Does Contracting for Labor-Intensive Forestry Work Advance Economic Equity in the Pacific West, USA?

A Presentation for Western Forest Economists Meeting
May 13th 2025

Kamana Poudel, Oregon State University

Mindy S. Crandall, Associate Professor, Oregon State Univ

Heidi-Huber Stearns, Director of Ecosystem Workforce Program, University of Oregon

Emily Jane Davis, Associate Professor of Practice, Oregon State University

Overview

- Background
- Research Question
- Methodology
- Results and implications
- Study Limitations and Way Forward

Evolving Problems:

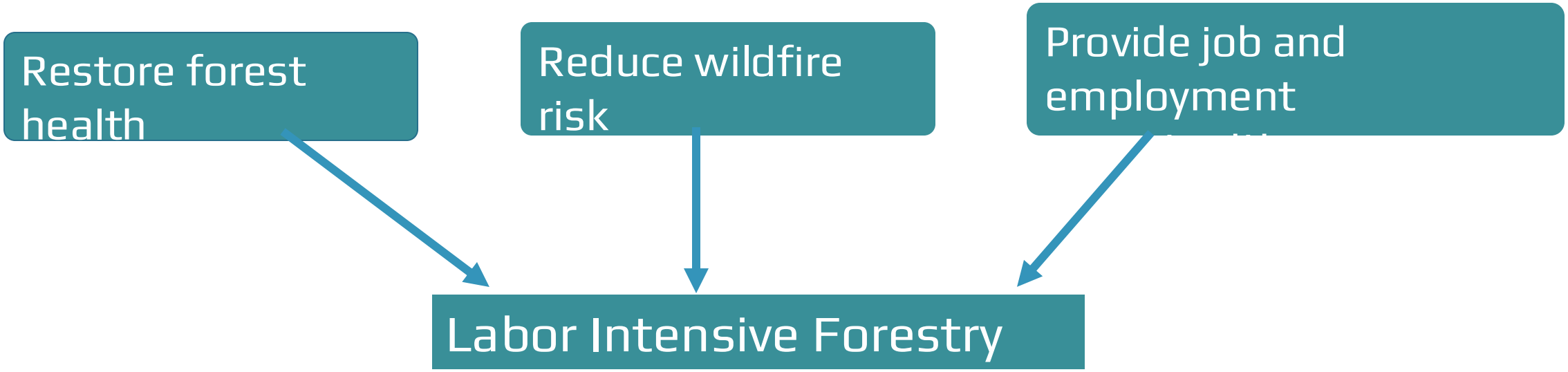
- Shift in forest ownership and investments
- Globalization
- Productivity-enhancing technology
- Federal policy
- Climate change

Reduction in forest harvest

- Negative impact in forest health
- Increase of wildfire risk
- Employment loss and economic decline concentrated in rural communities

(Bernsen et al., 2022; Charnley et al., 2008; Eichman et al., 2010; Woodall et al., 2011)

Evolving Problems: Evolving Approaches



Labor Intensive Forestry Work

Physically Demanding and Manual Tasks:

- Brush Removal
- Pre-commercial Thinning
- Prescribed Burning

(Charnley et al., 2018; Deak et al., 2023; Hibbard & Lurie, 2013; Kooistra & Moseley, 2019)

Picture: Lomakatsi.org

Contracting as a Tool for Local Economic Development

US Forest Service contracts private businesses to conduct LIF work

USFS plays a role in how dollars flow into places and people

Important to understand where economic impacts are most significant

Oregon captured 30% of the nationwide total of LIF contracts

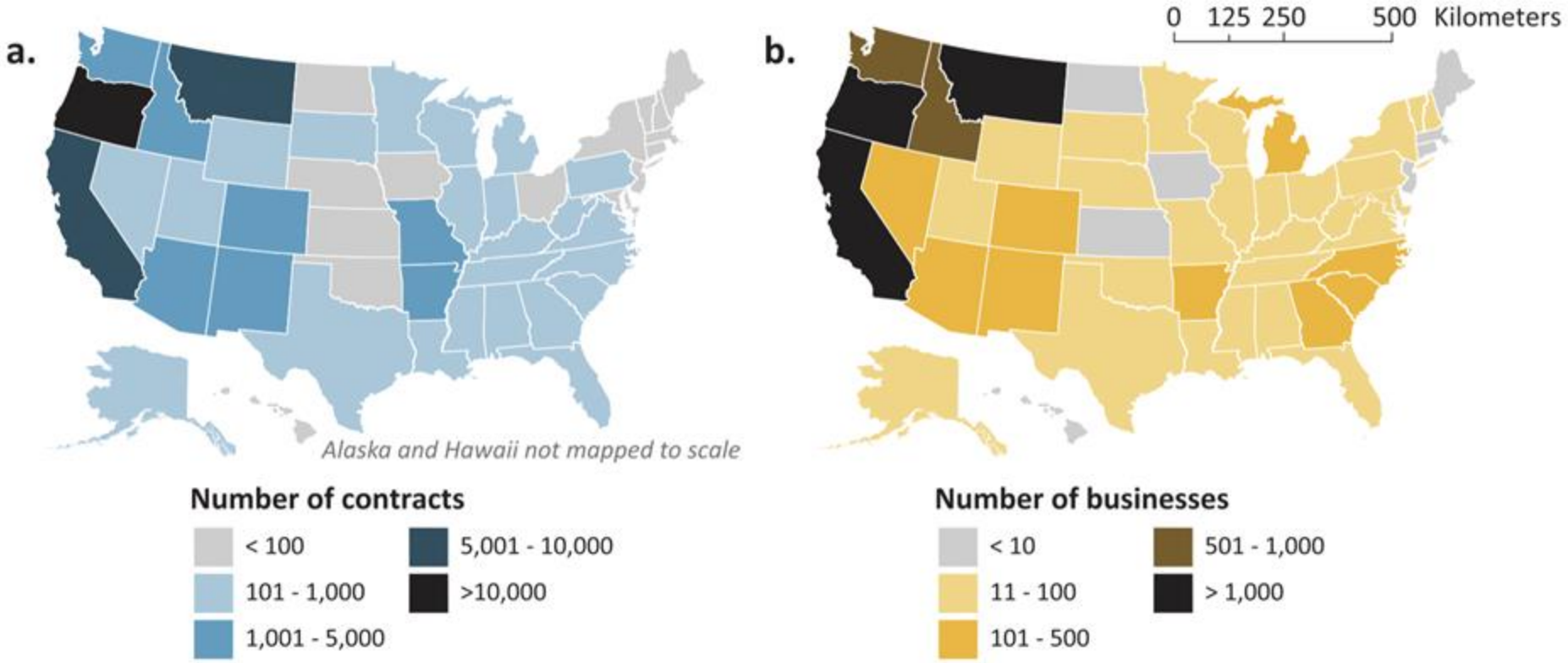


Figure 3. (a) Number of labor-intensive forestry contracts awarded by businesses' registered state of address (b) number of businesses performing labor-intensive forestry work by businesses' registered state of address.

Deak, A., Huber-Stearns, H., Crandall, M., Poudel, K., Davis, E. J., Coughlan, M. R., & Wilmsen, C. (2023). Documenting Twenty Years of the Contracted Labor-Intensive Forestry Workforce on National Forest System Lands in the United States. *Journal of Forestry*. https://doi.org/10.1093/jofore/fvad026

Overarching question: Is federal contracting of LIF activities advancing economic equity in the Pacific West, particularly for small and minority-owned businesses?

How are contracting dollars distributed across counties of Oregon, Washington, and California?

Is there evidence that the USDA Forest Service advanced distributional equity through its contracting activities in the region?

Distributive equity of USDA Forest Service contracts

Small Businesses Set-Aside and Minority-Owned (SBSAMO): Businesses that are identified as: Historically Underutilized Businesses Zone (economic development) Firms, women-owned small businesses, service-disabled veteran-owned, 8(a) program participants, or Minority-Owned (MO).

Minority-Owned (MO): Businesses that are identified and owned (at least half) by Hispanic Americans, Native American or American Indians, Black Americans, Asian Pacific or Subcontinent Asian (Asian Indian) Americans.

Data

- USFS labor-intensive forestry contracting data
- 2001-2020
- System for Award Management (SAM.gov)
- Includes:
    - Location of each vendor
    - Dollar amount
    - Year awarded
    - Place of performance
    - Business ownership details

Local Indicator of Spatial Autocorrelation (LISA)

- Identifies the presence of clusters in the spatial arrangement of data using Local Moran's I
- Moran's I is calculated based on the value of neighboring counties

(Anselin, 1995)

Exploratory Analysis

- Minority Population (2016-2020 ACS 5-year estimates)
- Business owned by Latine and business owned by minority populations (Annual Business survey, 2018)
- Percentage federal forestland (FIA, 2019)

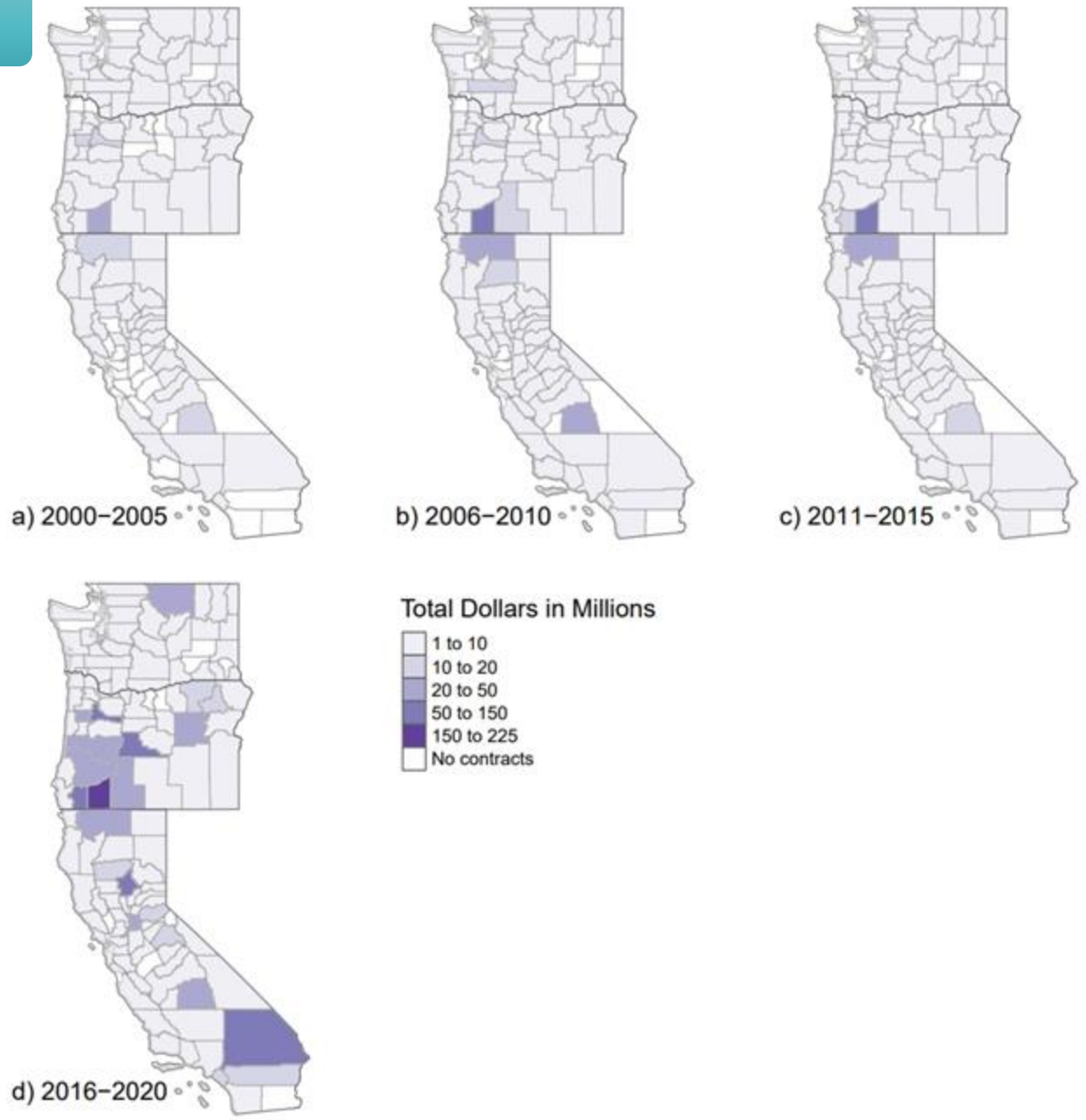
Distributive Equity

- Proportion of contracting dollars captured by minority and small businesses to the proportion of minority and small businesses in each county
- $\frac{\text{BSAMO}}{\text{\$LIF}} \Big/ \frac{\#Businessownedbyminoritypopulati}{\#TotalBusinesses}$

≥1

Distributive equity of USDA Forest Service contracts

How are contracting dollars distributed across counties of Oregon, Washington, and California?

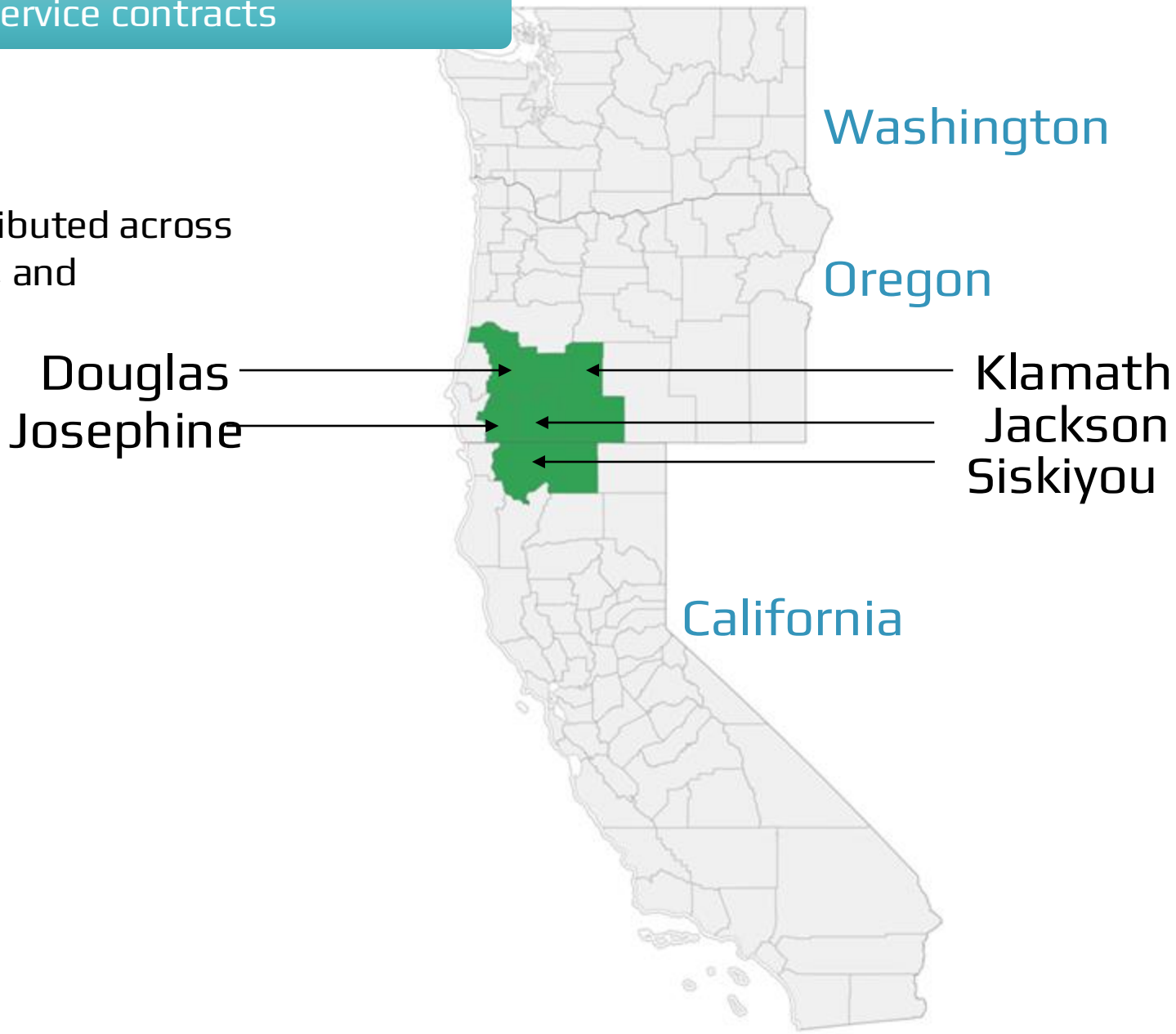


USDA Forest Service awarded

- 31,642 contracts
- to 3,104 businesses
- with total contract value of $2.15 billion

Distributive equity of USDA Forest Service contracts

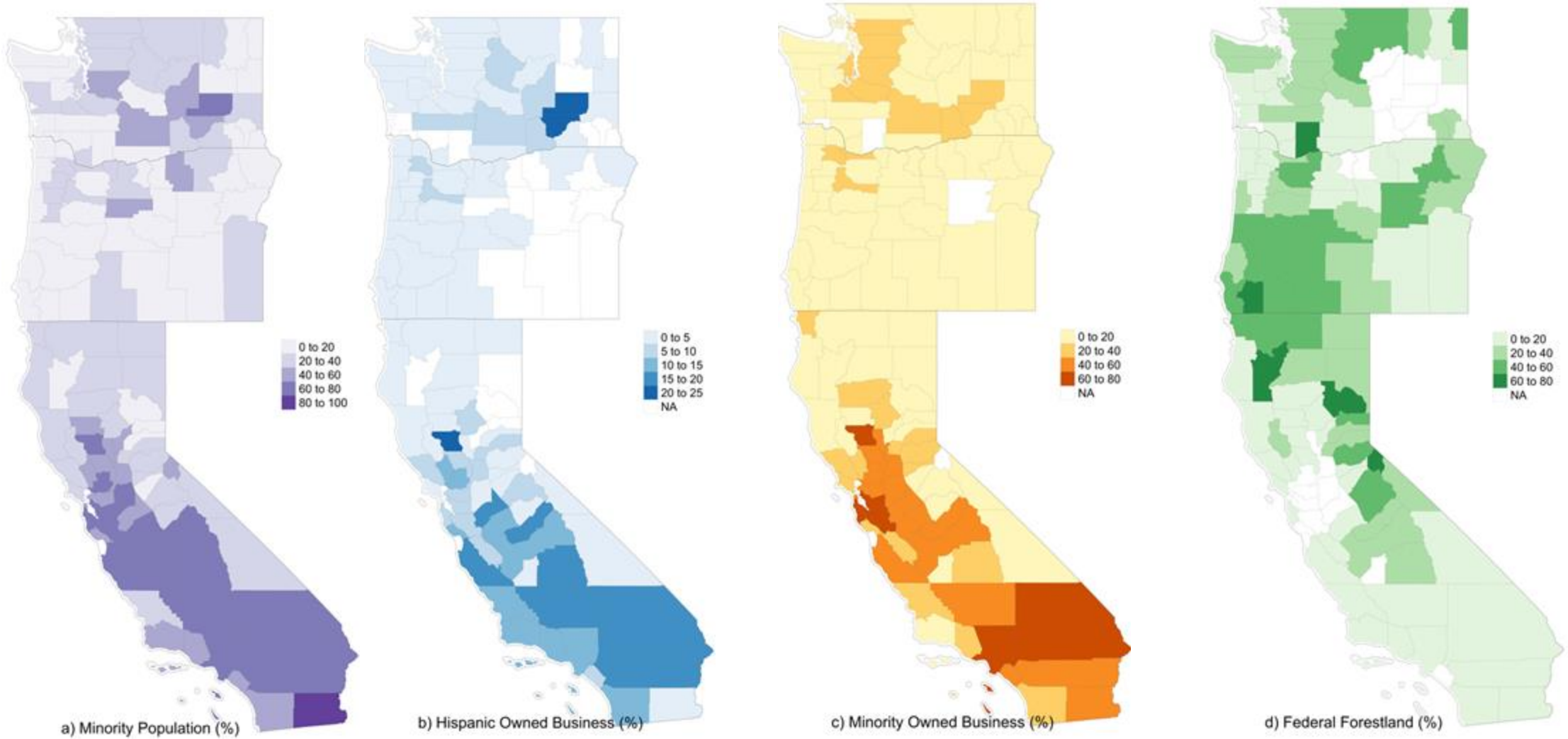
How are contracting dollars distributed across counties of Oregon, Washington, and California?



Distributive equity of USDA Forest Service contracts

How are contracting dollars distributed across counties of Oregon, Washington, and California?

Socio-economic variables

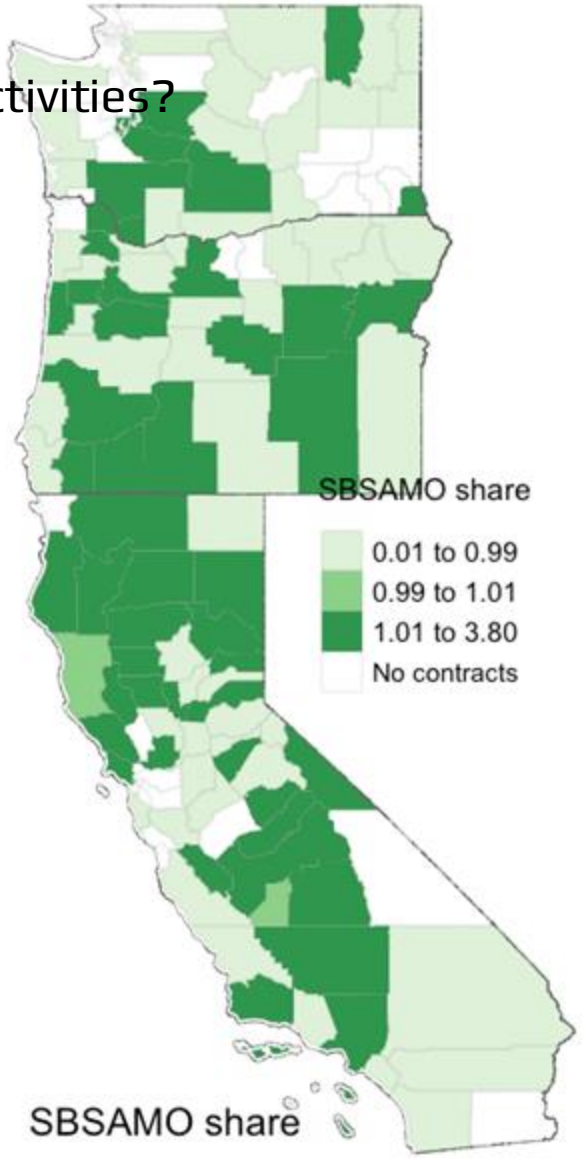


Distributive equity of USDA Forest Service contracts

Does the USDA Forest Service impact distributional equity through its contracting activities?

SBSAMO businesses in only 27% of the counties were as successful in capturing contract dollars proportionate to the role of SBSAMO businesses in that county

- $$\frac{\$SBSAMO}{\$LIF} \Big/ \frac{\#Businessownedbyminoritypopulation}{\#TotalBusinesses} \geq 1$$



How to make it accessible for SBSAMO?

Need based assessment of the counties that are below distributive equity threshold

Agencies and educational or outreach programs could play important role in capacity development and entrepreneurship of SBSAMO businesses.

Public institutions such as extension programs can encourage and support entrepreneurship development for marginalized workers and entrepreneurs, particularly Latine populations.

Limitations

Way-Forward

Business success	In-depth site visit, case study, and interviews in this clustered counties
Location of business receiving contracts	Location of work
Labor-and machinery-intensive work	Forest service contracting data

Funding Source: USDA -Agriculture and Food Research Initiative

References

- Bernsen, N. R., Crandall, M. S., Leahy, J. E., Abrams, J. B., & Colocousis, C. R. (2022). Do rural youth want to stay rural? Influences on residential aspirations of youth in forest-located communities. *Community Development*, *53*(5), 566–584. https://doi.org/10.1080/15575330.2021.1998170
- Charnley, S., Donoghue, E. M., & Moseley, C. (2008). Forest Management Policy and Community Well-Being in the Pacific Northwest. *Journal of Forestry*, *106*(8), 440–447. https://academic.oup.com/jof/article/106/8/440/4599961
- Charnley, S., Kline, J. D., White, E. M., Abrams, J., Mclain, R. J., Moseley, C., & Huber-Stearns, H. (2018). *Synthesis of Science to Inform Land Management Within the Northwest Forest Plan Area Chapter 8: Socioeconomic Well-Being and Forest Management in Northwest Forest Plan-Area Communities*.
- Deak, A., Huber-Stearns, H., Crandall, M., Poudel, K., Davis, E. J., Coughlan, M. R., & Wilmsen, C. (2023). Documenting Twenty Years of the Contracted Labor-Intensive Forestry Workforce on National Forest System Lands in the United States. *Journal of Forestry*. https://doi.org/10.1093/jofore/fvad026
- Eichman, H., Hunt, G. L., Kerkvliet, J., & Plantinga, A. J. (2010). Give to AgEcon Search Local Employment Growth, Migration, and Public Land Policy: Evidence from the Northwest Forest Plan. In *Journal of Agricultural and Resource Economics* (Vol. 35, Issue 2). http://ageconsearch.umn.edu
- Hibbard, M., & Lurie, S. (2013). The New Natural Resource Economy: Environment and Economy in Transitional Rural Communities. *Society & Natural Resources*, *26*(7), 827–844. https://doi.org/10.1080/08941920.2012.720358
- Kooistra, C., & Moseley, C. (2019). *An Exploratory Assessment of Federal Land Restoration Contractors and Their Views on the Restoration Industry*. *37*(1).
- Woodall, C. W., Lnce, P. J., Skog, K. E., Aguilar, F. X., Keegan, C. E., Sorenson, C. B., & Hodges, D. G. (2011). An overview of the forest products sector downturn in the United States. In *Forest Products Journal* (Vol. 61, Issue 8). https://doi.org/10.13073/0015-7473-61.8.595

Thank you for your attention.

I'm happy to answer any questions you may have.

Contact:

kamana.poudel@oregonstate.edu

poudelk1@msu.edu

Local Indicator of Spatial Autocorrelation (LISA)

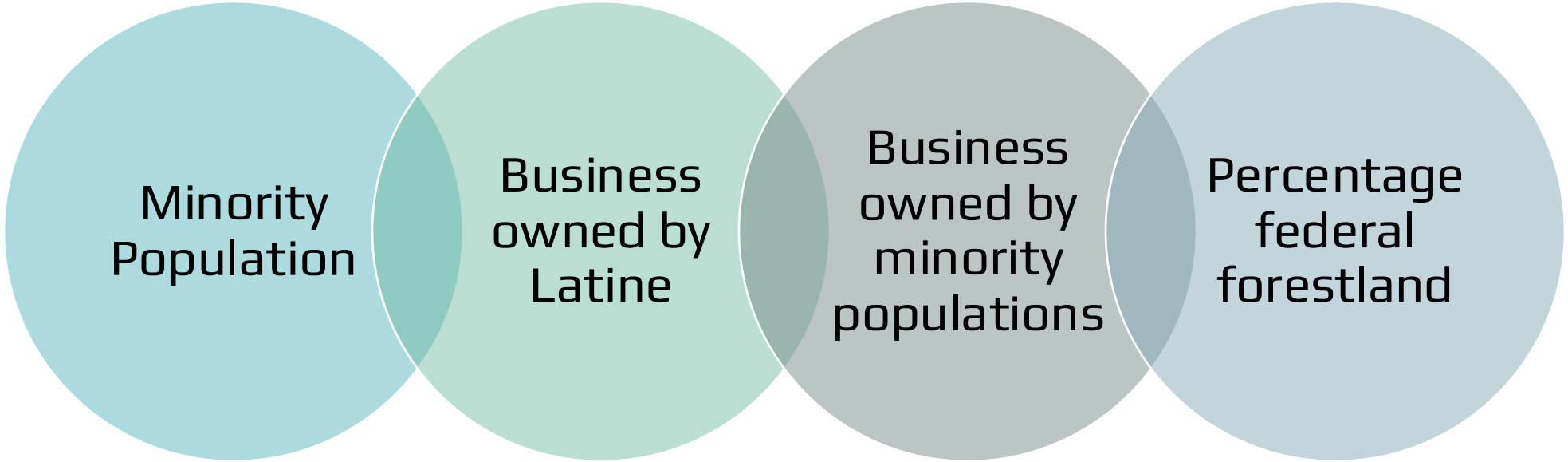
Identifies the presence of clusters in the spatial arrangement of data using Local Moran's I

Moran's I : based on the values for neighboring polygons (counties)

Positive Moran's I indicates that the county has neighbors with similarly high values of the data of interest

(Anselin, 1995)

Exploratory Analysis



2016-2020 ACS 5-year estimates

Annual Business Survey, 2018

Forest Inventory and Analysis, 2019

Distributive Equity

Proportion of contracting dollars captured by minority and small businesses to the proportion of minority and small businesses in each county

Proportion of contracting dollars captured by minority and small businesses

Proportion of minority and small businesses

$$\frac{\$SBSAMO}{\$LIF} \Big/ \frac{\#Businessownedbyminoritypopulation}{\#TotalBusinesses} \geq 1$$

USFS plays a role in how dollars flow into places and people

Presidential Executive Order 13985 signed in 2021

Target: increase the proportion of federal contracting dollars going to small, disadvantaged businesses (SDBs) by 50% by 2025.

Justice40 initiative

Government initiative to deliver at least 40% of the overall benefits from certain federal investments to disadvantaged communities.

Leveraging Contracts for National Forest Restoration and Rural Development