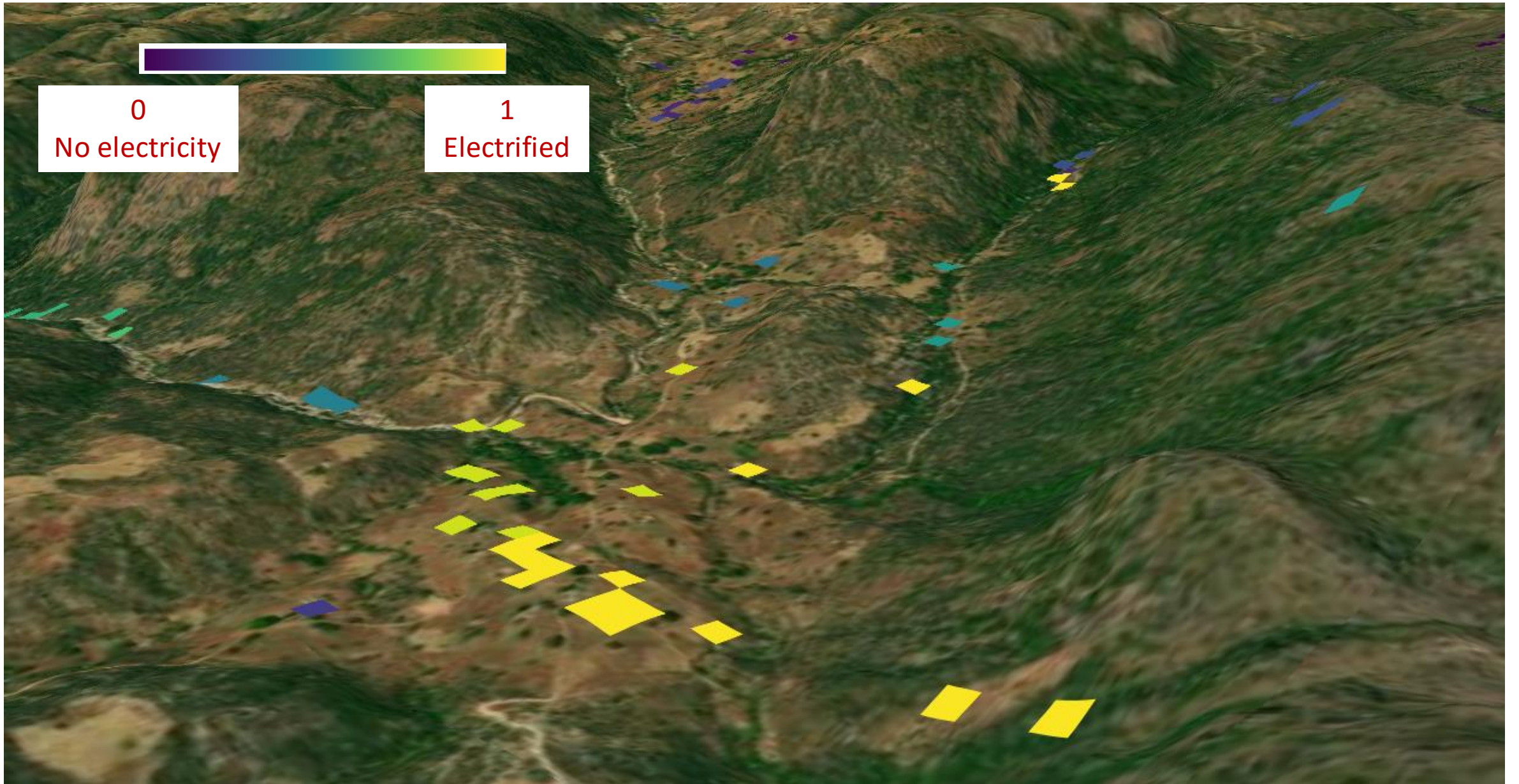


Forecasting HREA (High  
Resolution Electricity Access)  
in partnership with IBM



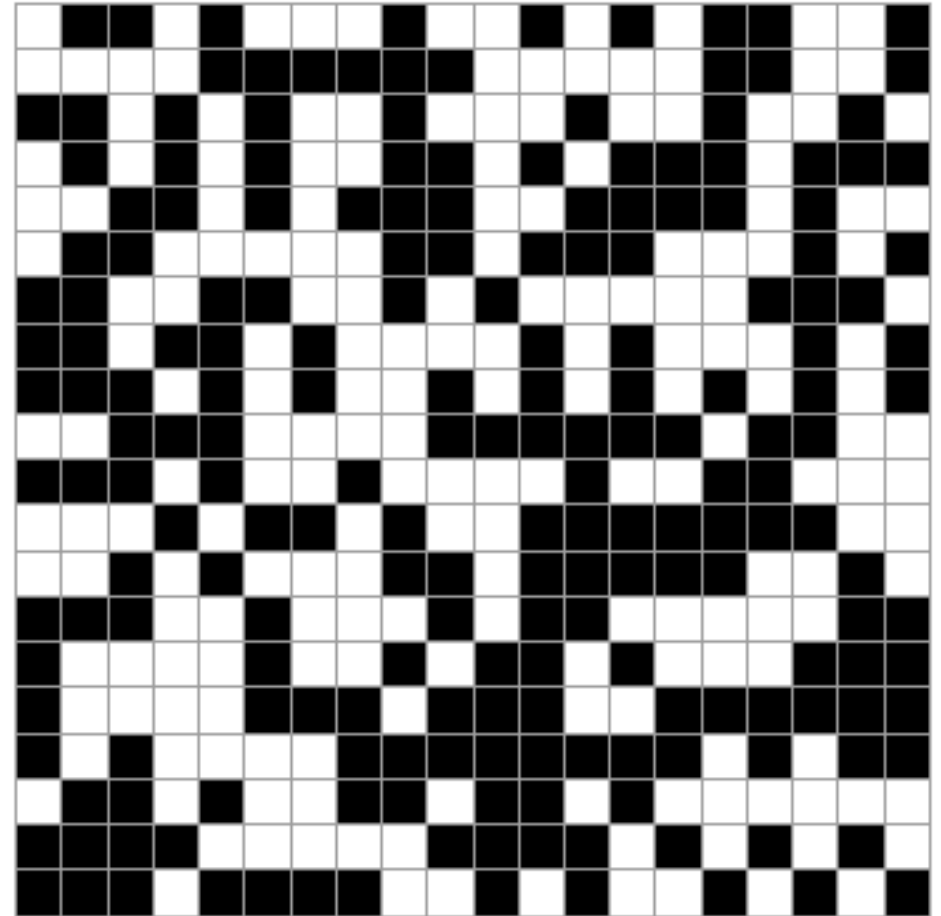
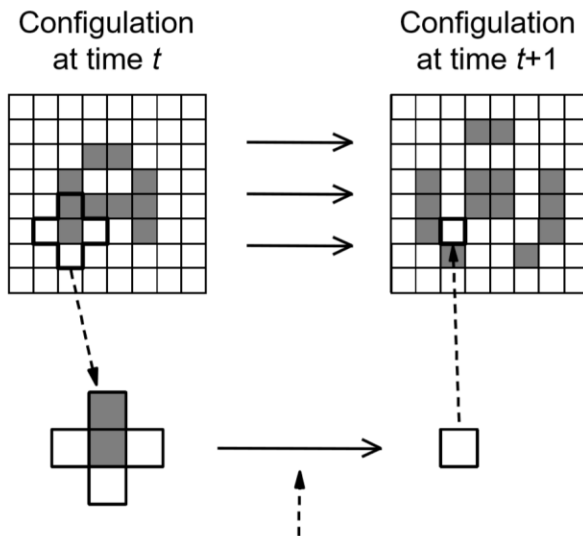
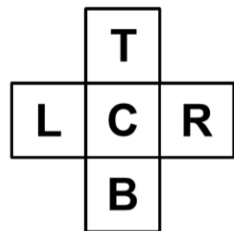
0  
No electricity

1  
Electrified

# Cellular Automata

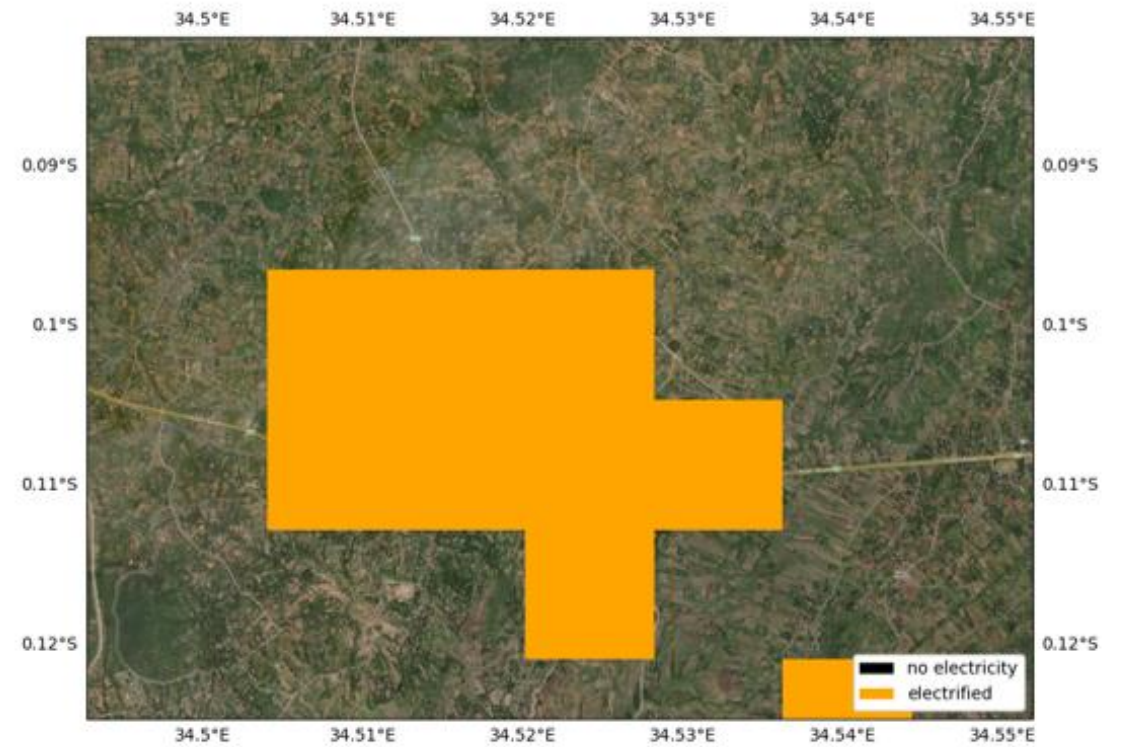
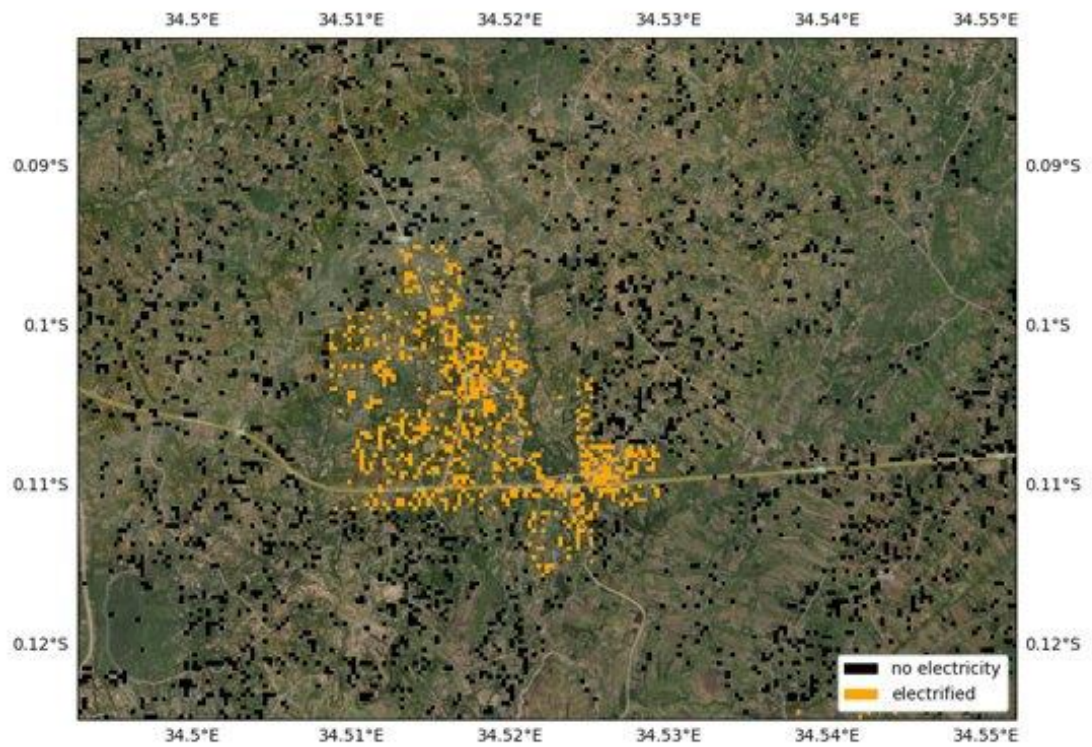
Cellular automata (CA) are simple models that can simulate complex processes in both space and time.

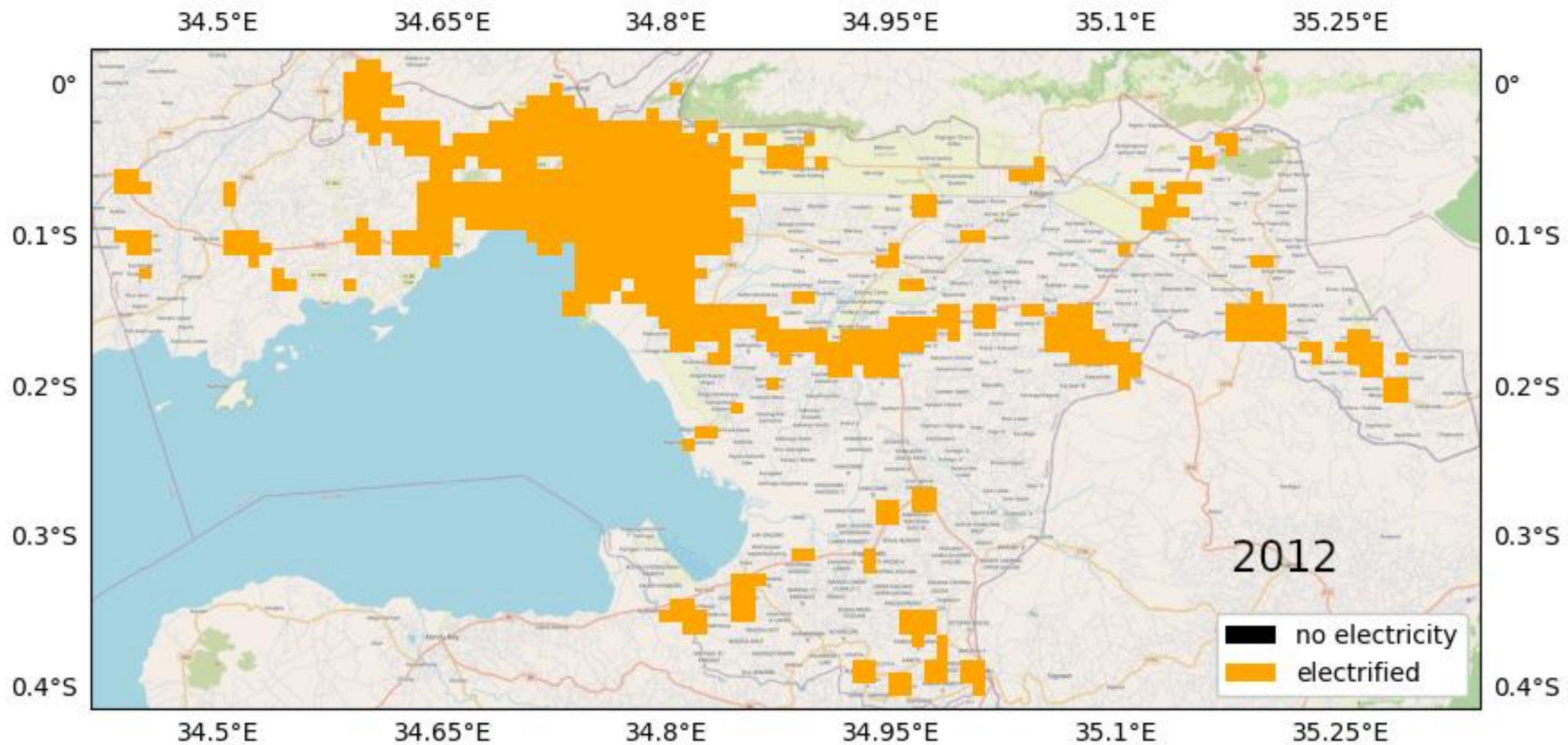
Neighborhood



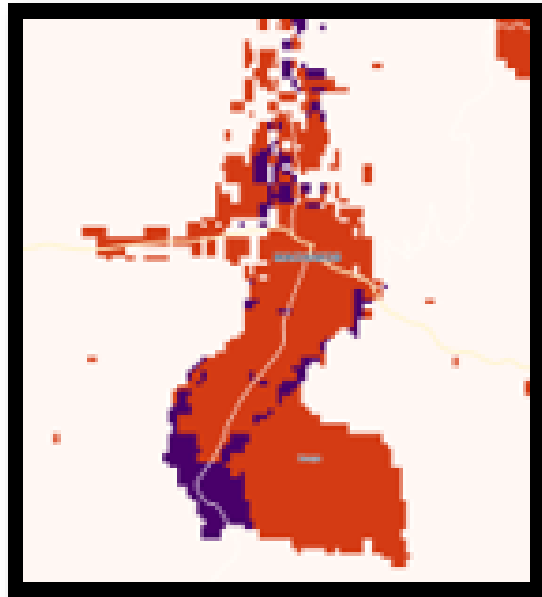


# Aggregation





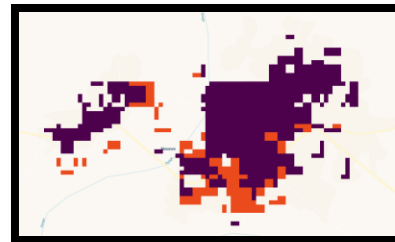
Too complex => 2 levels of prediction



National and regional

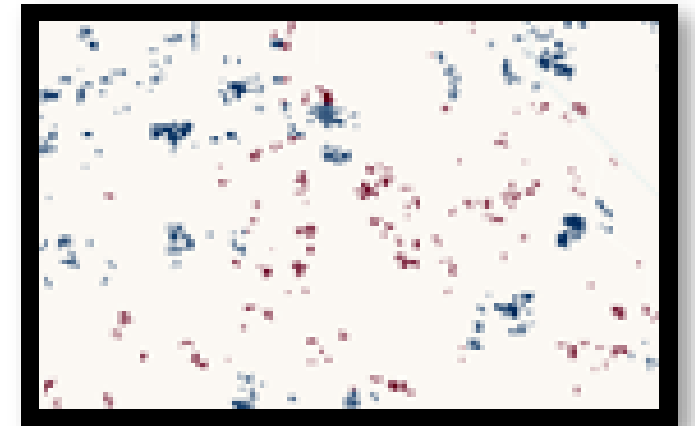
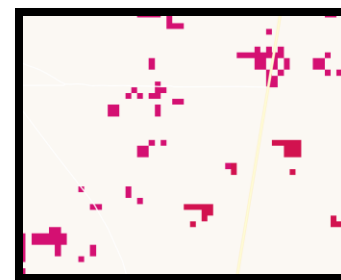
Large scale

Built up areas  
forecast

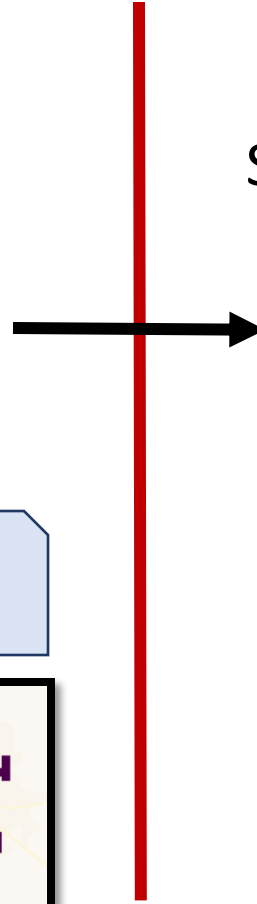


Small scale

Predicted  
buildings



Local





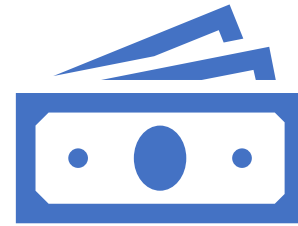
# Status



## Large scale forecasting

Validation

Testing



## Small scale forecasting

Not there yet

Only if more resources are allocated

# State

- Garage phase – DONE
- Implementation – large scale model (60%)
  - UNDP - leading
    - Concept
    - architecture,
    - data
    - implementation (limited nowadays)
    - run at scale (97 countries)
  - IBM
    - data
    - implementation
    - testing
    - run at scale (97 countries)
- More resources (skilled people) are necessary