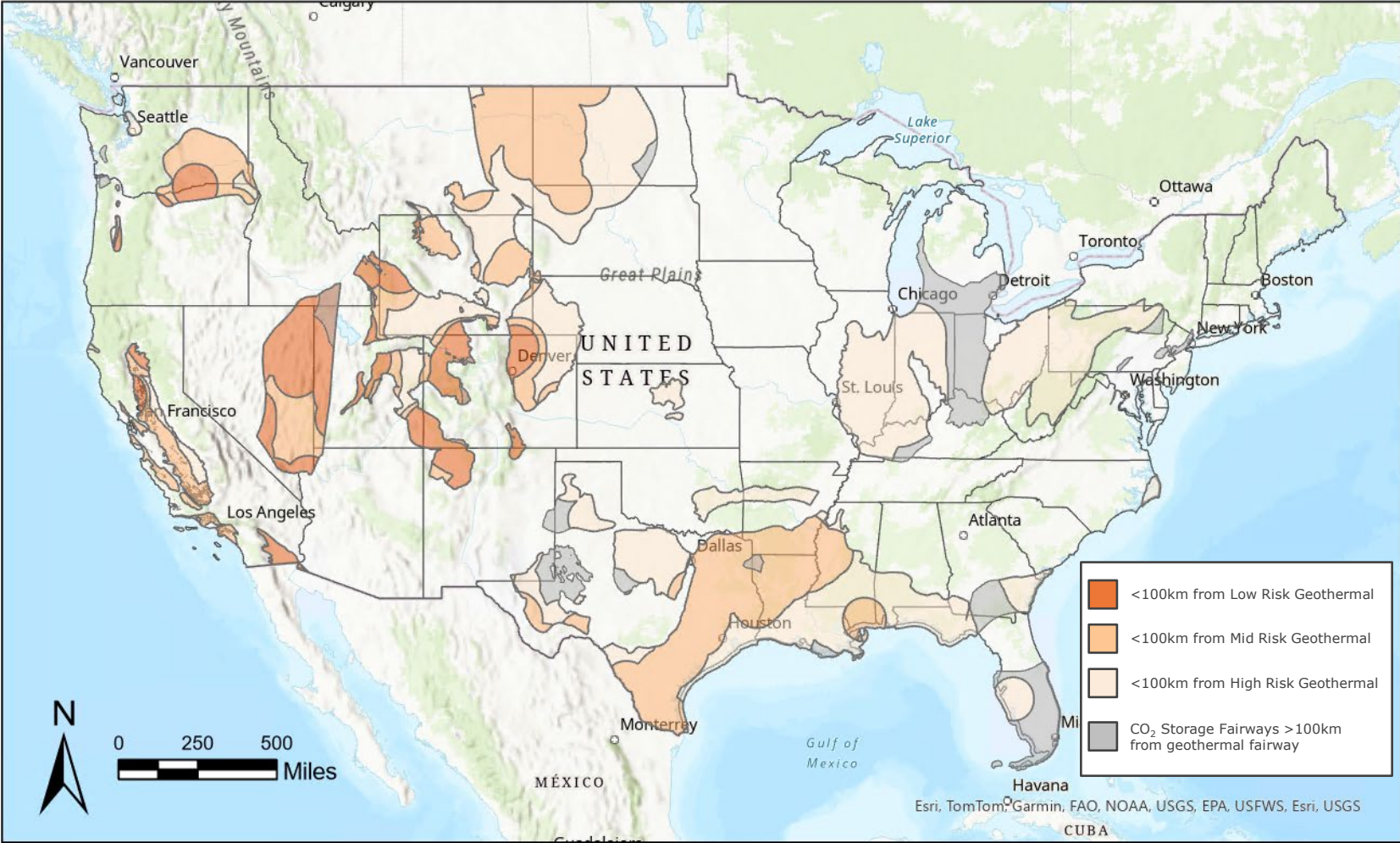
CO₂ Storage Fairways Directly Overlying Geothermal Fairways



This map shows regions where CO₂ storage fairways and geothermal fairways directly overlap. These are areas that may present particularly low development cost due to short transportation distances between Direct Air Capture (DAC) and storage facilities, coupled derisking of both geothermal and CO₂ storage prospects, and simplified permitting and project siting. These areas may also carry improved prospectivity for sedimentary geothermal systems, particularly along the Gulf Coast and Rockies regions, where sedimentary geothermal systems are being pursued today.

Sources: MRCI, NREL, SWP, SECARB, WESTCARB, Cao et al., 2024.

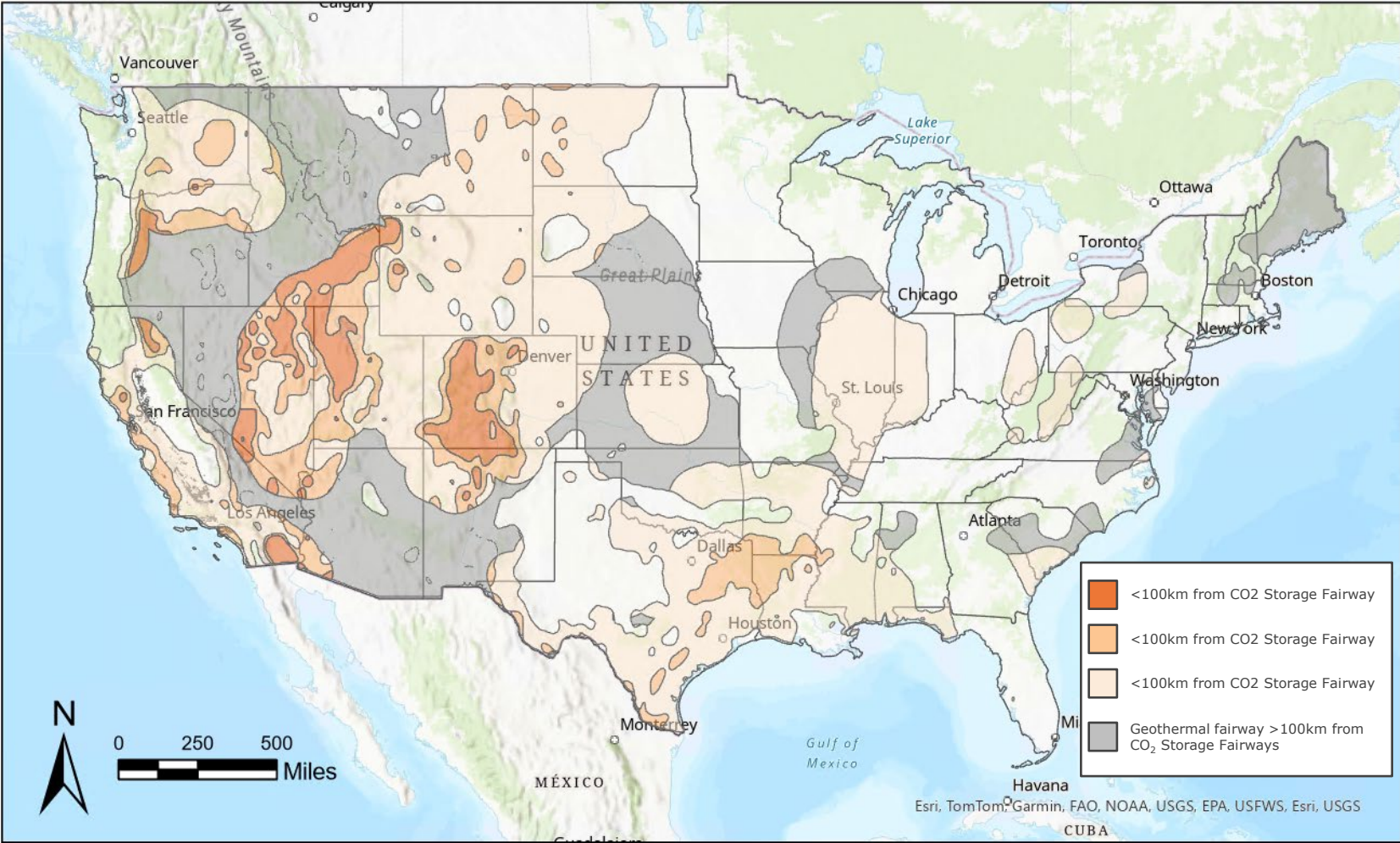
CO₂ Storage Fairways within 100 km of Geothermal Fairway



This map illustrates areas where CO₂ storage fairways are near (less than 100 km from) a geothermal fairway. The majority of western and Gulf Coast CO₂ storage fairways are within 100 km of a low or mid risk geothermal fairway, while a majority of eastern storage fairways have access to a higher risk geothermal fairway. Gray areas represent CO₂ storage fairways without nearby access to a geothermal fairway, but most are still within reasonable transportation distance from geothermal fairways.

Sources: MRCI, NREL, SWP, SECARB, WESTCARB, Cao et al., 2024.

Geothermal Fairways <100 km from CO₂ Storage Fairway



This map illustrates regions where geothermal fairways are nearby (less than 100 km from) a CO₂ storage fairway. Areas shown in gray are identified geothermal fairways without nearby CO₂ storage. The majority of geothermal areas are within 100 km of a CO₂ storage fairway, although significant portions of the most favorable geothermal fairways do not have reasonable access to CO₂ storage. Sources: MRCI, NREL, SWP, SECARB, WESTCARB, Cao et al., 2024.

Acknowledgement and Disclaimer

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