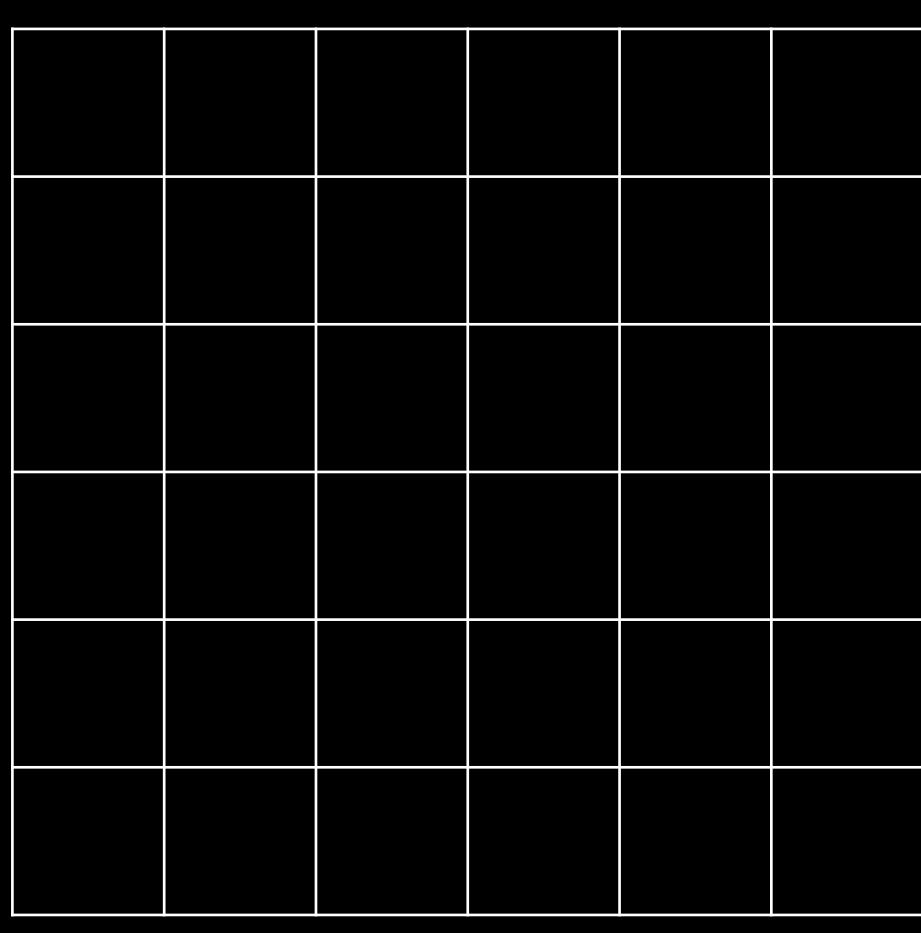
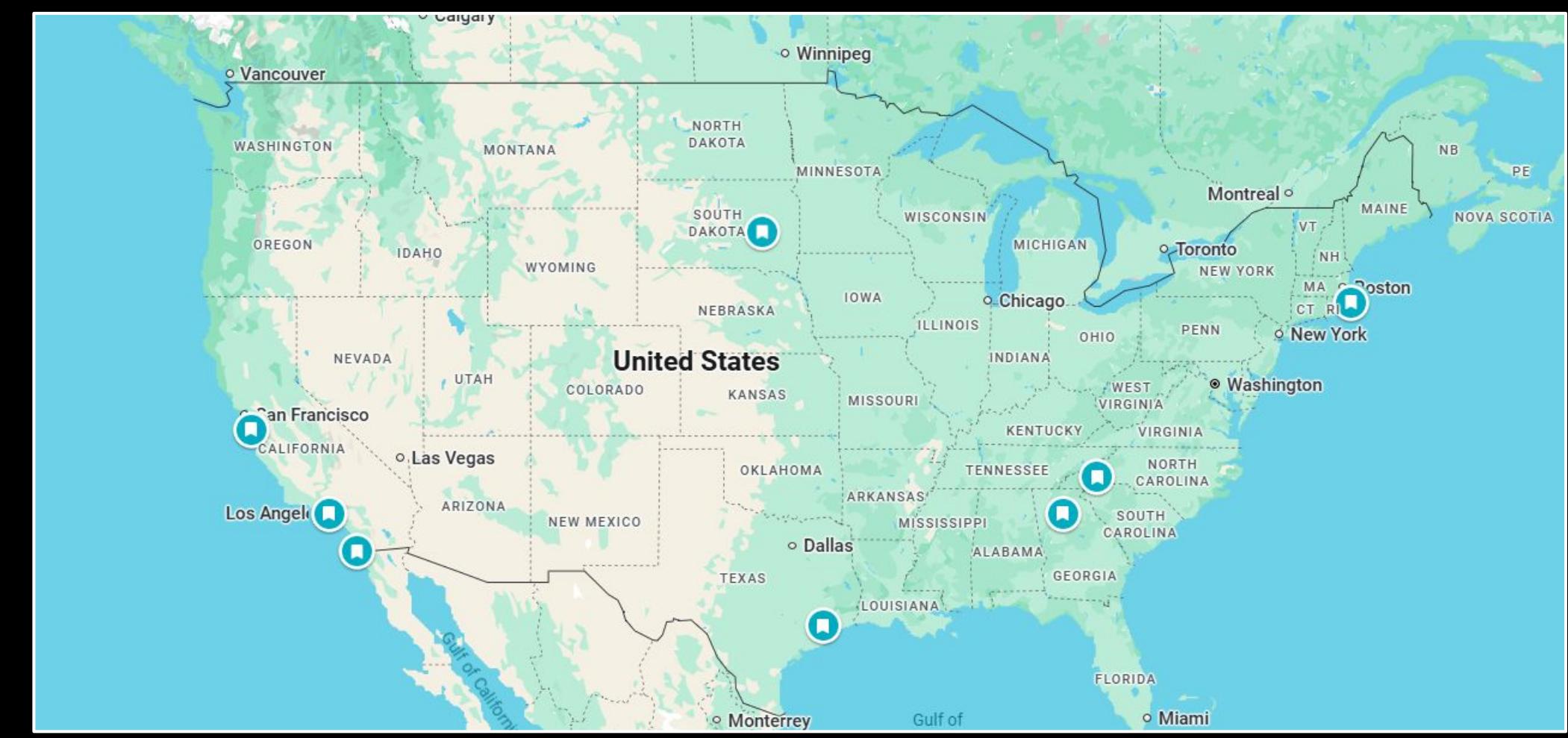


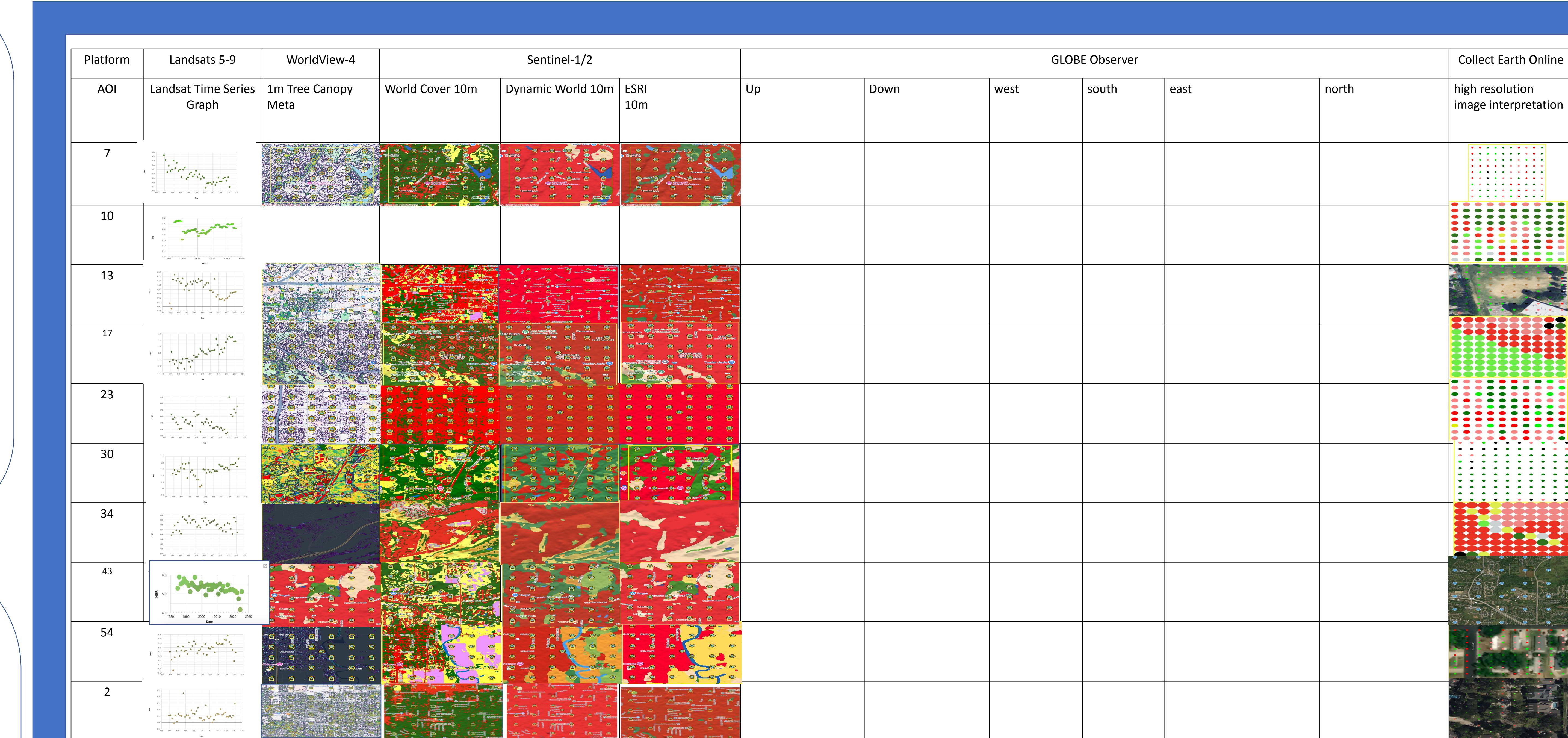
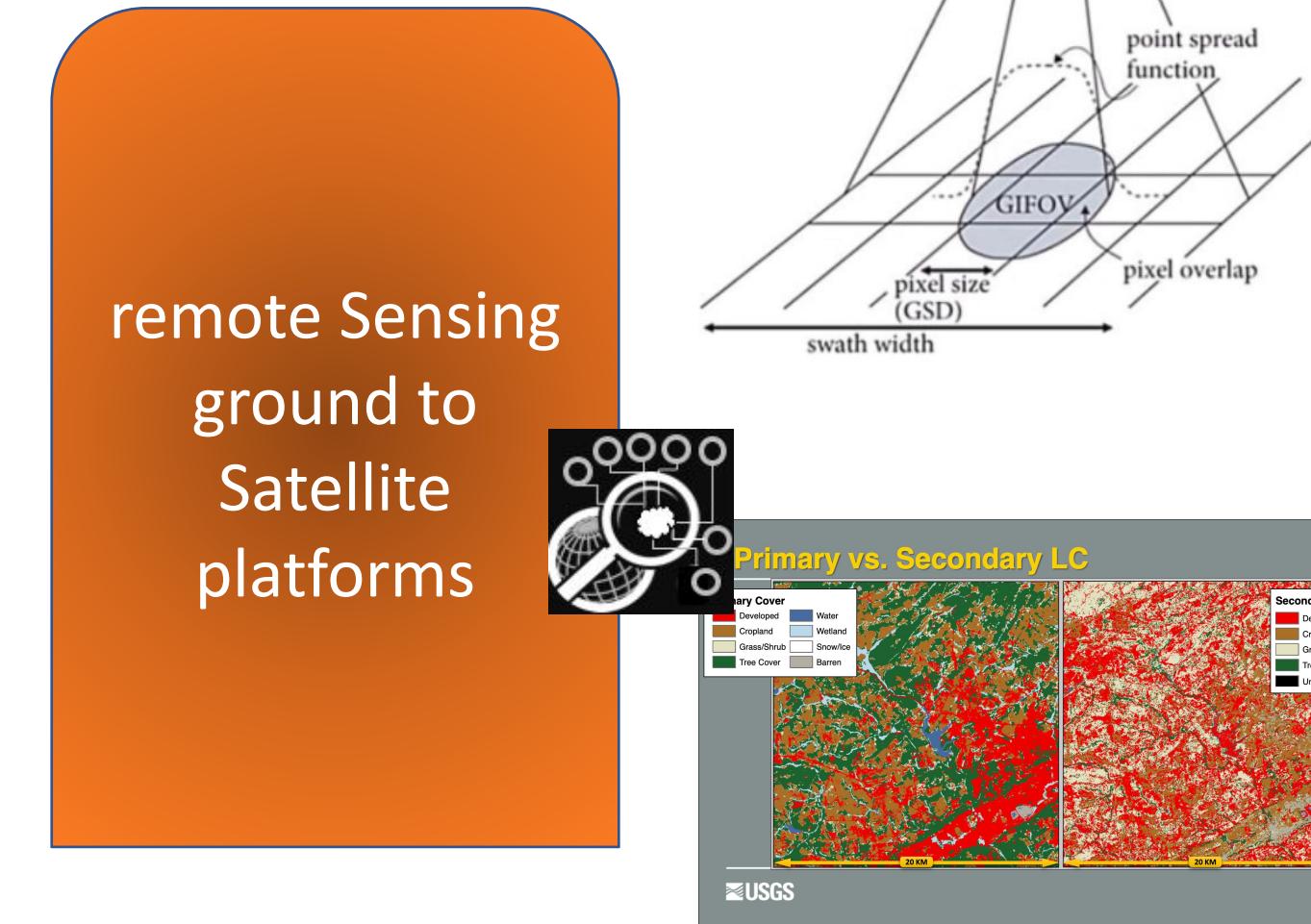
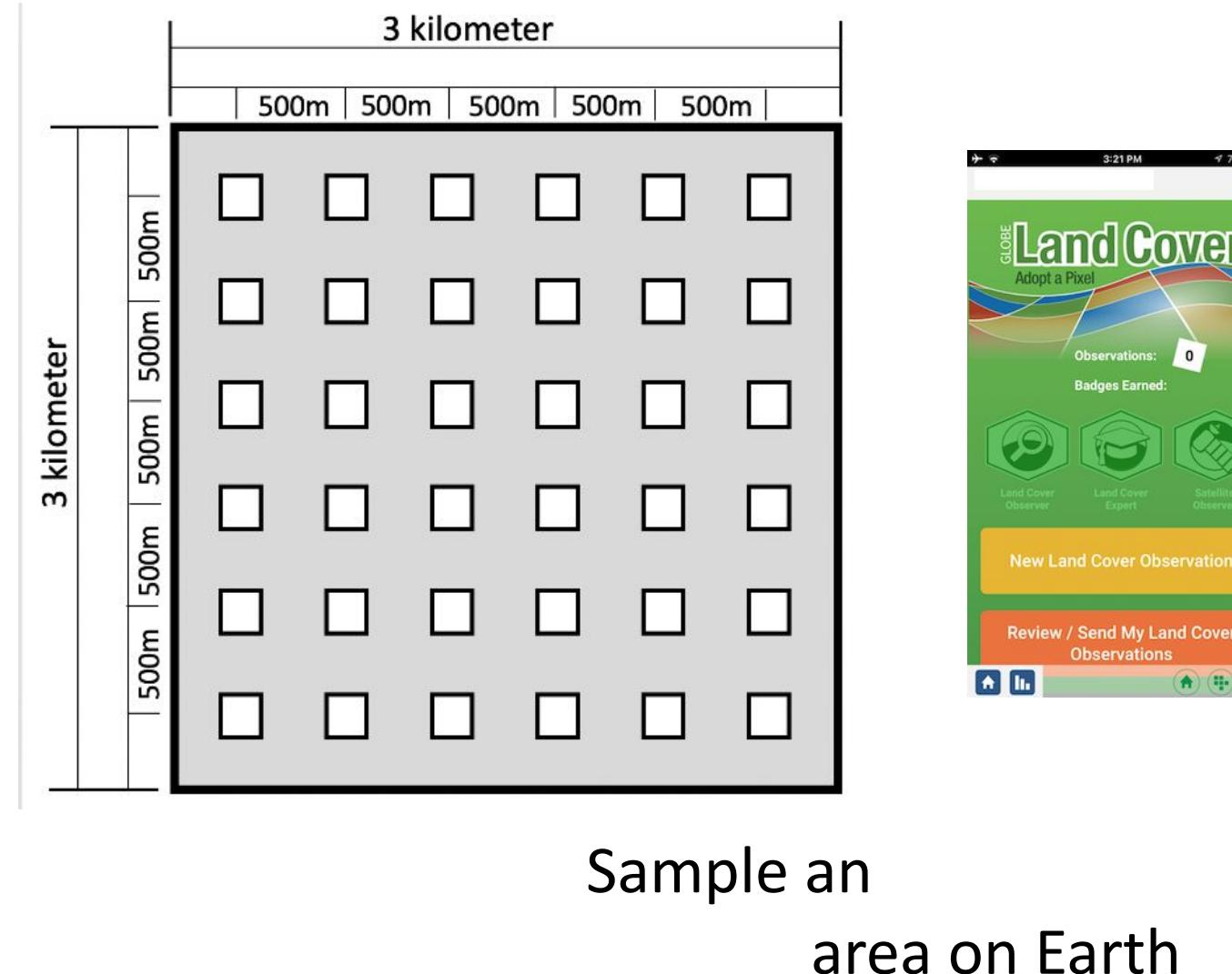
Aggregation Summarizing multiple locations:

Cumming, GA; Plymouth, MN; Asheville, NC; Huron, SD; San Diego, CA; Los Altos, CA; Van Nuys, CA; Houston, TX

Elle Bates
(ORCID)



AaP3Km methods



Discussion Summary

GeoAI accurately identifies broad landcover types but struggles in mixed or human-altered areas. This is especially true about the ESRI and Dynamic World datasets, though the precision of the Tree Canopy Meta and World Cover allow them to be more accurate. Part of this is due to the constantly evolving landscape of urbanized areas, as many of our data has been collected in different years. These discrepancies point to a need for more diverse training data and improved resolution in AI models. Citizen science platforms like GLOBE provide valuable ground-truth data that can help close this gap, especially when paired with location metadata and high-quality imagery.

Result Summary

Overall, GeoAI landcover classifications aligned with GLOBE Observer photos mostly, particularly in uniform natural environments such as forests and grasslands. In contrast, discrepancies were most common in suburban and agricultural transition zones, where on-the-ground images revealed mixed landcover types that the AI did not fully capture. For example, in AOI point 54, which is located in South Dakota, the data agrees. But in AOI point 7, which is located in Eastchester, New York, the data does not agree.

References