

BARLEY BRAIN

PREDICTING THE FUTURE OF YOUR FIELD!

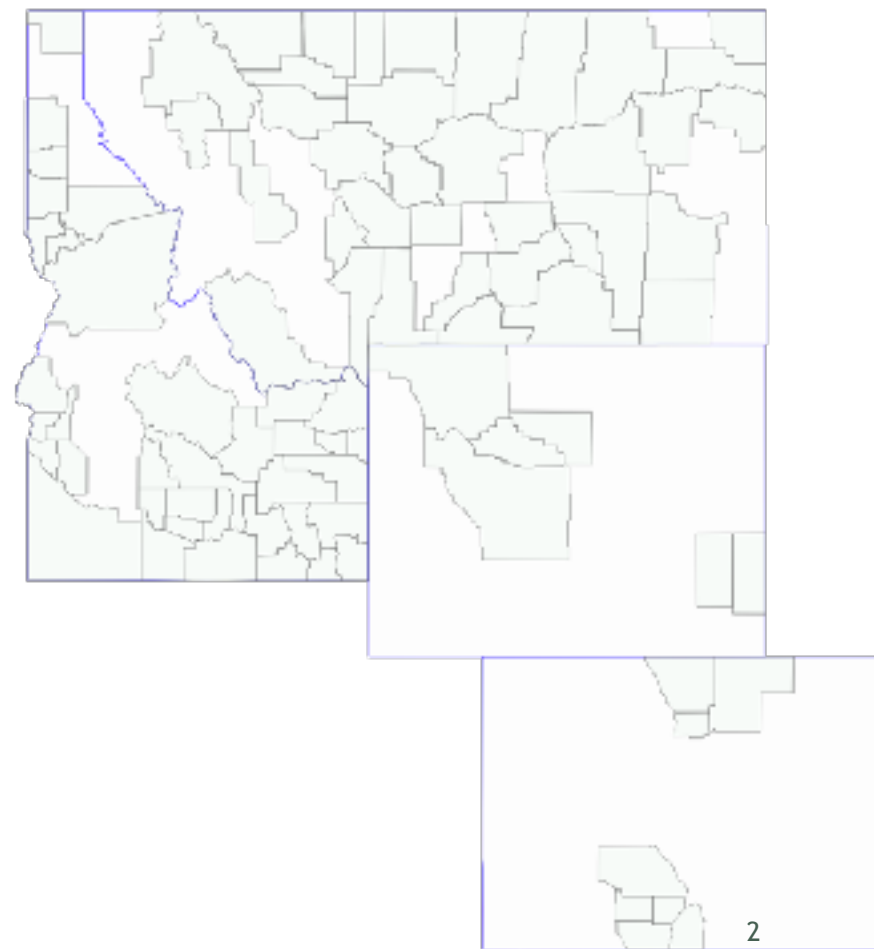


INTRO

What is Barley Brain

Barley Brain is a computer model to forecast regional barley yields in Colorado, Wyoming, Idaho and Montana.

The model aggregates satellite images, crop information, historic weather, and reported yield from 2010 to present to forecast future yields on a county basis



DATA

Public Data Sources



- National Agricultural Statistics Service →
 - Yearly reported crop data
 - <https://www.usda.gov/wps/portal/usda/usdahome>



- NASA LANDSAT8 Satellite data →
 - Satellite image feed for field health analysis
 - https://www.nasa.gov/mission_pages/landsat/main/index.html



- DARKSKY →
 - Historical and forecast weather (localized)
 - <https://darksky.net>

Private Data Sources



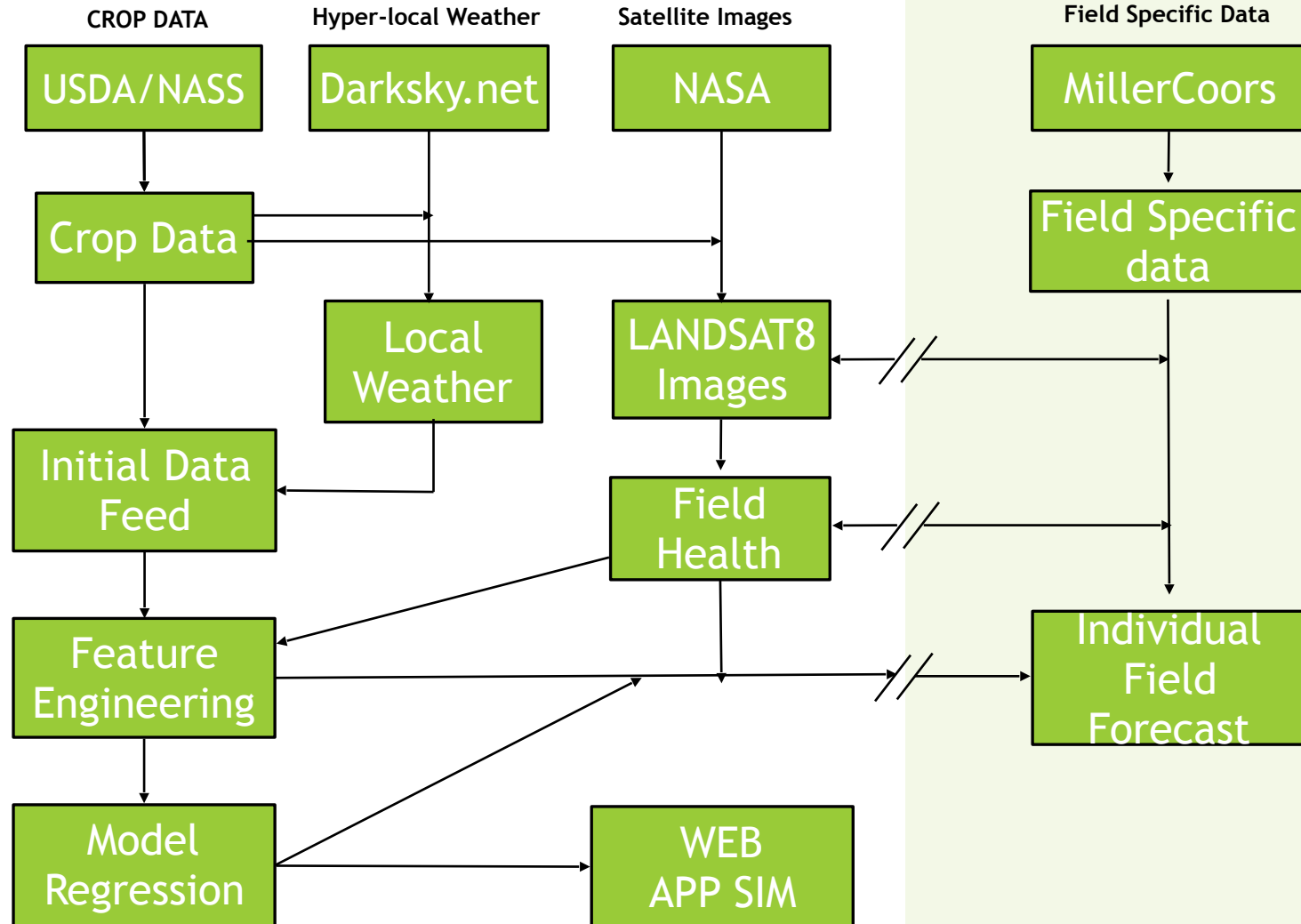
- **Miller-Coors**
 - Barley purchasing and horticulture group
 - Tribal knowledge on environmental factors for barley
 - <https://www.millercoors.com>

Process

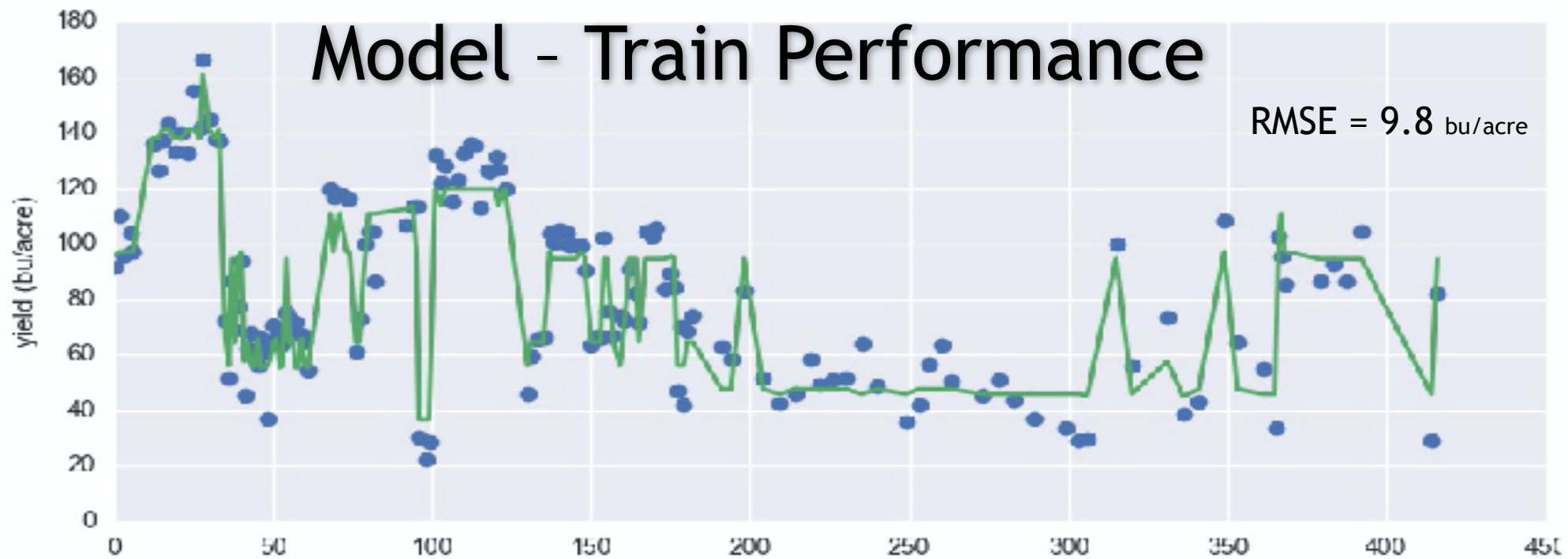
SIMPLIFY

Model - Public Side

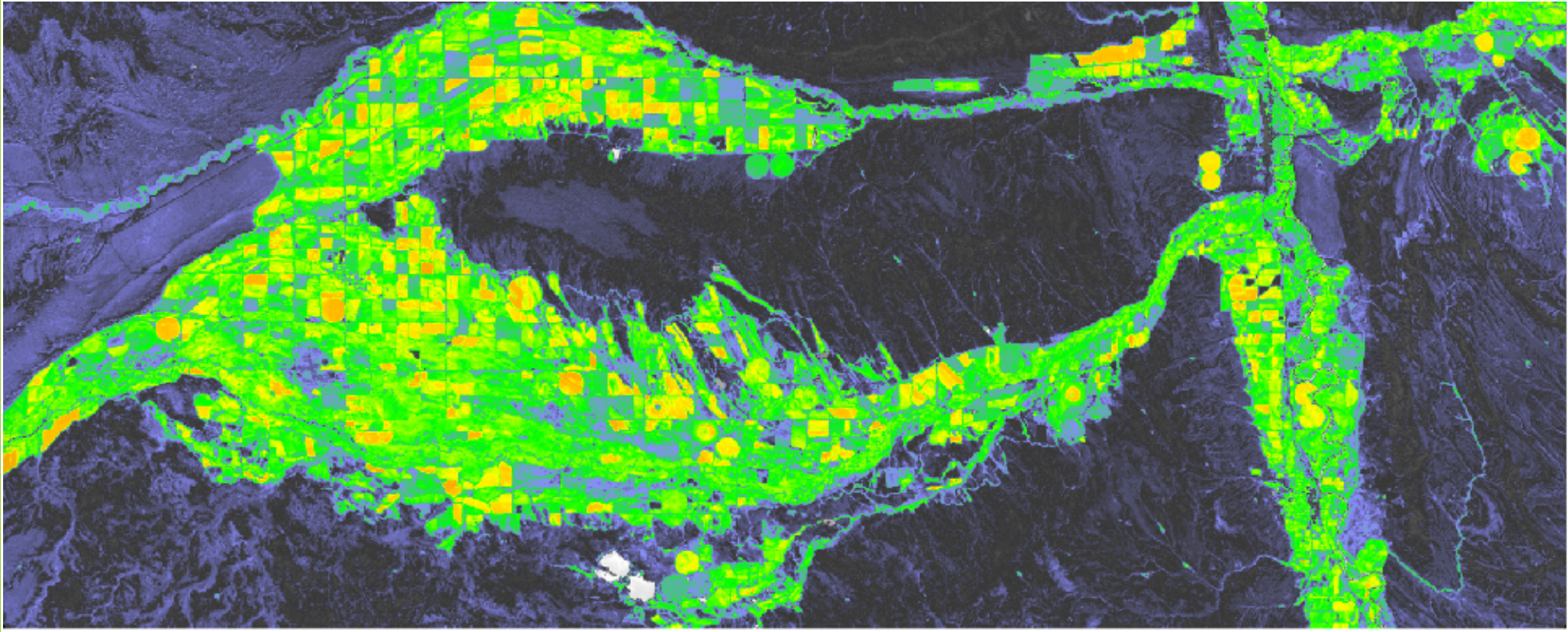
Private Side



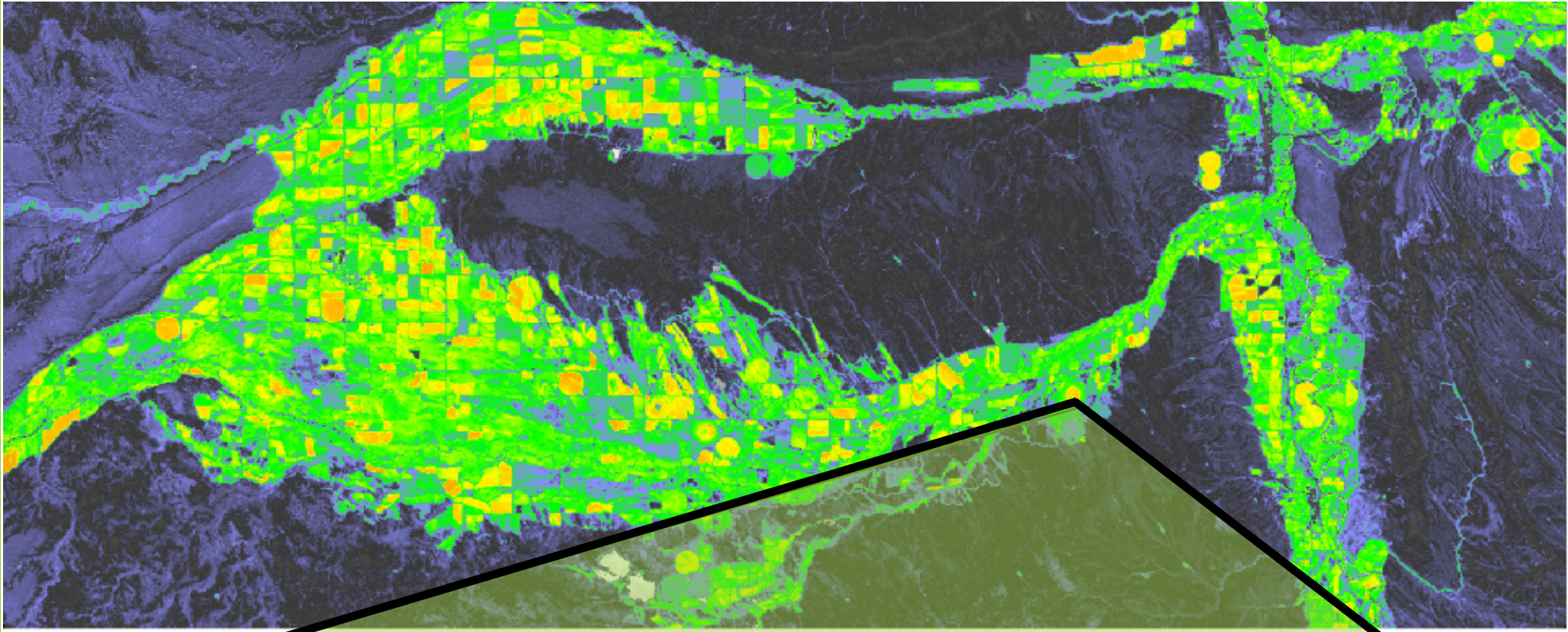
Results



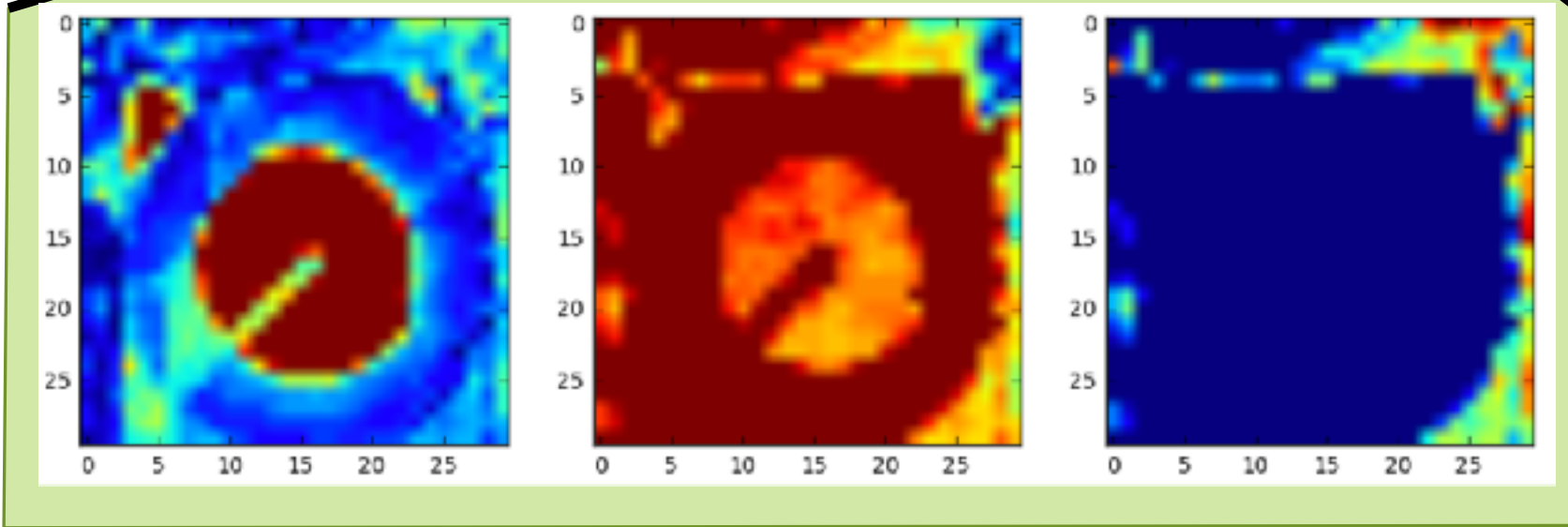
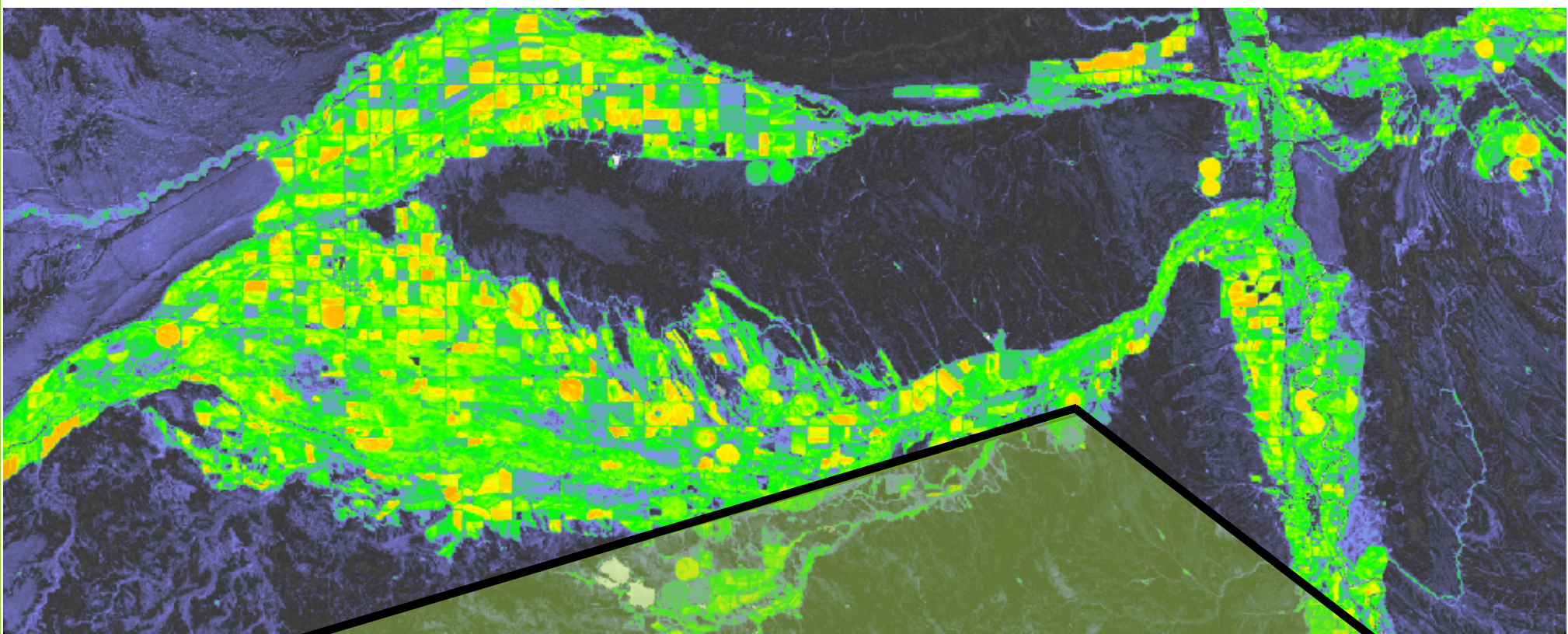
Satellites



Satellites



Satellites



Thanks!

Contact Information

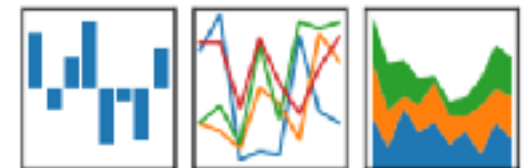
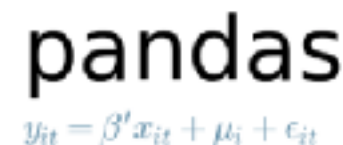
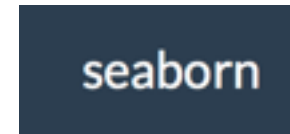
Robert Wade

Linkedin: [Linkedin.com/in/wadere](https://www.linkedin.com/in/wadere)

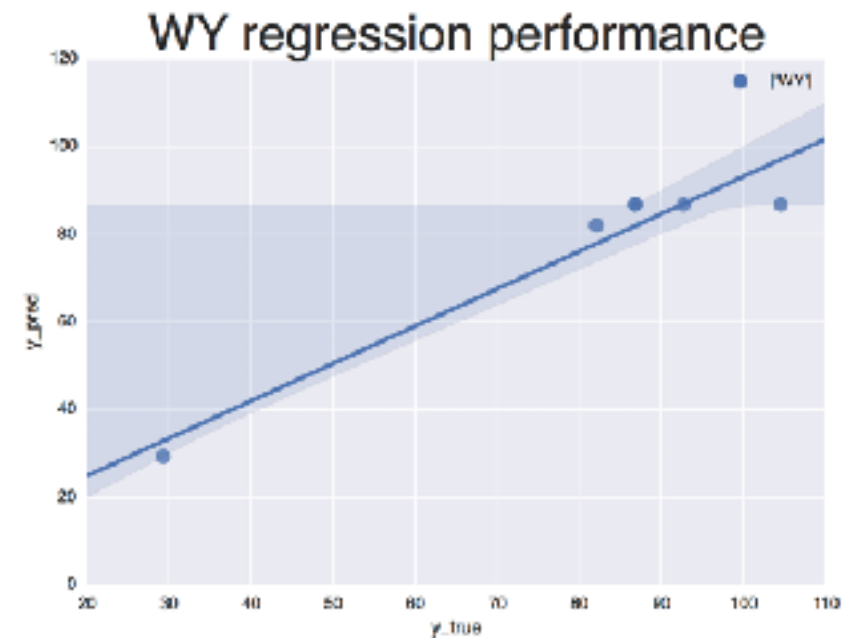
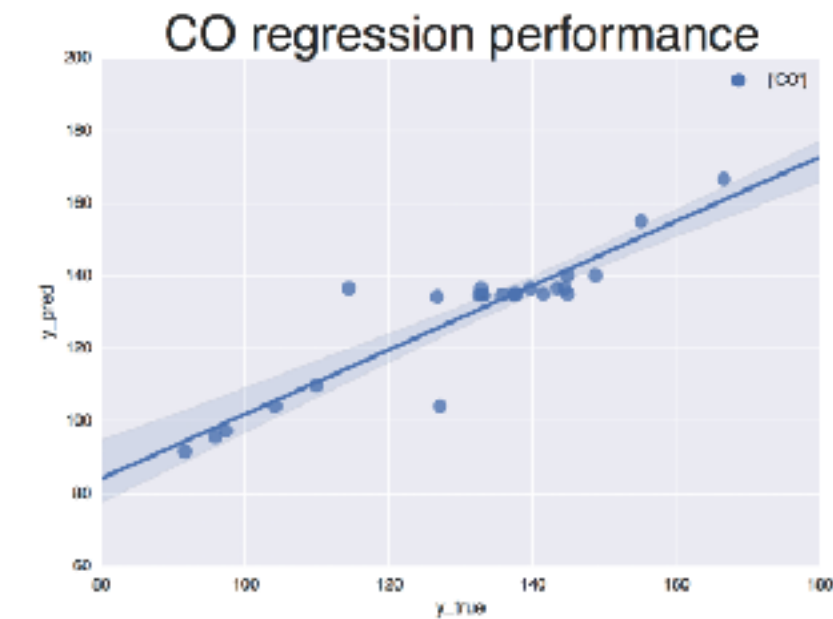
GitHub: [GitHub.com/wadere/Barley_Brain](https://github.com/wadere/Barley_Brain)

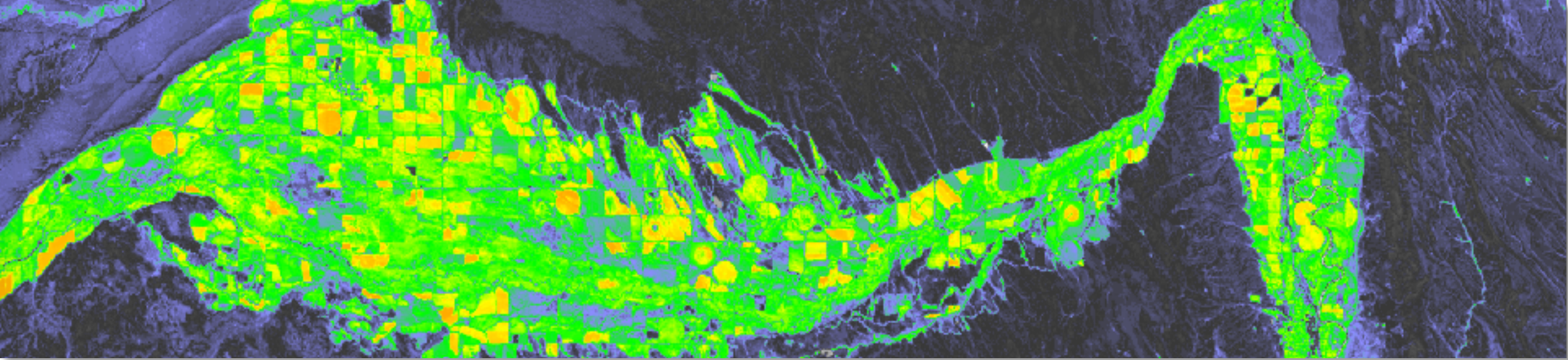
Web App: BarleyBrain.com

Email: wadere@gmail.com



Results





APPENDIX

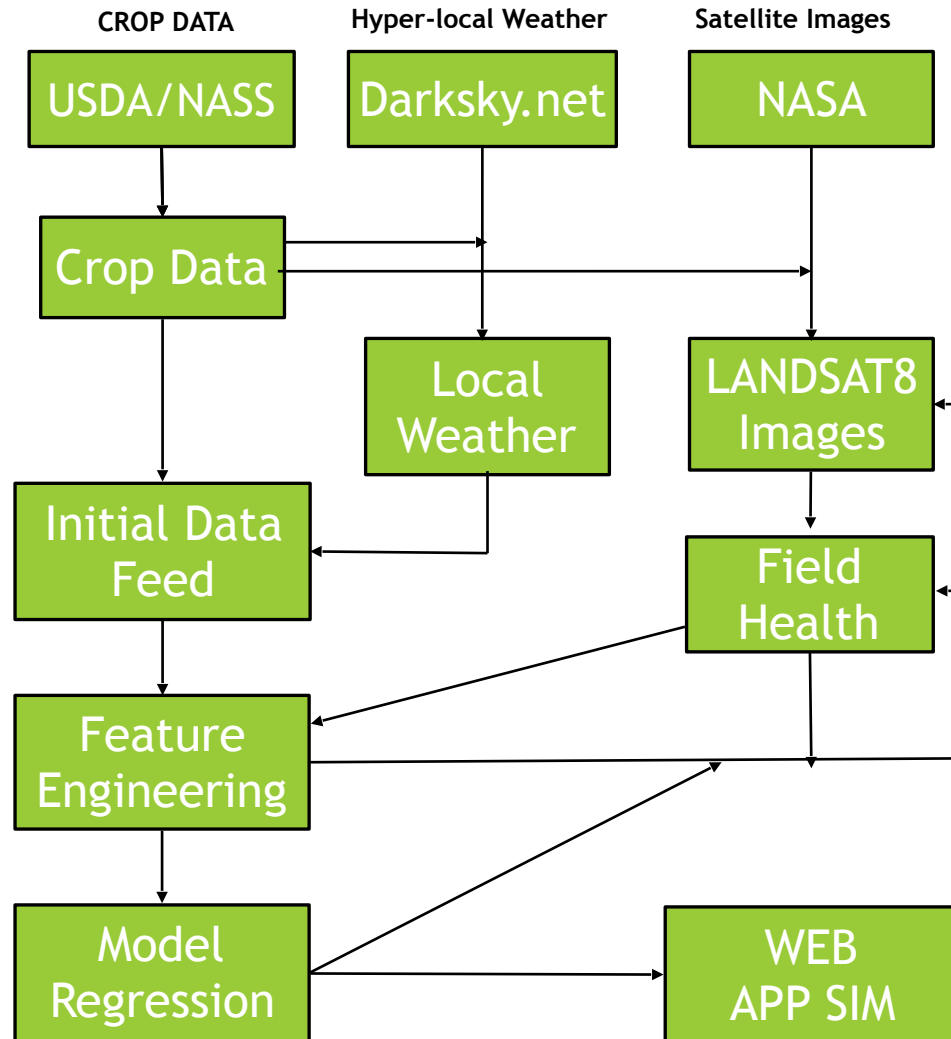


Process

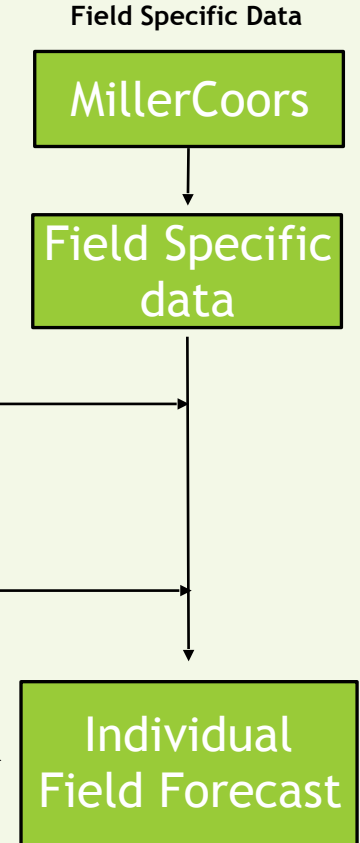
SIMPLIFY



Model - Public Side

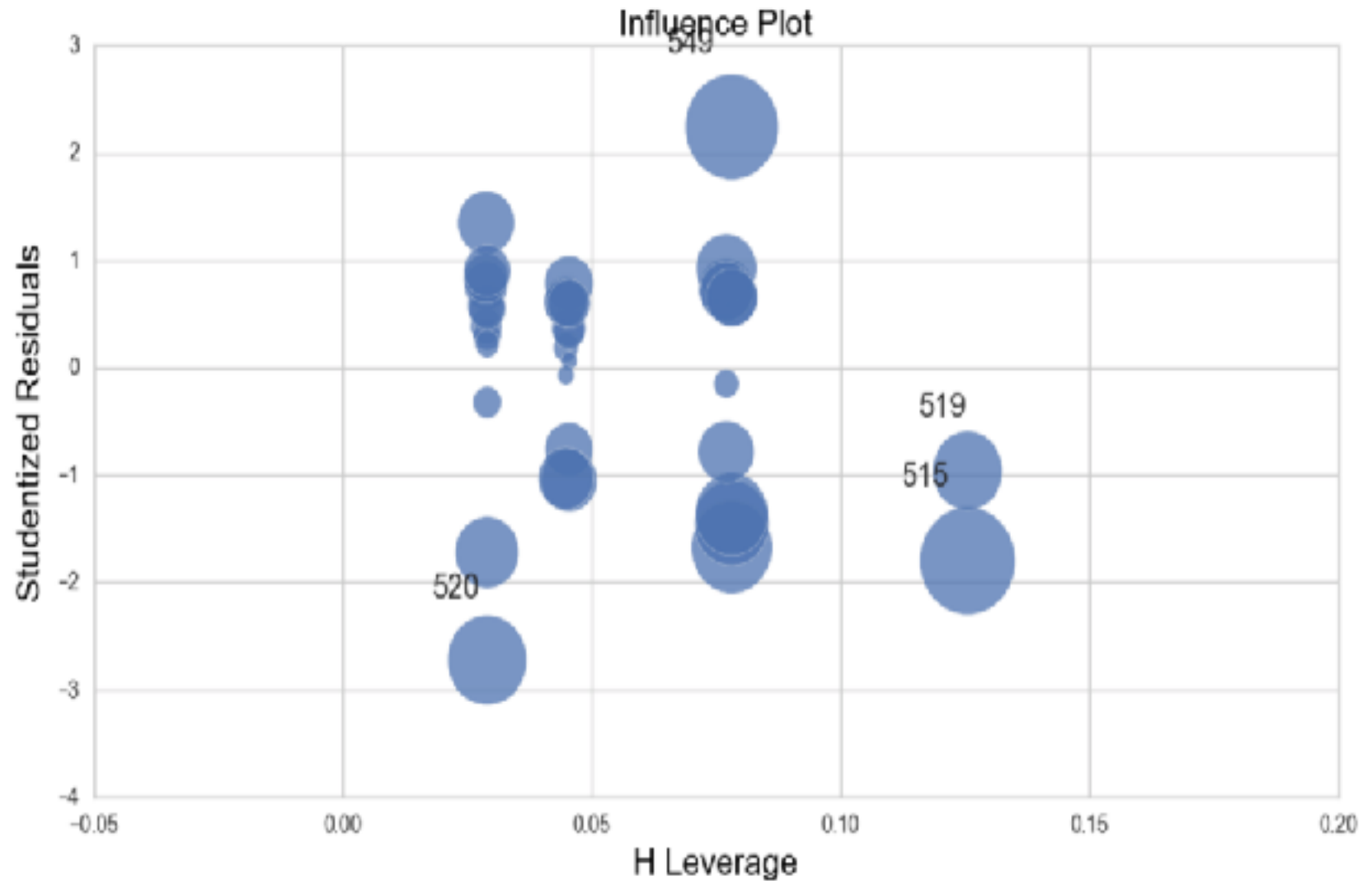


Private Side



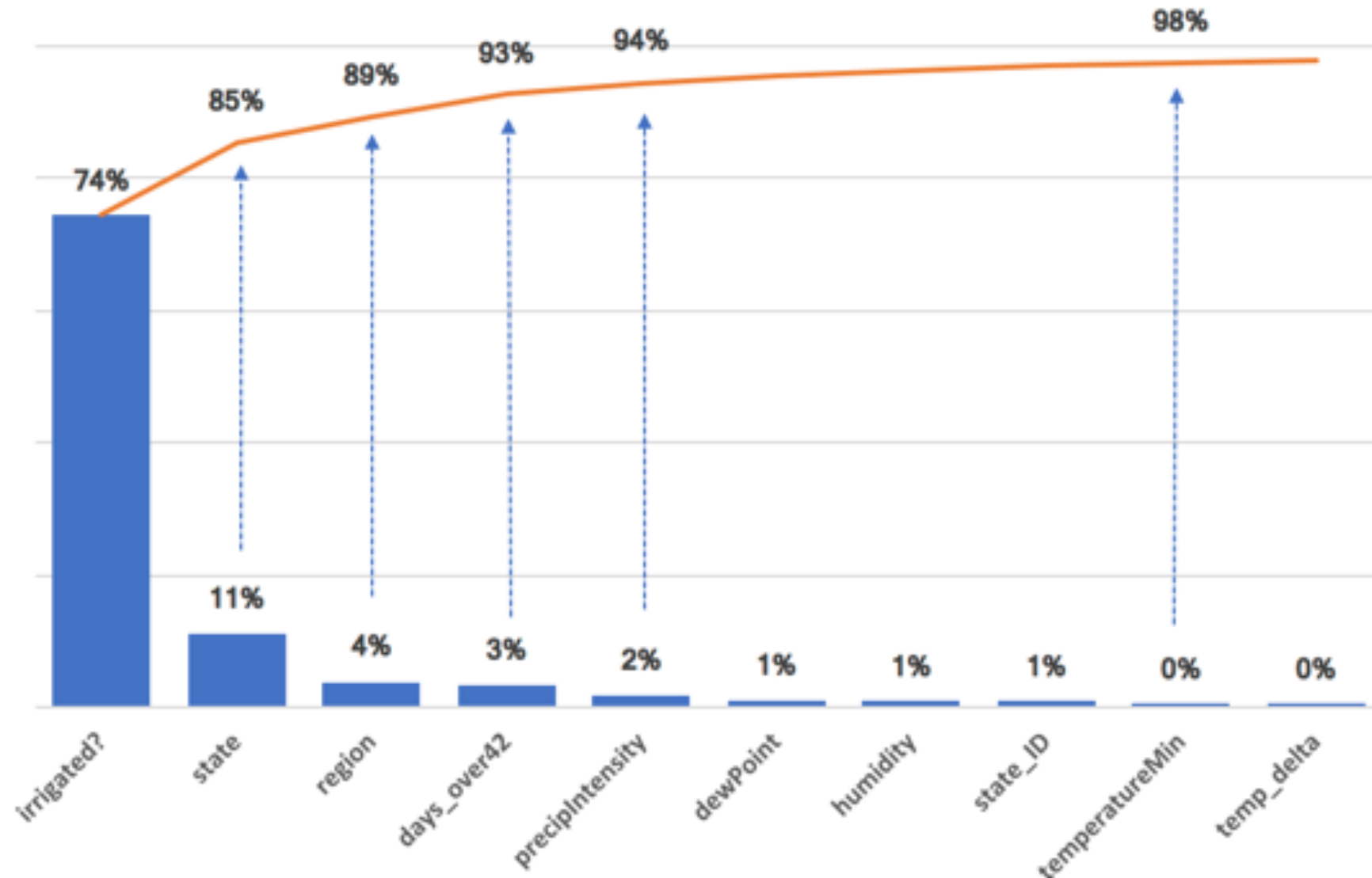
INFLUENCE

INFLUENCE ANALYSIS



Feature Importance

Feature Analysis



Feature Importance

Impact of Irrigation

