Data Harvesting for Agriculture

CarpentryCon 2020 Lightning Talk

N E Davis · 2020-08-07

Overview

“Our motivation for creating this workshop is the recent, rapid increase in the volume of data produced on farms and the use of such data for decision making by farmers.
“After attending our workshop, you will be able to develop small computer programs of your own for analysis, visualization, and decision making, and will be able to share those programs with others.”

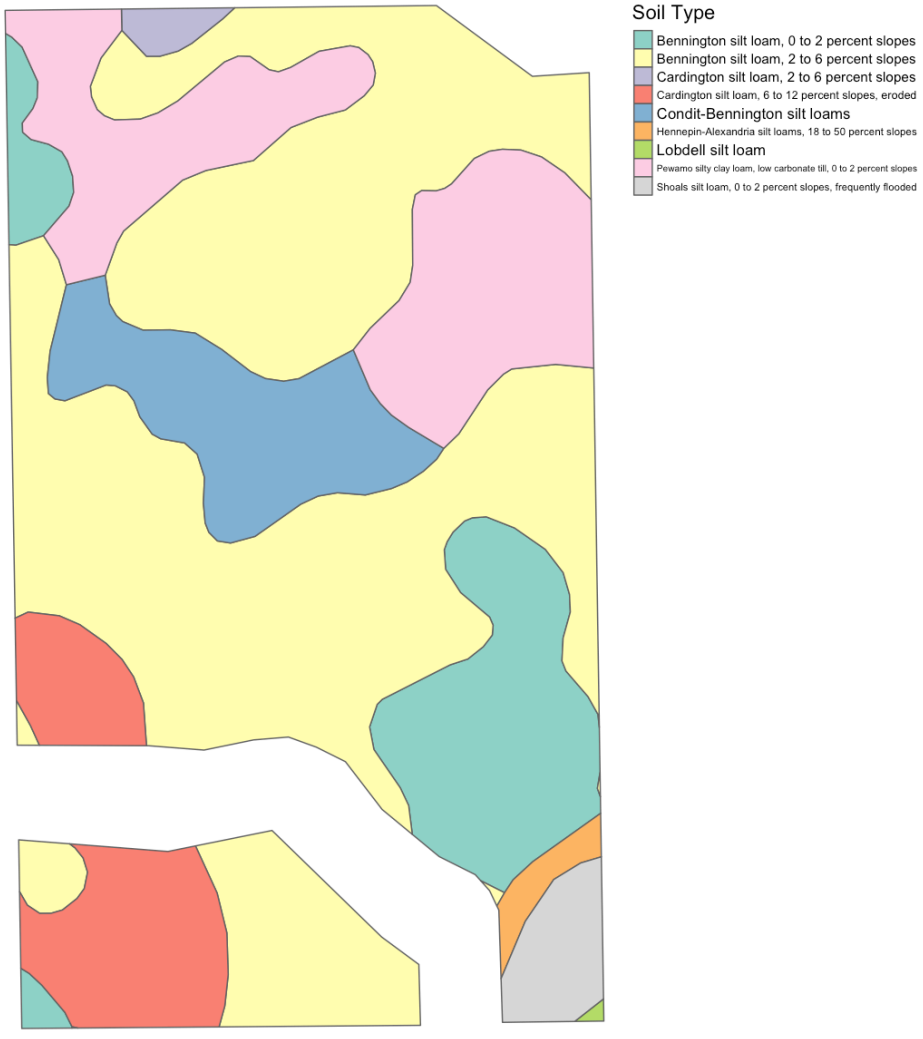
Scope

1. Non-academic audience
2. No prior programming assumed
3. Target: Use or modify packaged scripts

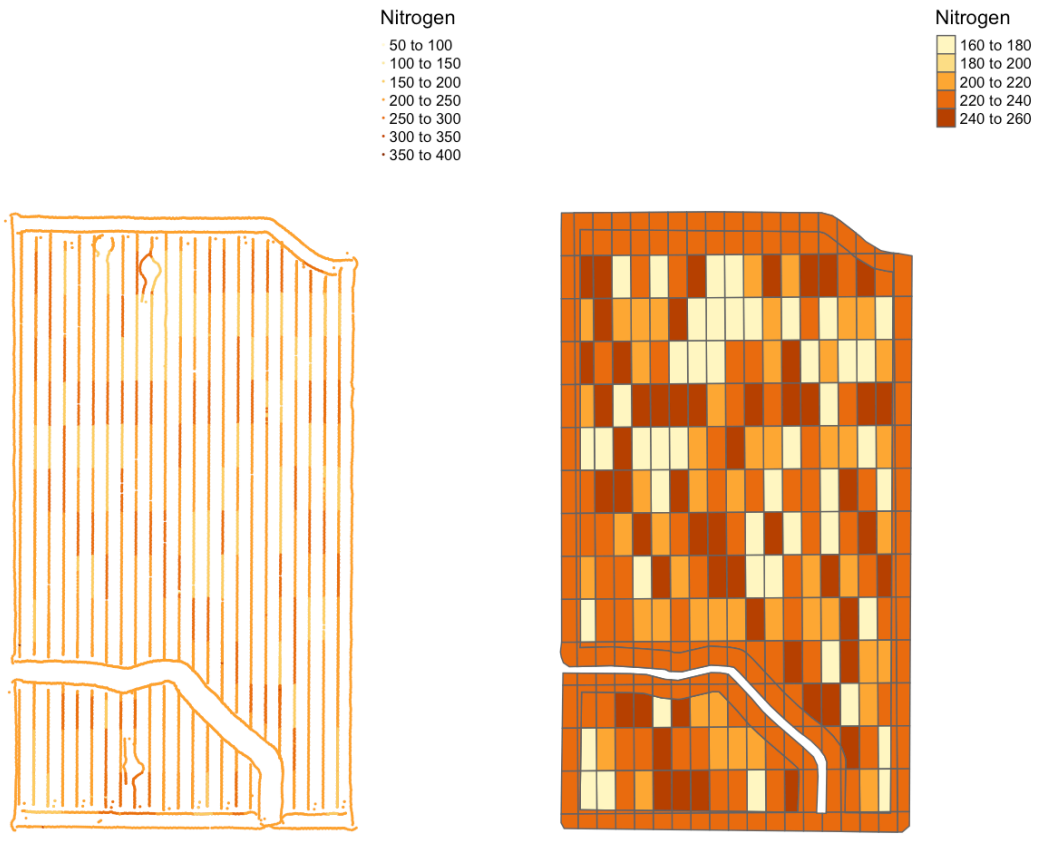
Topics

1. R/R Studio basics
2. Geospatial data (QGIS)
3. Trial design
4. Weather history and soil types

Products


Soil Type
Bennington silt loam, 0 to 2 percent slopes
Bennington silt loam, 2 to 6 percent slopes
Cardington silt loam, 2 to 6 percent slopes
Cardington silt loam, 6 to 12 percent slopes, eroded
Condit-Bennington silt loams
Hennepin-Alexandria silt loams, 18 to 50 percent slopes
Lobdell silt loam
Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes
Shoals silt loam, 0 to 2 percent slopes, frequently flooded

Products


Nitrogen
50 to 100
100 to 150
150 to 200
200 to 250
250 to 300
300 to 350
350 to 400
Nitrogen
160 to 180
180 to 200
200 to 220
220 to 240
240 to 260

Feedback

+ “Good intro to working with spatial data in R”
+ “How using farm data can improve farming operations”
- Needs less emphasis on trials, more hands-on work with QGIS and mapping
- Needs more time working with own data

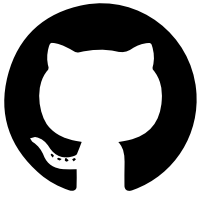
Next Steps

1. Refine focus for field operations
2. Include irrigation-based farming
3. Expand mapping operations and QGIS
4. Retool exercises for working with own data

Credits

1. Dr Lindsay Clark, PI (UIUC HPCBio)
2. Dr Jill Naiman
3. Brittani Edge
4. Aolin Gong
5. Dena Strong

Finding Us



data-carpentry-for-agriculture/
trial-lesson

data-harvesting@illinois.edu