

# Machine learning for natural resource management

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A dark blue diagonal gradient bar that starts from the bottom left corner and extends towards the top right corner, covering the lower half of the slide.



Photo by John B. Kalla, via Flickr

# Why use machine learning?

Affordable



Scalable

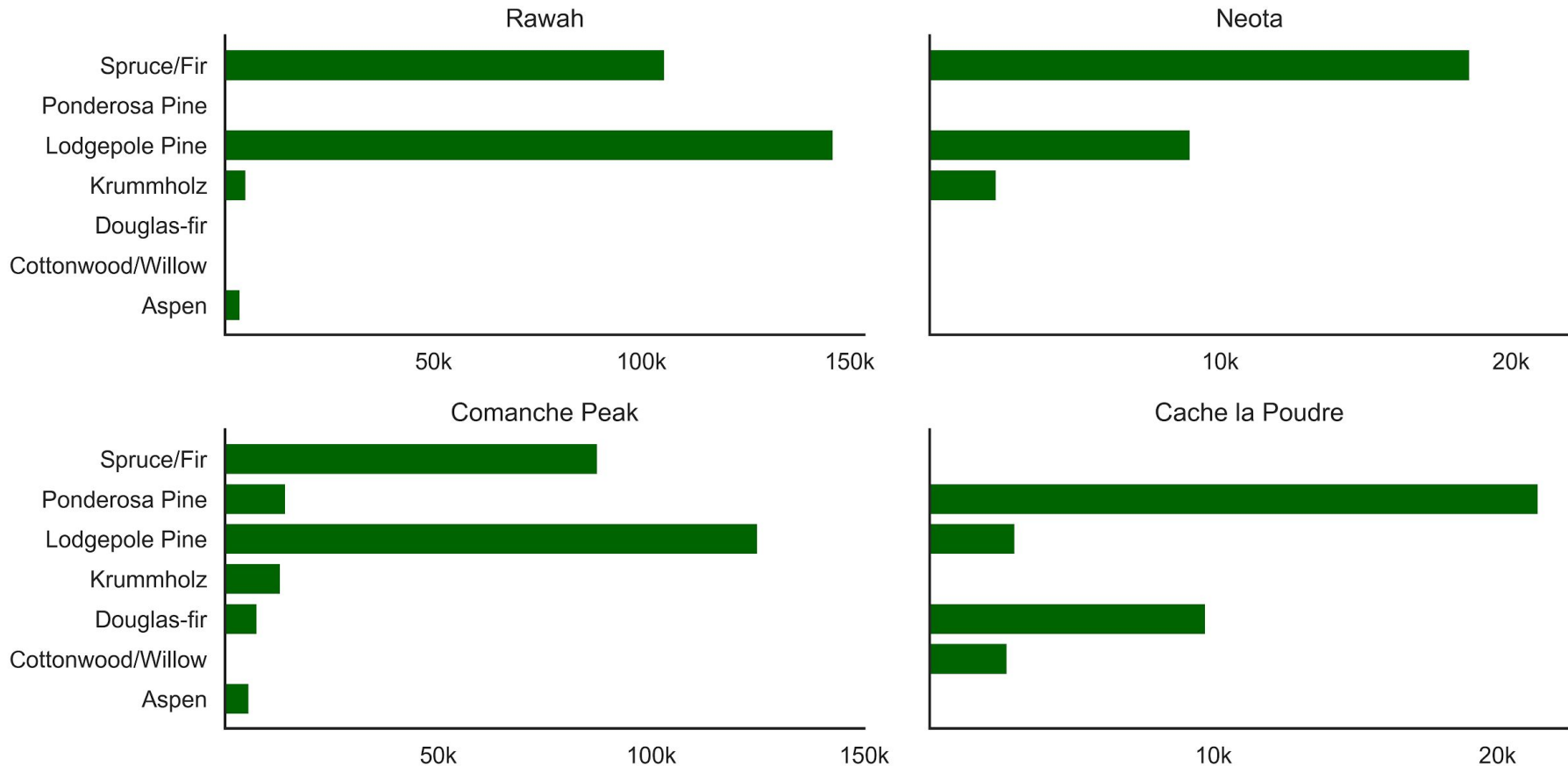


Powerful



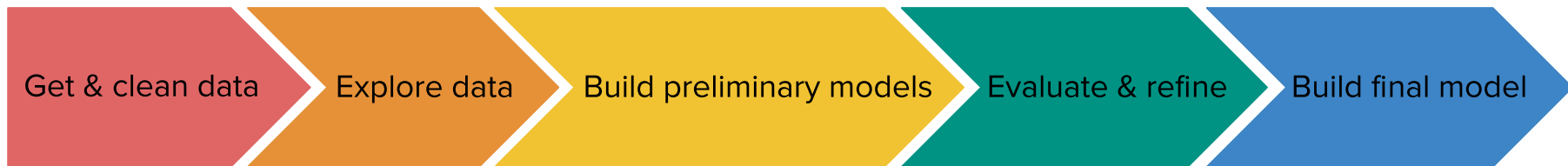


# Four CO Wilderness Areas



Tracts with various tree cover types

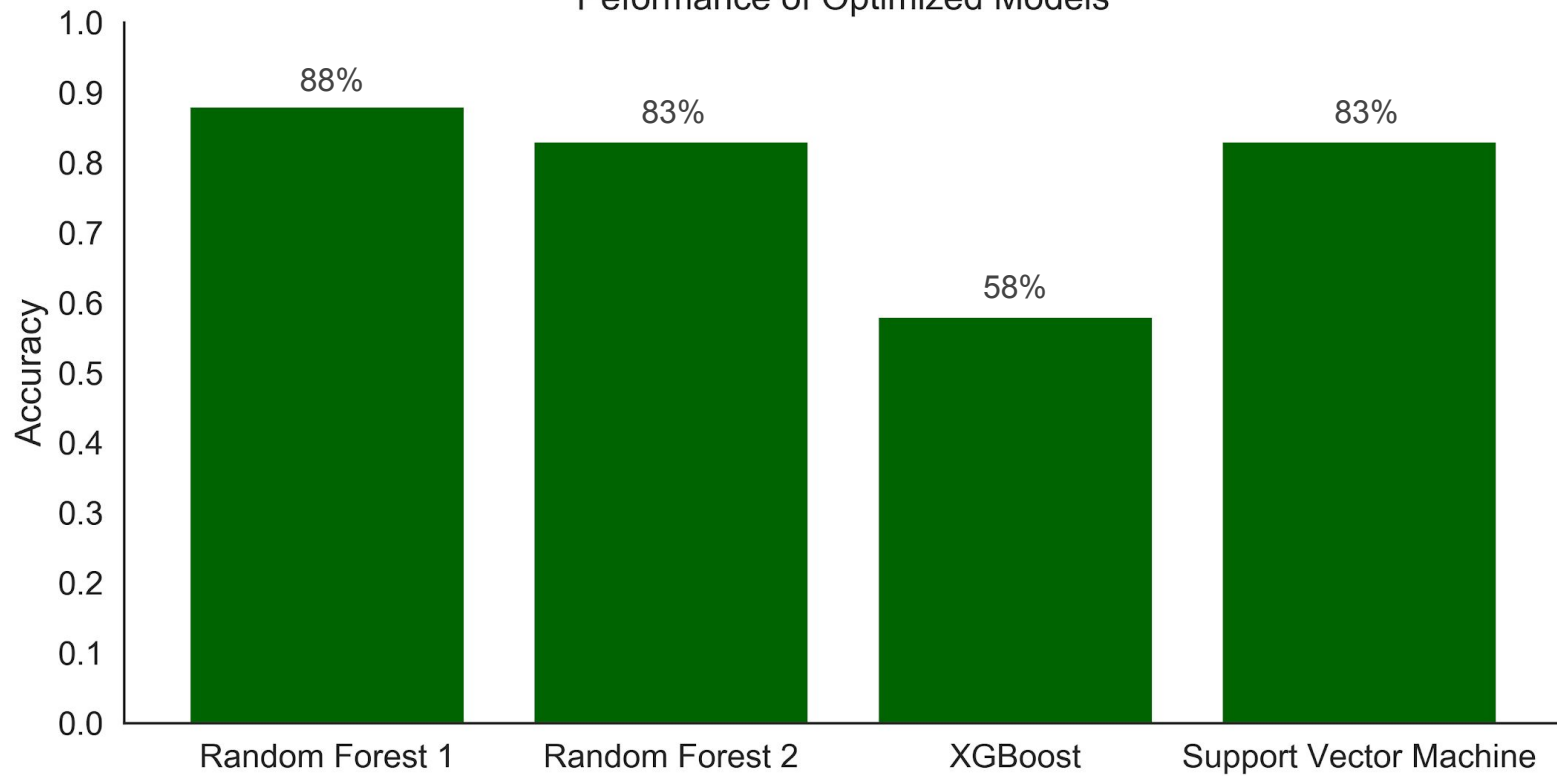
# Methodology

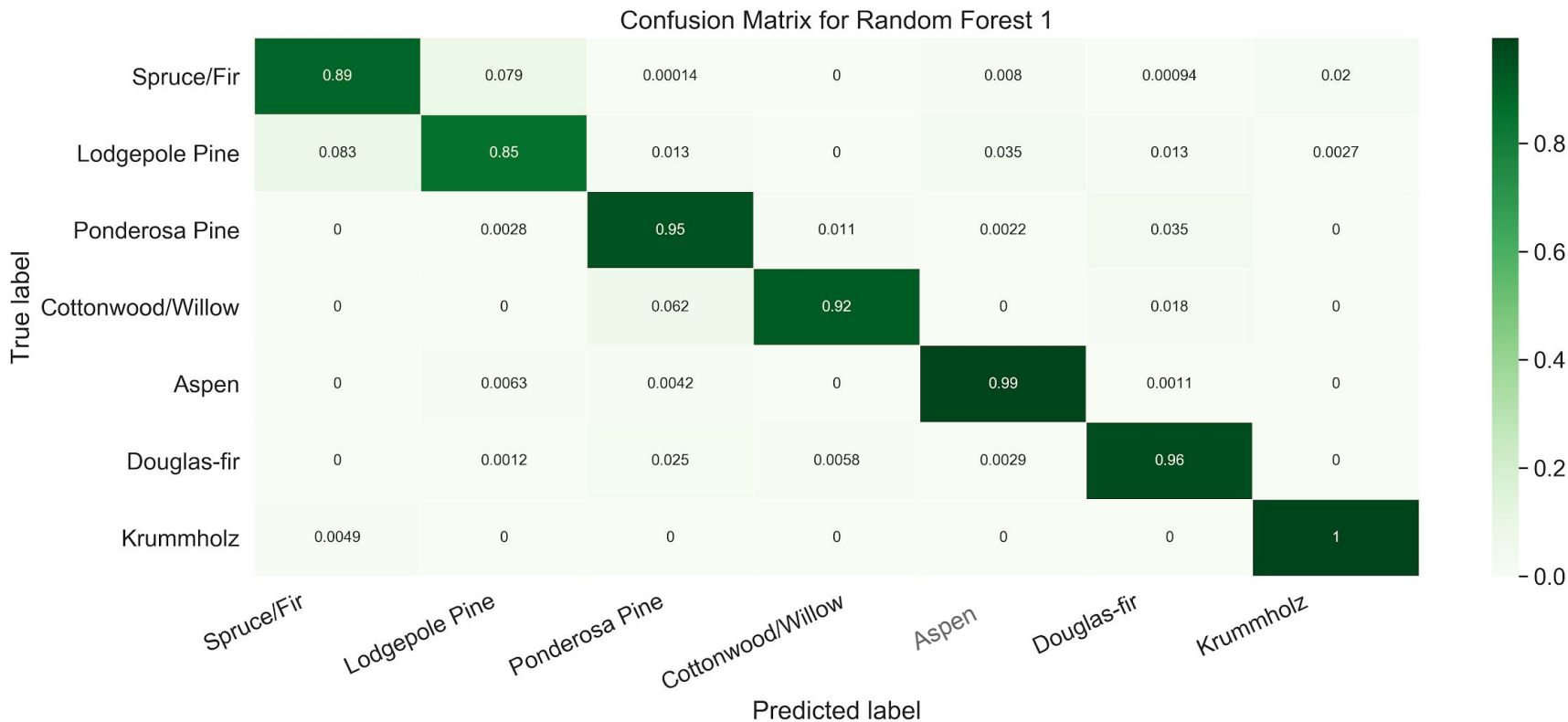


# 88%

Accuracy when identifying 7 tree cover types  
from cartographic data alone

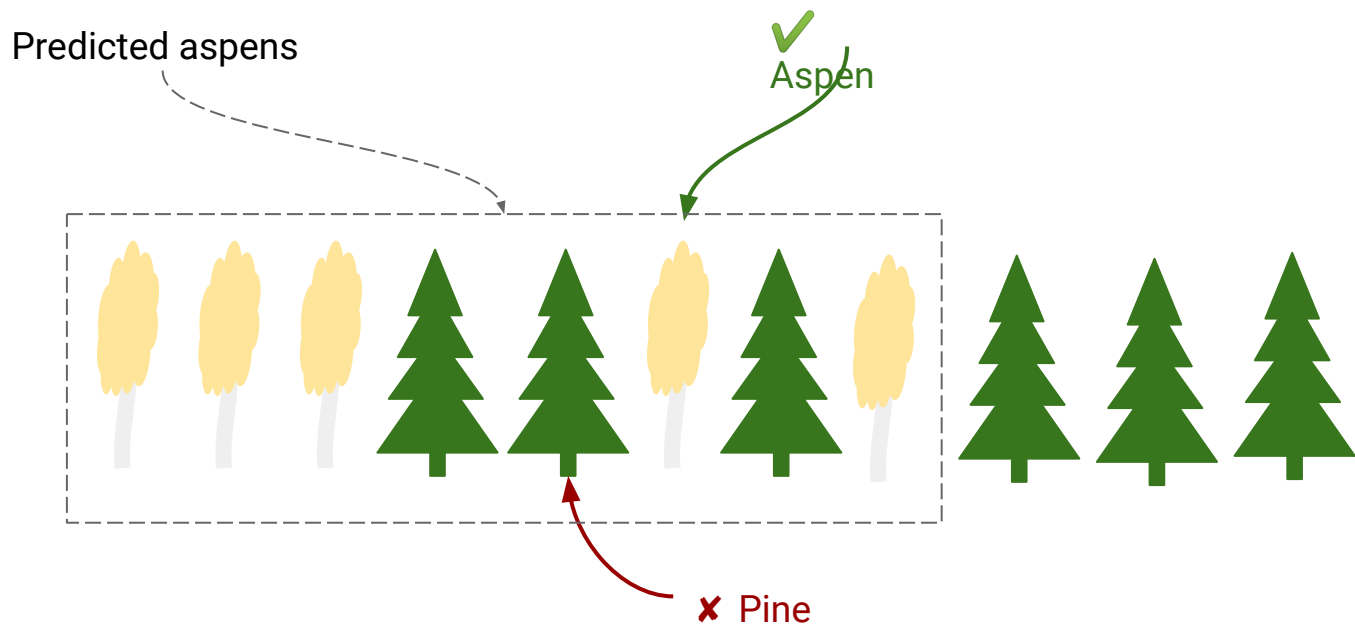
Peformance of Optimized Models







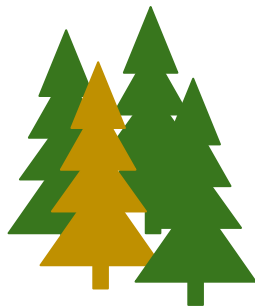
# Model weaknesses



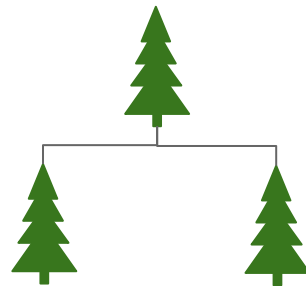
# Recommendations



Multiple models for  
comparison



Choose the best  
model for the problem



Random Forest is  
quick and easy

# Future work

Refine site-specific models

Incorporate data from other regions

Compare predictions to satellite images

Focus on areas critically affected by climate change

# Thanks!

Twitter: @j\_re

Github: [github.com/jrkreiger/fs-project-4](https://github.com/jrkreiger/fs-project-4)