GEOMaize: Using Earth Observation for Maize Yield Estimation in Ghana

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Project description

Agriculture drives Ghana's economy; maize is a key food and cash crop

- Maize accounts for % of Ghana's agricultural GDP and is a staple food
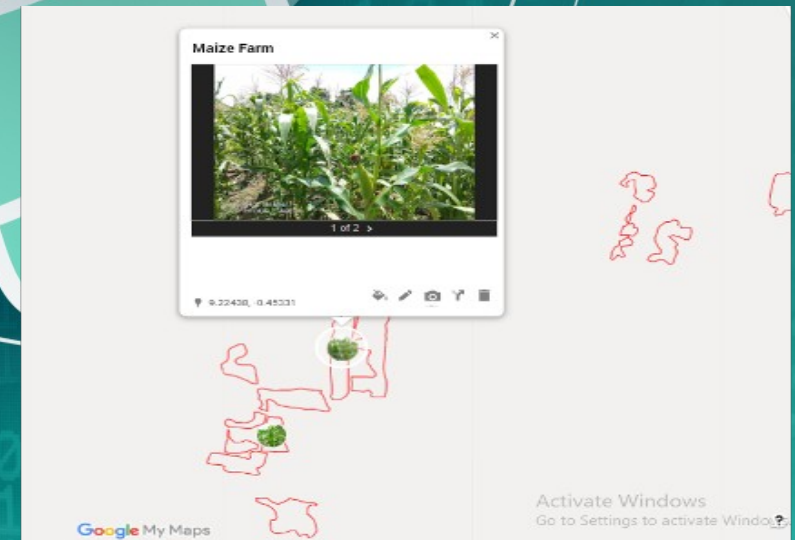
Huge yield gap:

- Weather variability
- Soil conditions
- Farming practice diversity

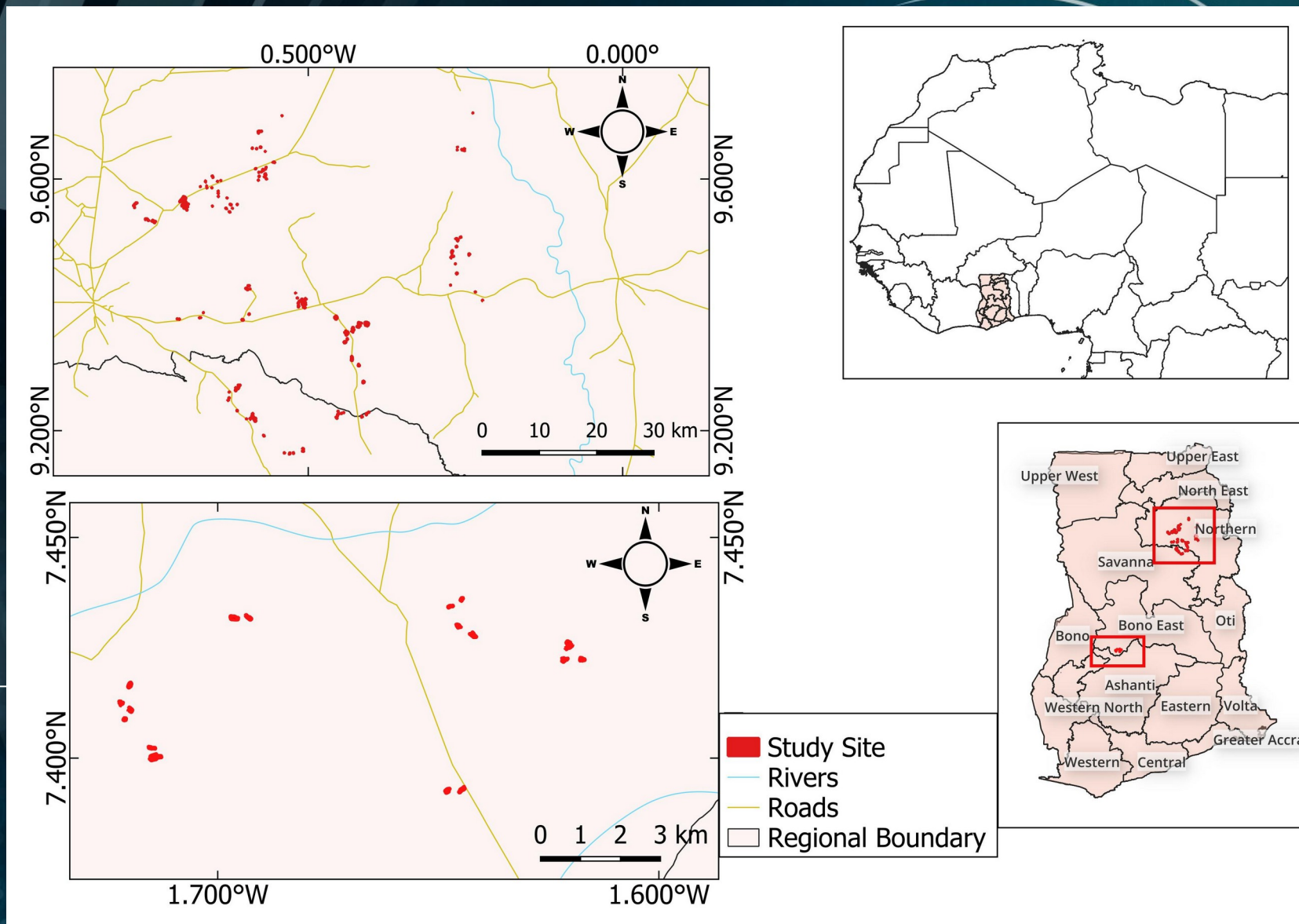**Yield estimation is difficult due to Current methods:**

- Manual surveys
- Costly
- Often imprecise

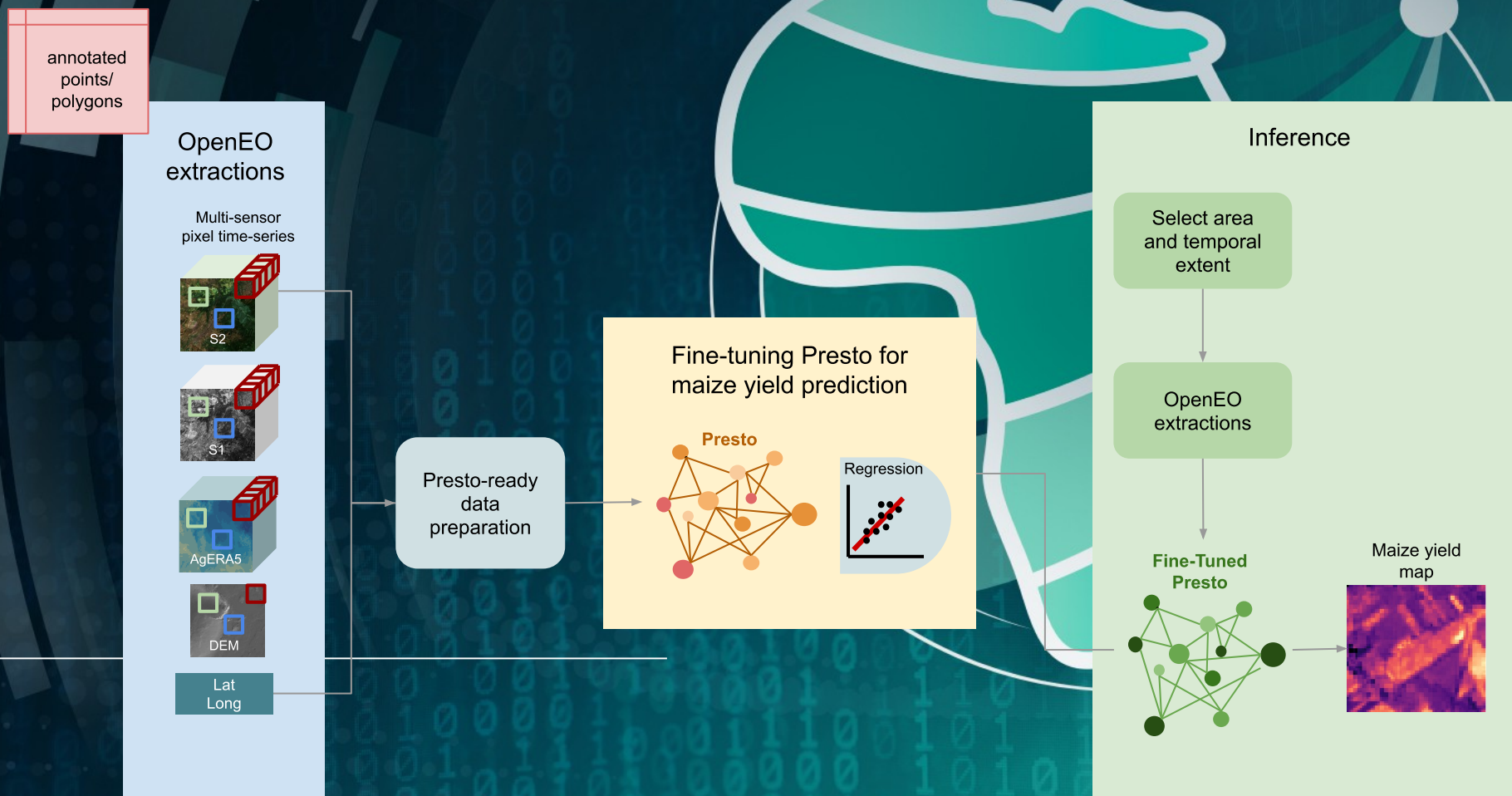**Accurate yield prediction (at the end of the season) is crucial for:**

- Policymaking
- Resource management
- Food security
- Supply chain stability

Study area description

Maize yield prediction pipeline

Project activities

Field data collection
- July/August field work
- October/November (VITO visit to Ghana)

Model calibration
- Satellite data extractions
- Presto model finetuning
- GSSTI onboarding in the methods

Towards end-of-season yield mapping
- Setting up inference pipeline
- Produce maps for Ghana

Facing challenges
- Past data quality issues: lack of quadrant geolocation, resolution
- Clouds during growing season
- Mapping of maize fields

Project setup
- Bi-weekly project meeting
- Planned visit in Q4 2025

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