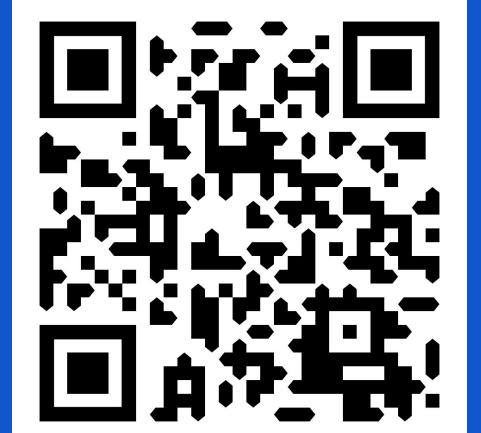


# MAPPING GLOBAL SNOW SENSOR USABILITY

H43N-2255

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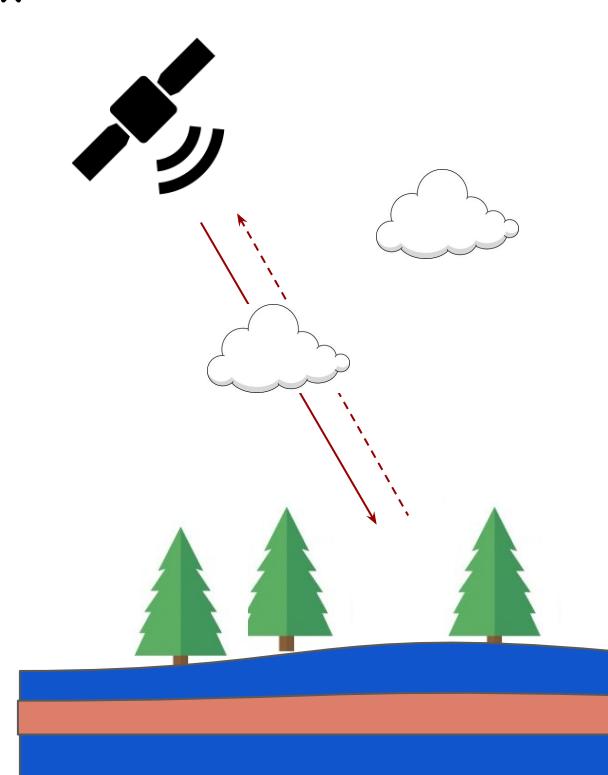
## MOTIVATION

We want to know where snow is, how much snow there is.  
**Where in the world can we use passive microwave  
and optical sensors to detect snow properties?**

However, with great power, comes great ... obstacles

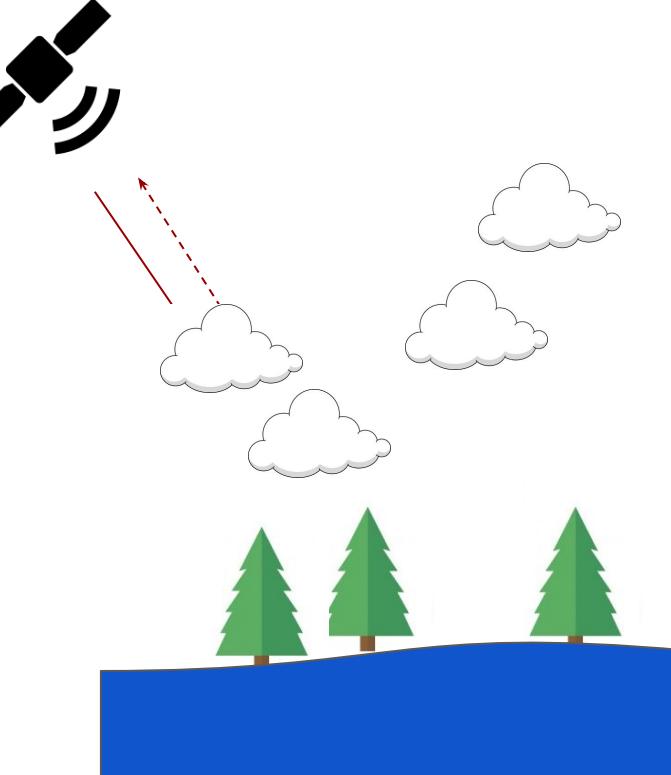
### Passive Microwave

- Tree Canopy Cover
- Liquid Water Content in snowpack
- Snow Depth/SWE
- Topography
- Resolution\*

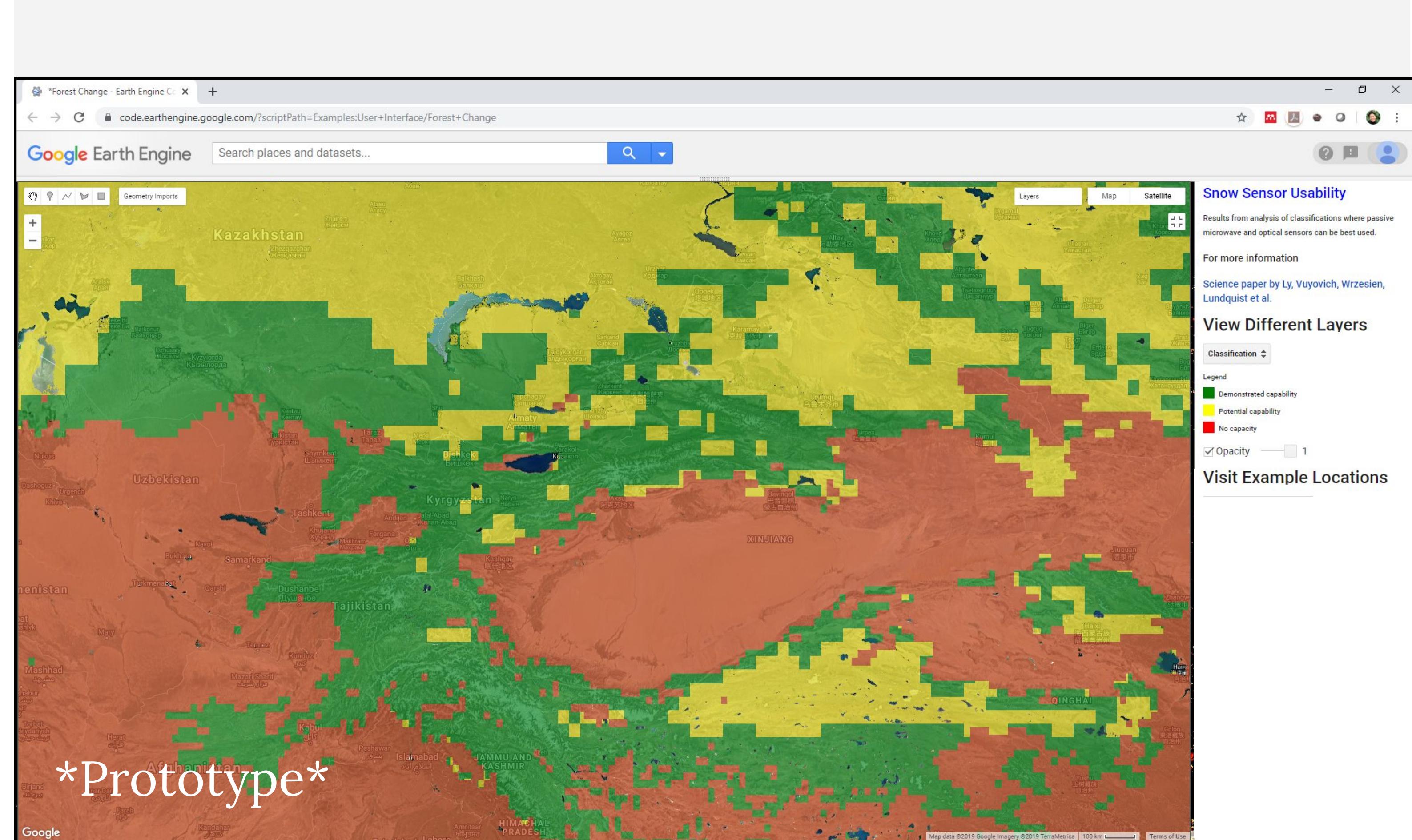


### Optical

- Cloud Cover
- Tree Canopy Cover
- Retrieval and Resolution tradeoffs

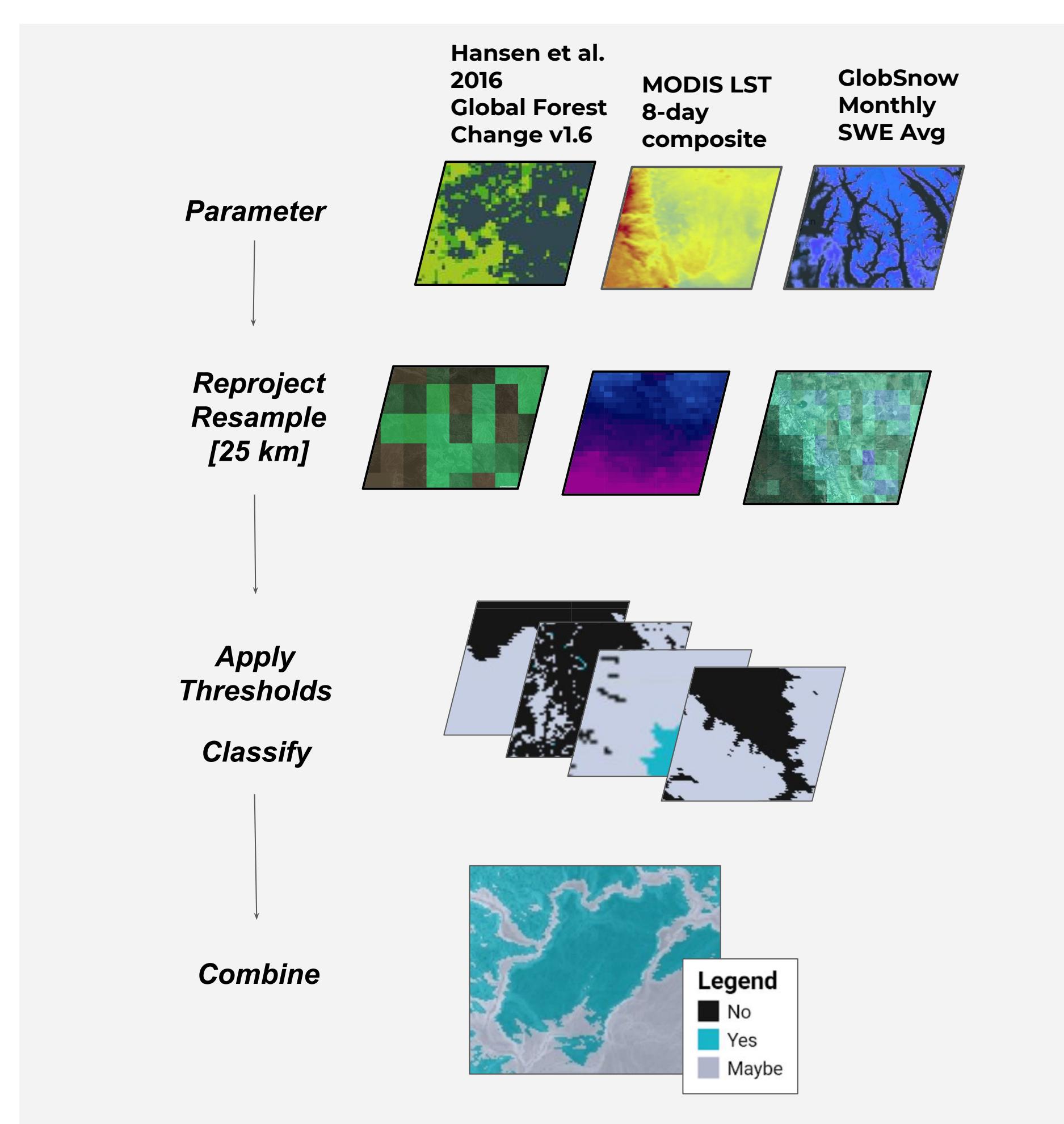


## INTERACTIVE TOOL

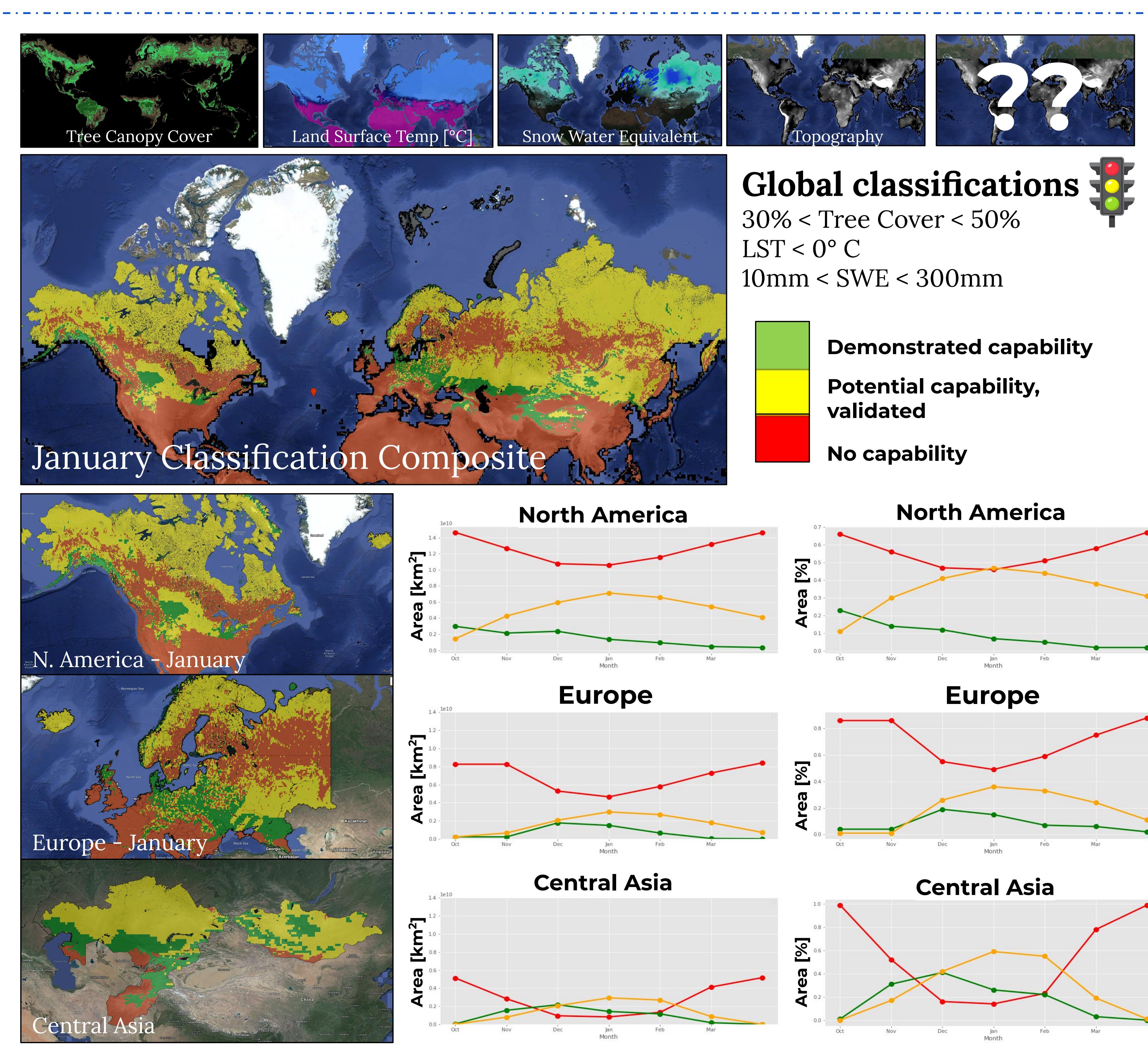


User can adjust thresholds to visualize changes in classifications  
(e.g. where do PM sensors work with <30% Tree Cover?)

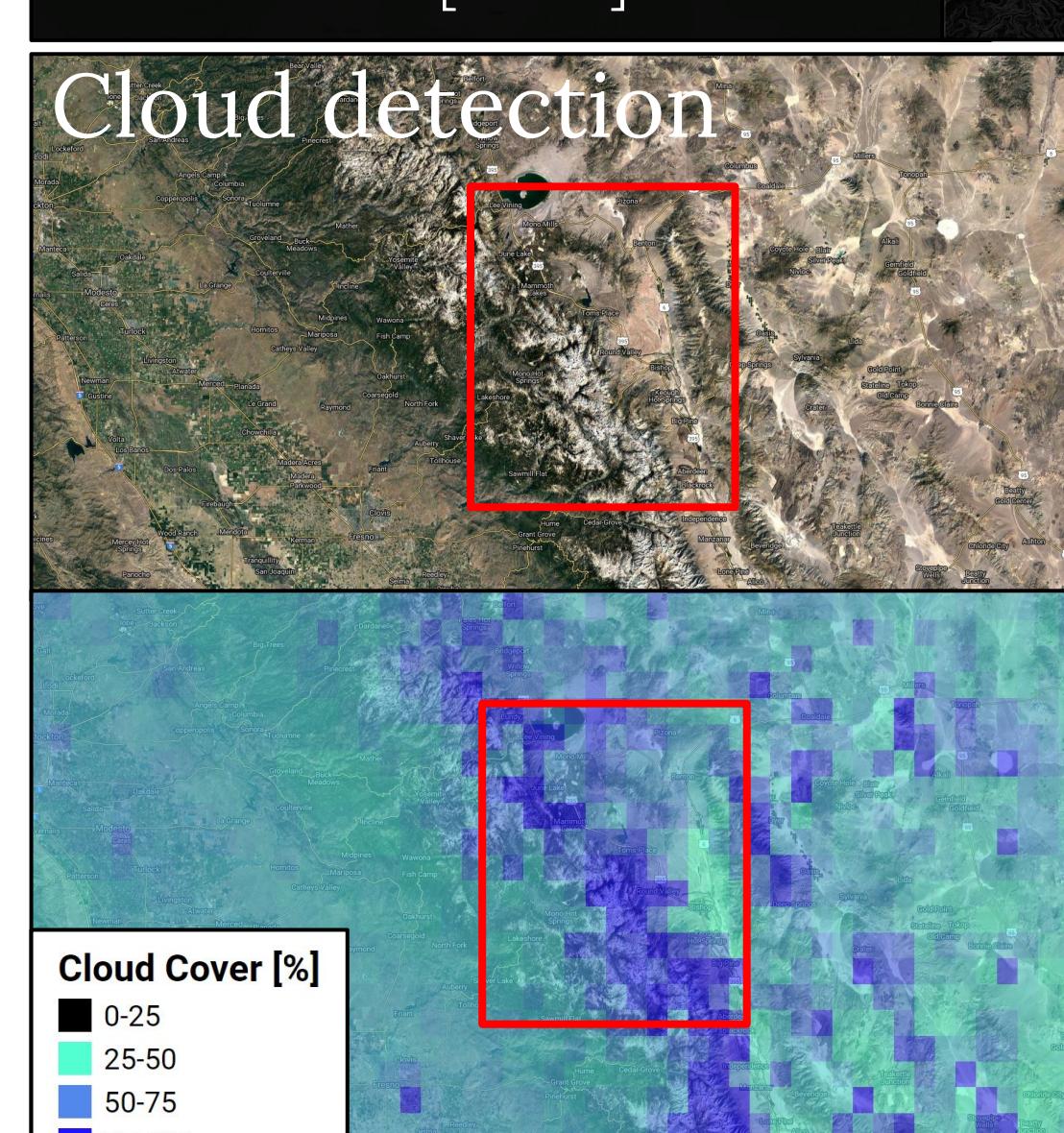
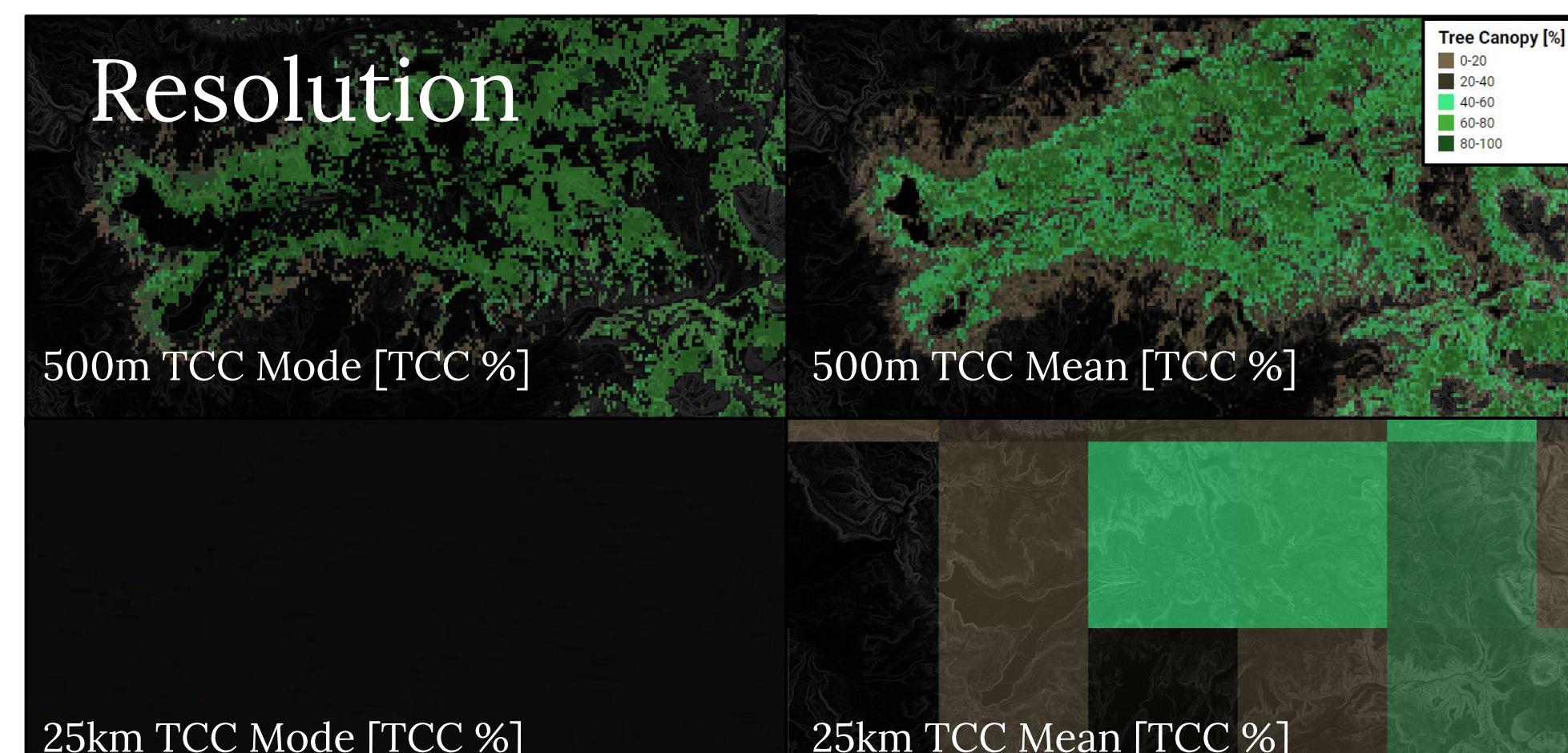
## METHODS



## RESULTS & APPLICATIONS



## CONSIDERATIONS



**Spatial Resolution [Resampling]**  
- 25km for PM  
- 1km for Optical

**Cloud detection**  
- Cloud/snow  
- Bright surfaces

**Temporal Resolution**  
- Daily → monthly

## NEXT STEPS

- Representing topographic heterogeneity, liquid water content?
- Global classification calculations
- Comparison to snow observations from IMS (Suggestions welcome!)
- User interface, usability

