Subfield Yield Analysis for Precision Agriculture

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C-CHANGE

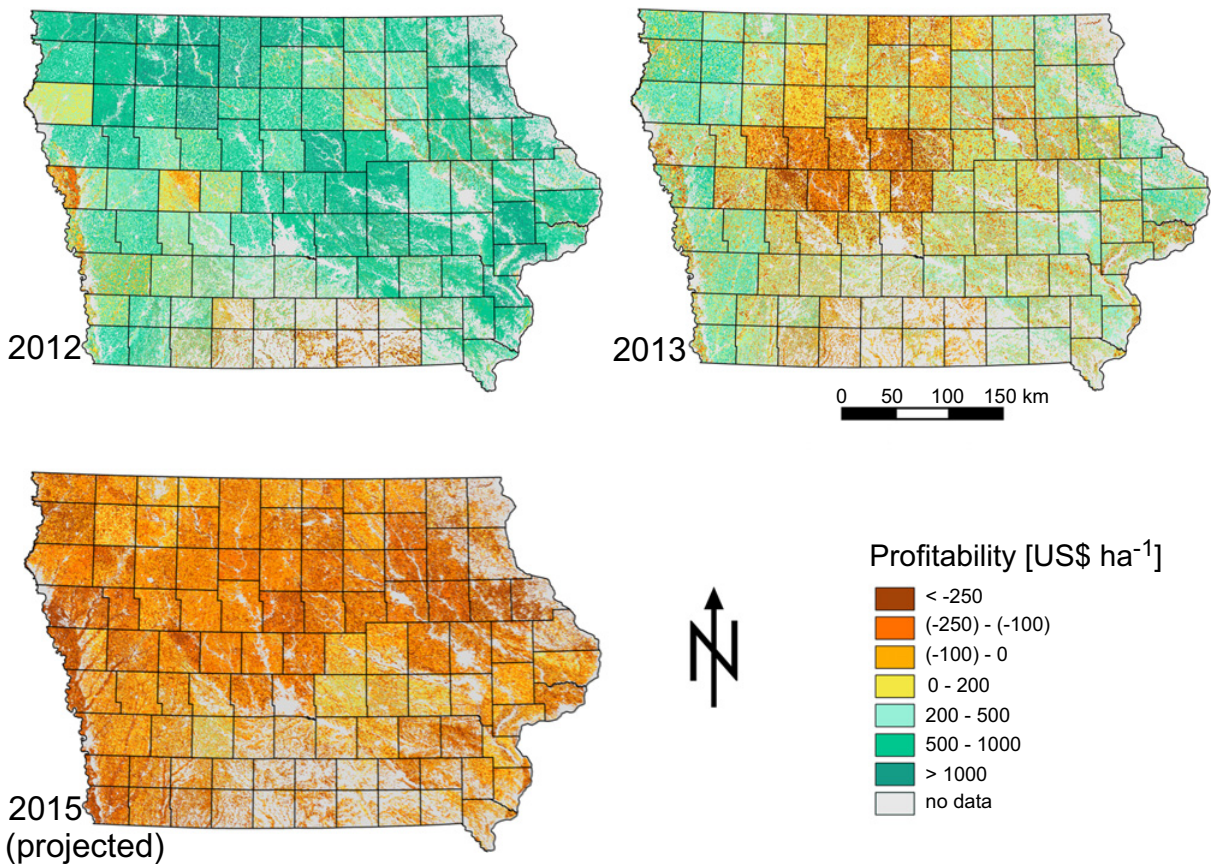

Figure 2. Distribution of subfield Iowa cropland profitability, 2010–2013, and projected profitability for 2015. Profitability was only calculated for crop fields in maize or soybeans in all four years (2010–2013). Other areas are shown as gray.

Brandes, Elke, et al. "Subfield profitability analysis reveals an economic case for cropland diversification." Environmental Research Letters 11.1 (2016): 014009.

Precision yield

Vehicle polygons

Assume uniform mass

Grid


W 119th St S
W 119th St S
W 119th St S
W 119th St S
Harvested per data point (kg)
0.16
7.49
13.91
26.07
49.70
0.00
0.25
0.50
0.75
1.00

Remove overlapping polygons

Apportion mass

Smooth mass


W 119th St S
W 119th St S
W 119th St S
W 119th St S
Predicted mass per data point (kg)
0.01
8.75
16.67
24.47
37.69
0.00
0.25
0.50
0.75
1.00

Summary

Automated precision yield maps:

- Pre-processing to remove precision agriculture artifacts
- Spatial smoother

This slides are available

- `https://github.com/jarad/JSM2019`
- `http://www.jarad.me/research/presentations.html`

Thank you!