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## **Geospatial Analysis of Precipitation Data and River Networks Using Satellite Imagery**

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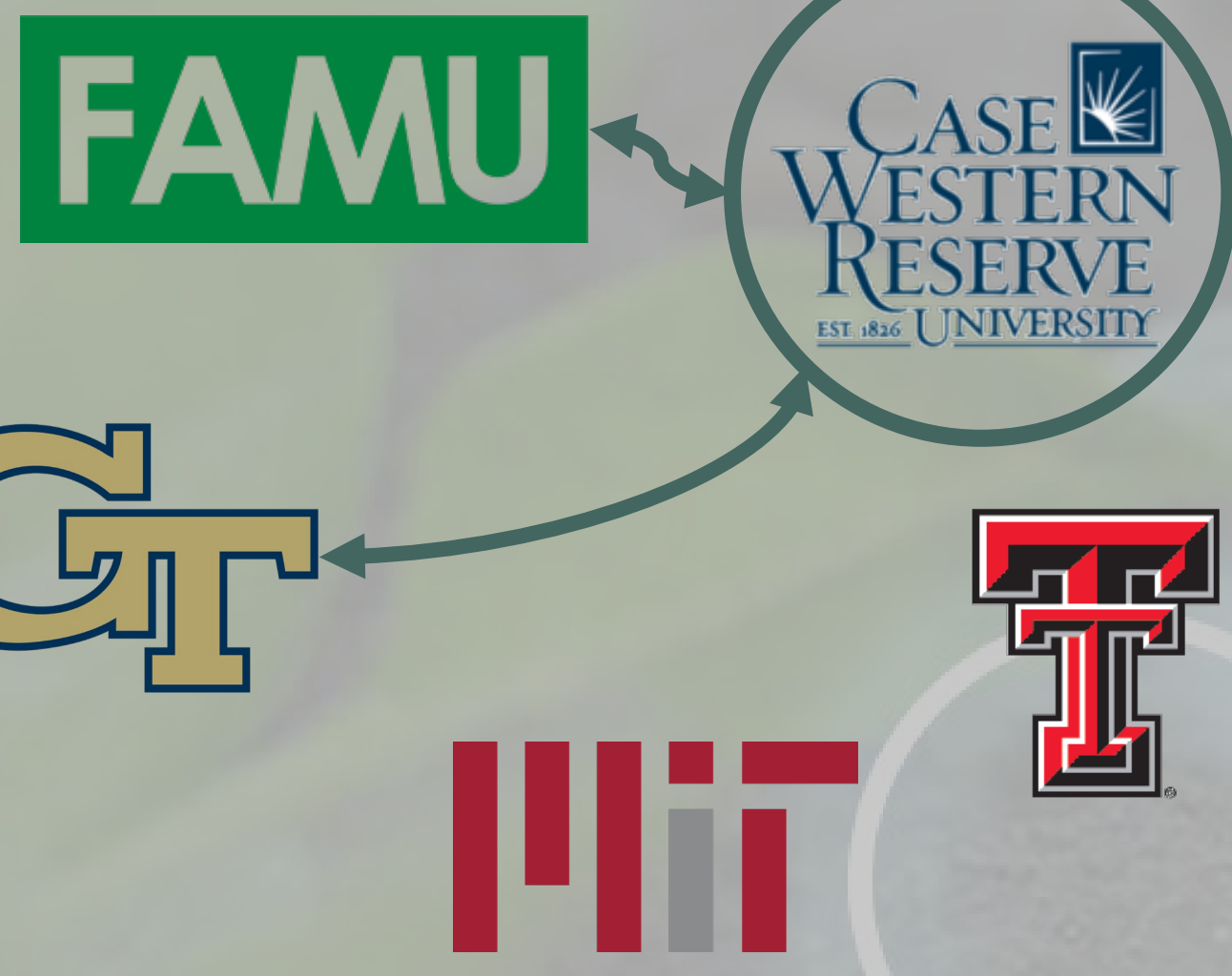
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# Geospatial Analysis of Precipitation Data and River Networks Using Satellite Imagery

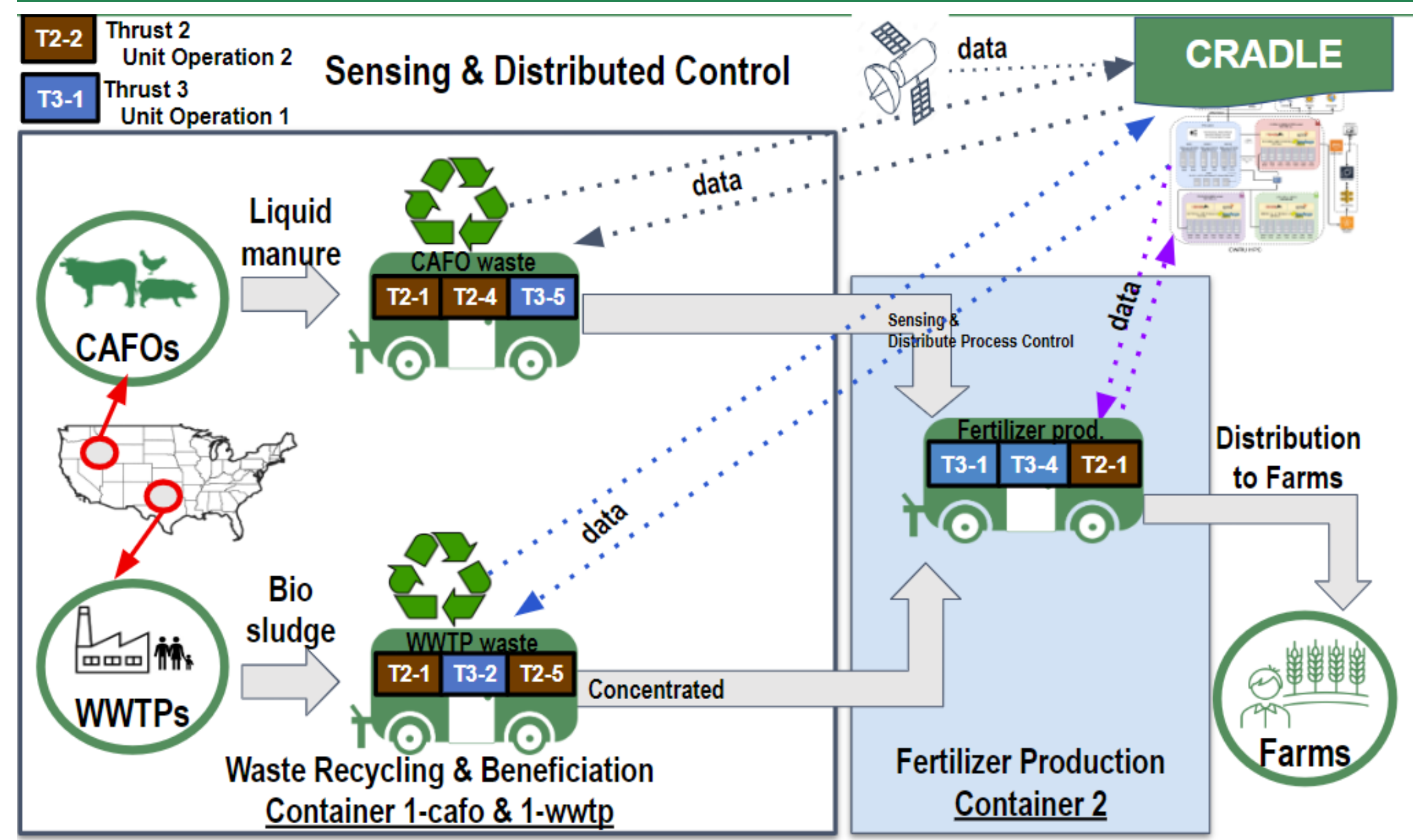
Vibha Mandayam<sup>1,3,4</sup>, Olatunde Akanbi<sup>1,2,4</sup>, Ethan Tobey<sup>1,3,4</sup>, Adaezeogo Ezeogo-Enwo<sup>1,3,4</sup>, HyangMok Baek<sup>1,3,4</sup>, Atharva Gupta<sup>1,3,4</sup>, Laura Bruckman<sup>1,2,4</sup>, Erika I. Barcelos<sup>1,2,4</sup>, Roger H. French<sup>1,2,3,4</sup>

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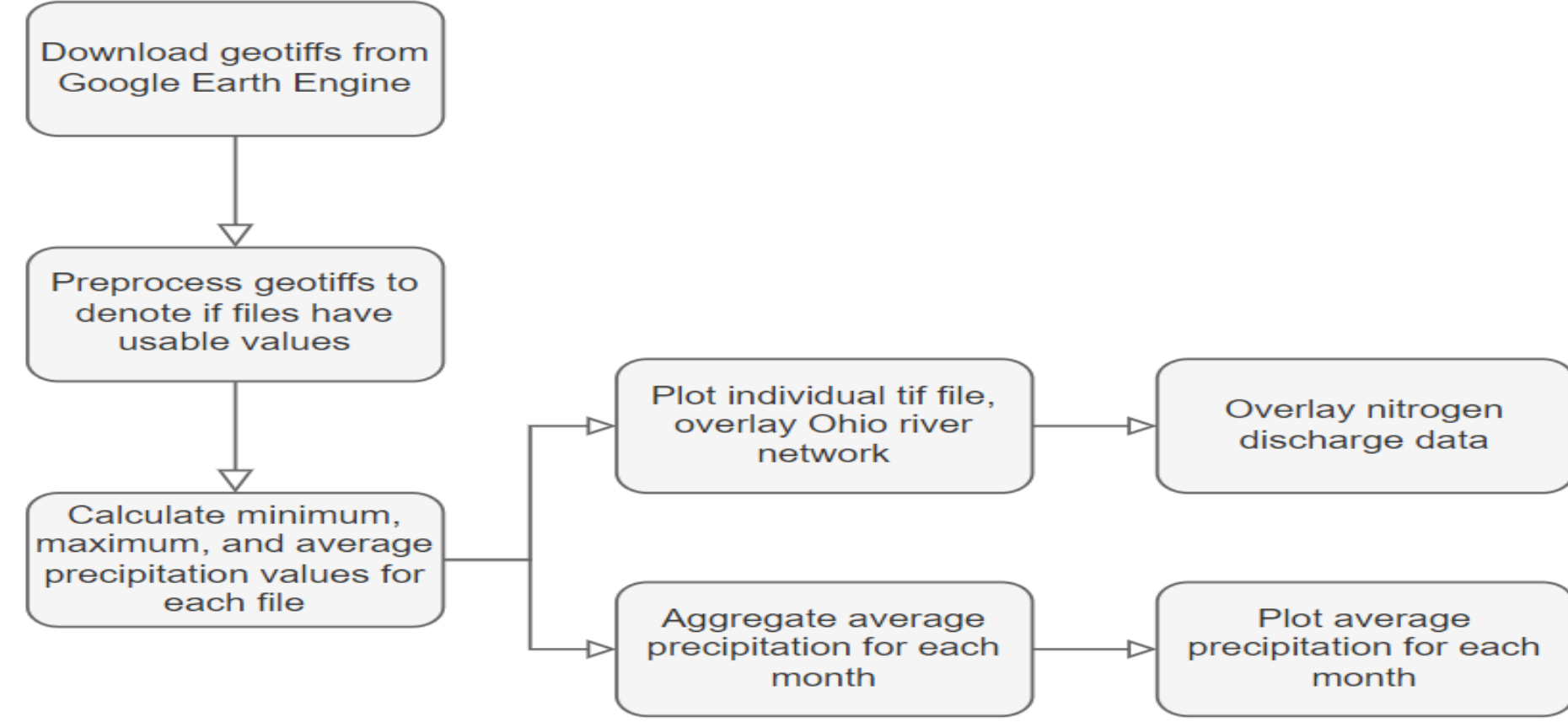
## Introduction



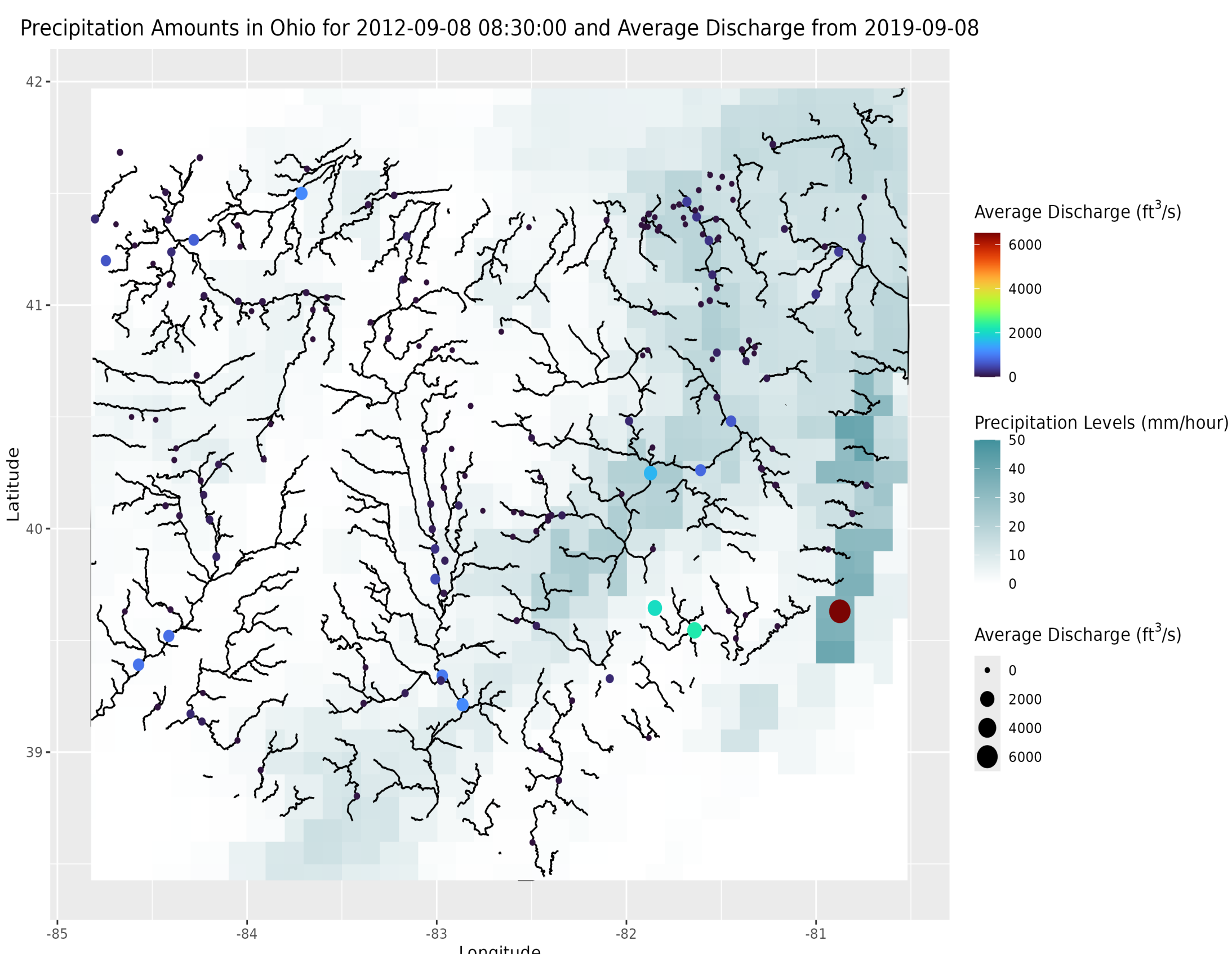
### Objectives:

- Understand how precipitation can be used by farmers to predict land use
- Explore how precipitation interacts with physical and chemical properties obtained from stream gauges
- Understand how precipitation contributes to continual runoff from CAFOs/WWTPs into streams

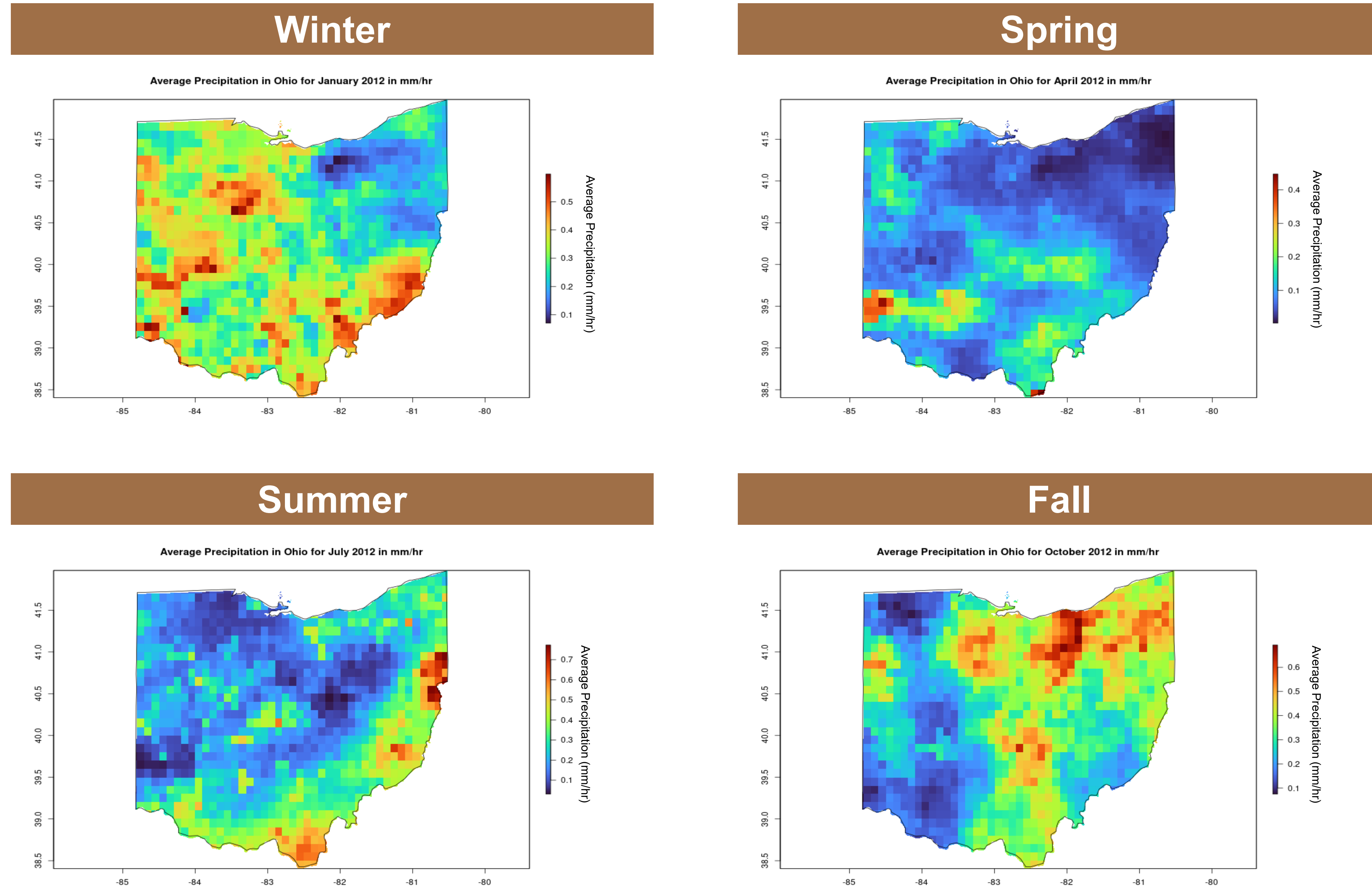
## Methodology



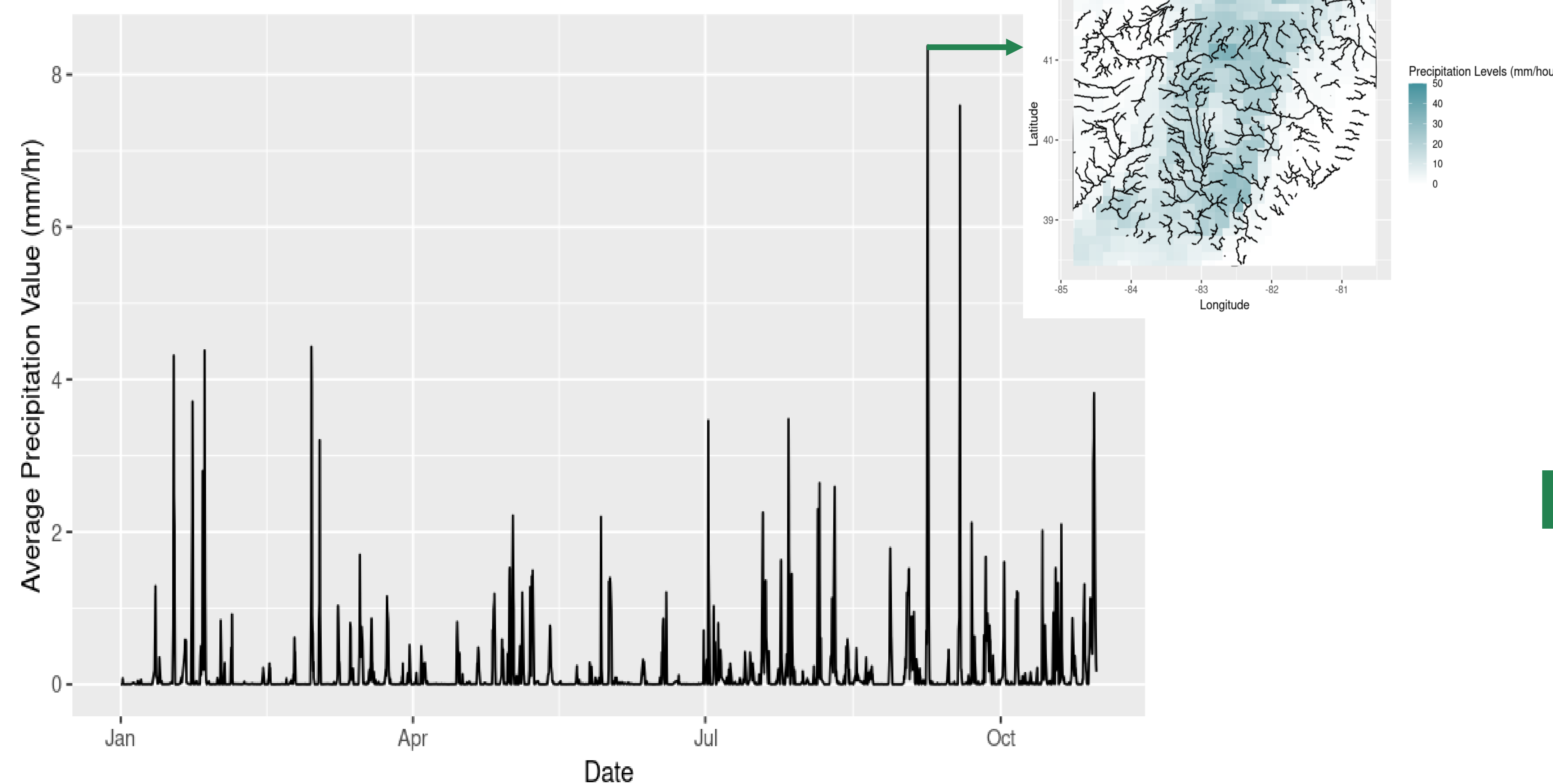
## Results: Precipitation



## Results: Averaged Monthly Precipitation



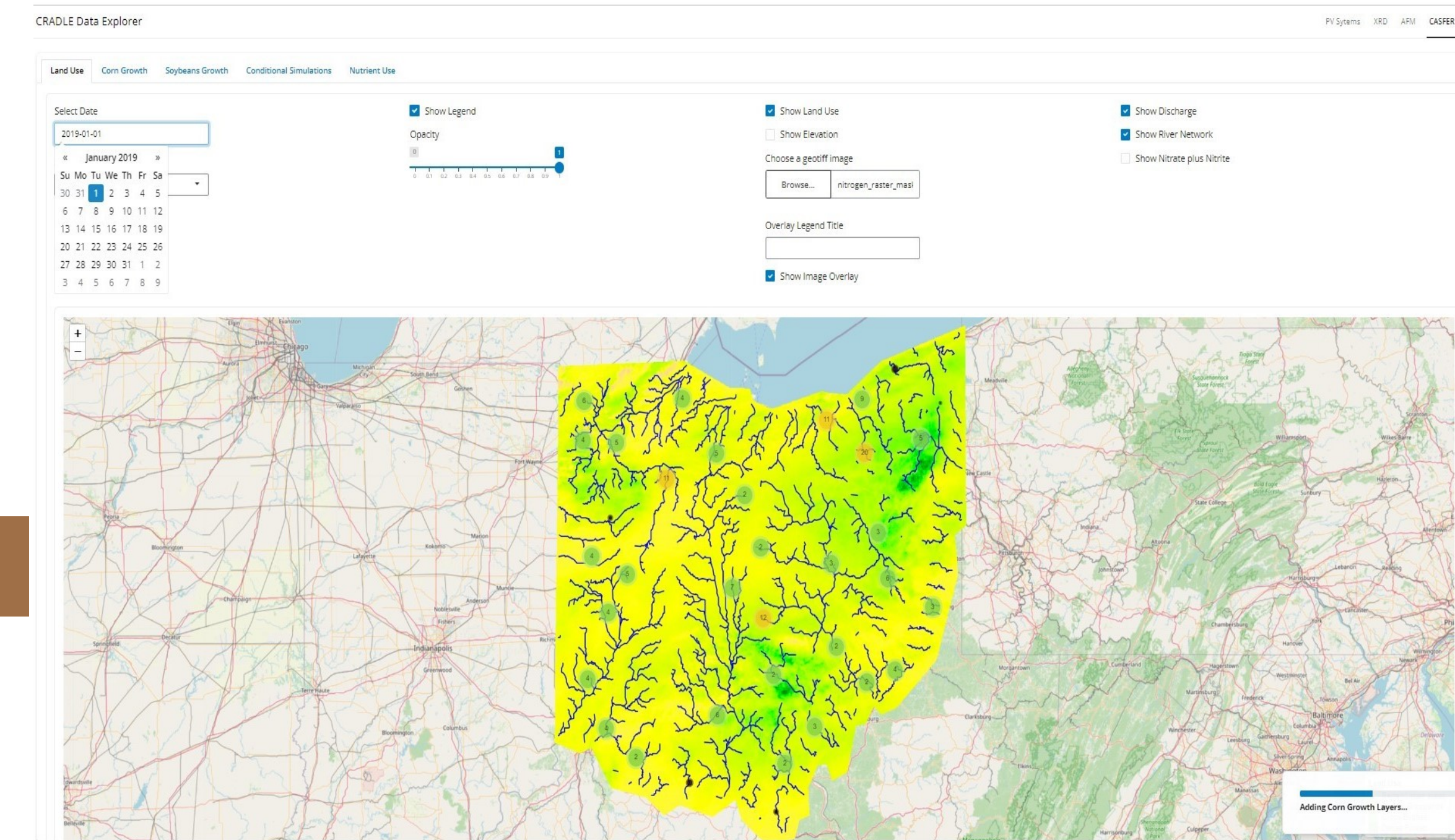
Average Precipitation Value Over Time in Ohio in 2012



## Conclusion

### Future Work:

- Study the impact of precipitation on crop growth and nutrient flow
- Integrate precipitation data into CRADLE Data Explorer seen below:



## Acknowledgement

This material is based upon work supported by the National Science Foundation under Grant No. 2133576.

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## References

1. Huffman, G.J., E.F. Stocker, D.T. Bolvin, E.J. Nelkin, Jackson Tan (2019), GPM IMERG Final Precipitation L3 Half Hourly 0.1 degree x 0.1 degree V06, Greenbelt, MD, Goddard Earth Sciences Data and Information Services Center (GES DISC), [10.5067/GPM/IMERG/3B-HH/06](https://doi.org/10.5067/GPM/IMERG/3B-HH/06)

## Thrust Interactions

