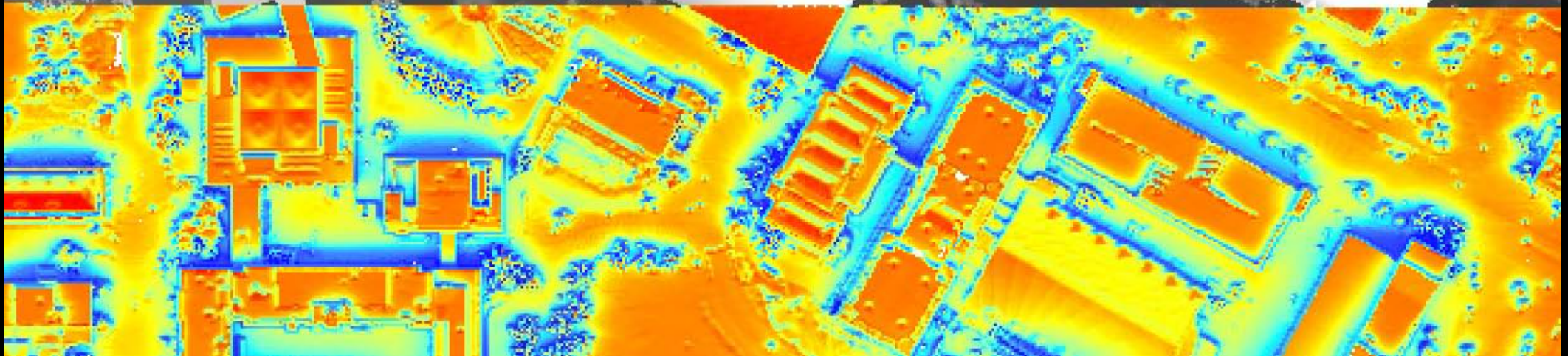




Mapping Solar Potential Using LiDAR and GIS

Graduate Research Project
University of Minnesota – MGIS Program



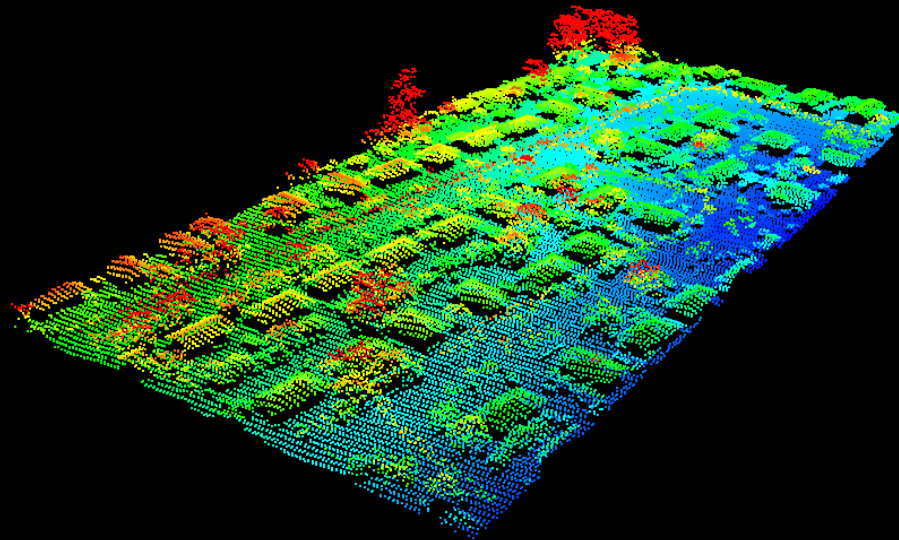
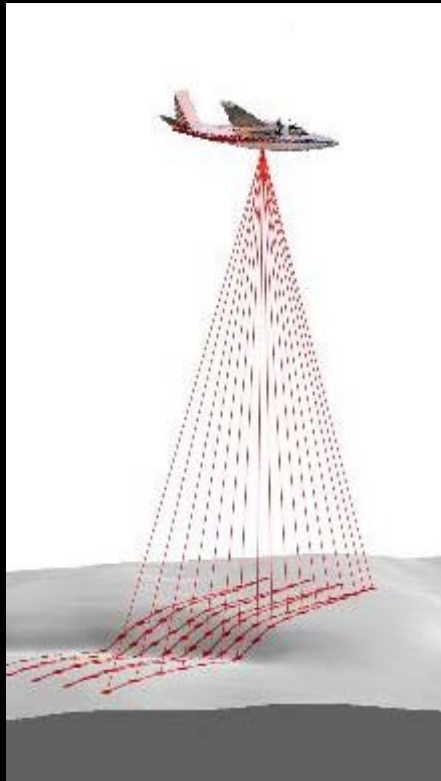
Project Outline

- Goals
 - Map statewide solar potential
 - Free public distribution of maps, data, methodology, and findings
- Resources
 - Geographic Information Systems (GIS)
 - LiDAR data
 - MN Supercomputing Institute
 - Advice from stakeholders and experts

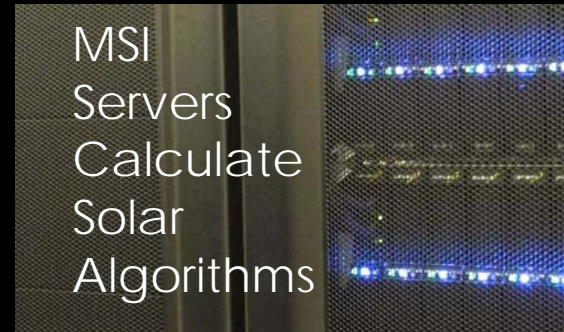
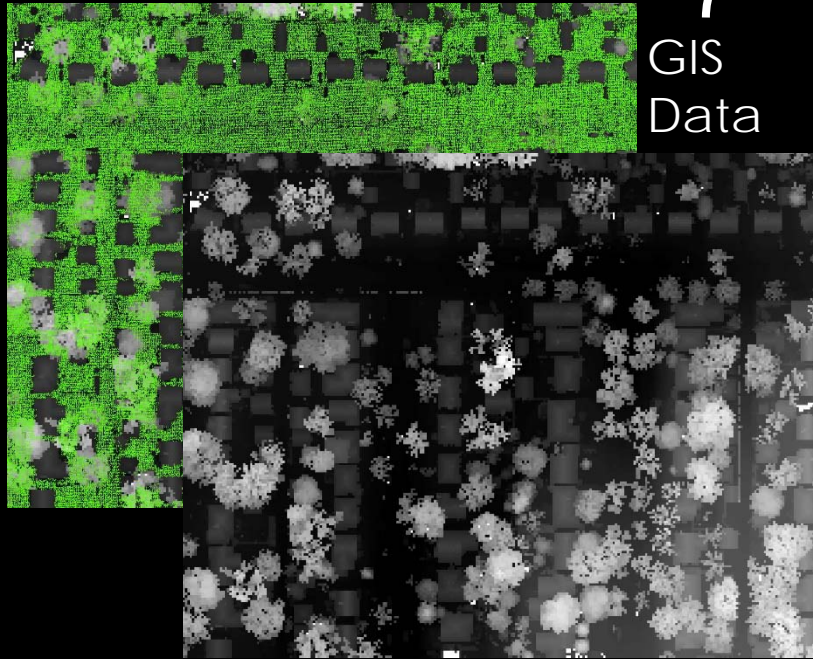


What is LiDAR?

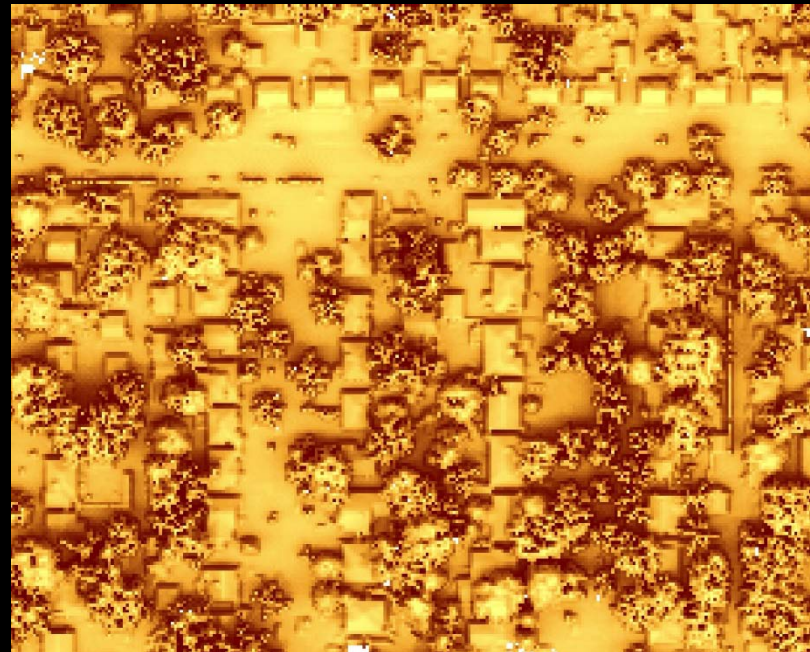
- Light Detection and Ranging
- Accurate 3D models of the landscape



Solar Analysis

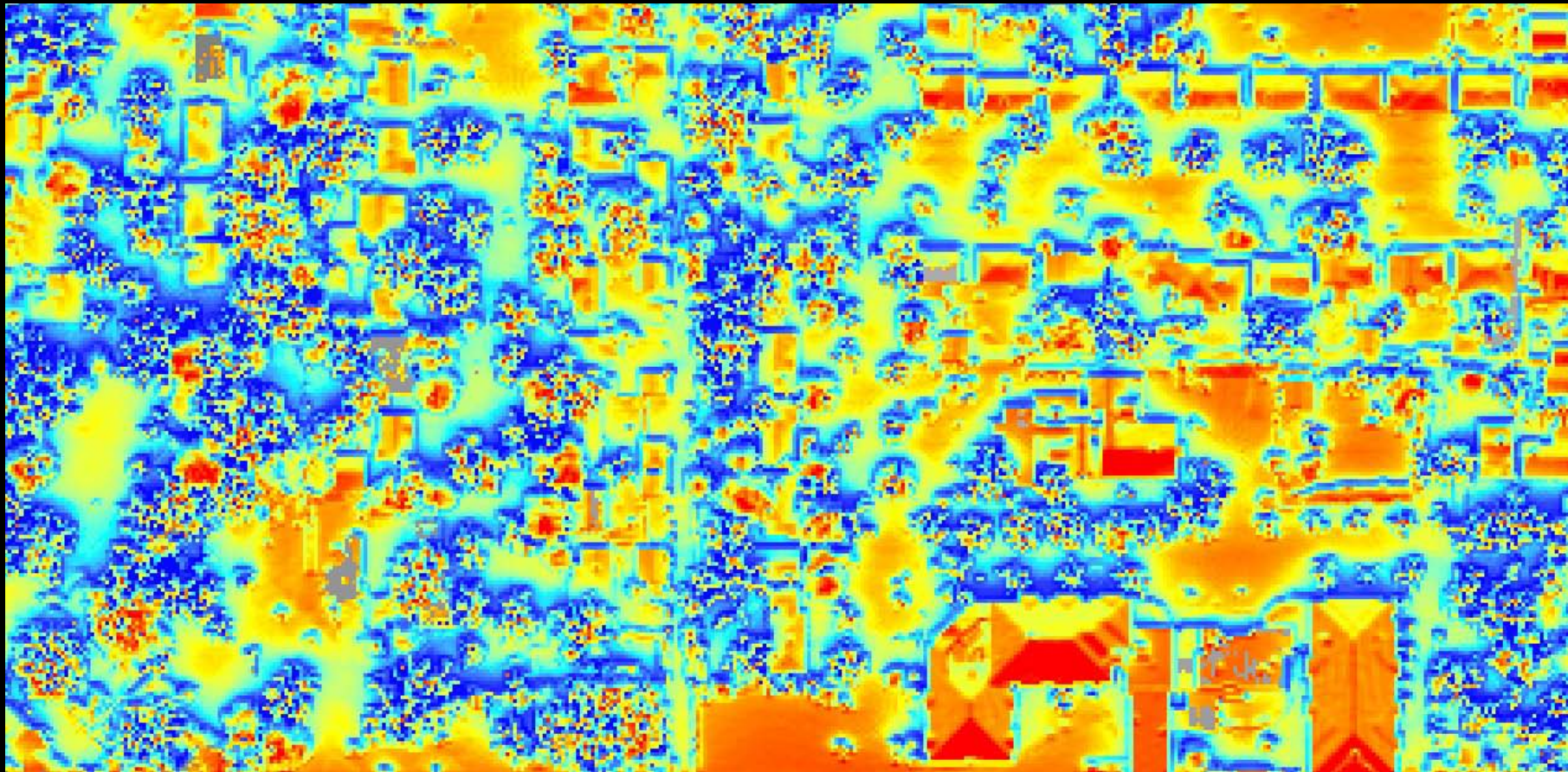


Solar Potential Map

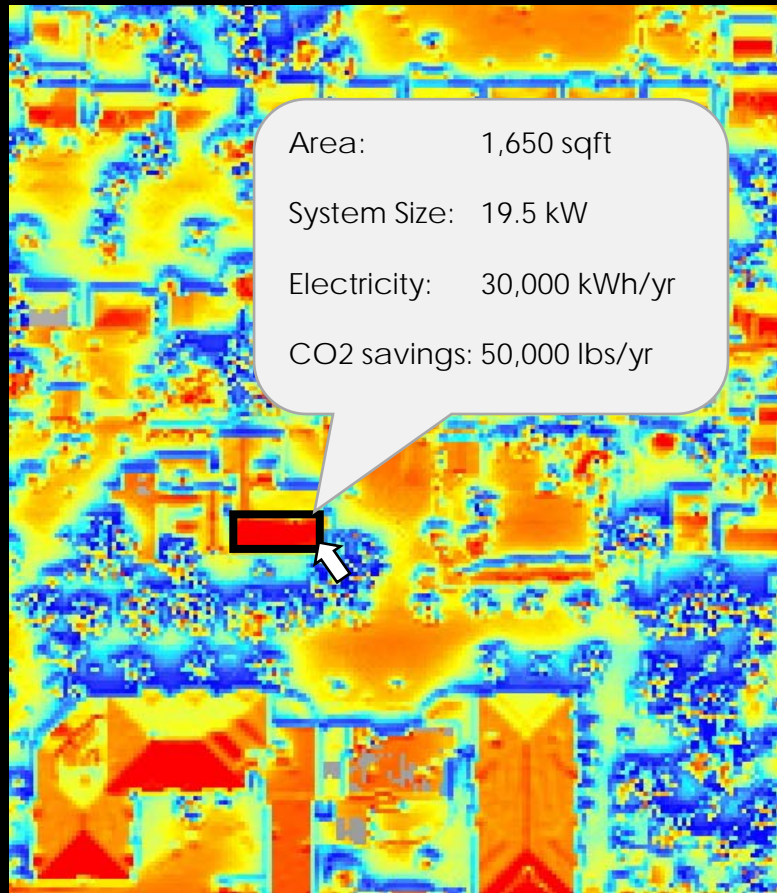


The Map

- Shows solar insolation everywhere
- Accounts for tree shading
- 1-meter accuracy



The Map – Possible Applications



1. Use building outlines to determine each property's solar suitability.
2. Set custom criteria to select most ideal properties for solar installation.
3. Determine neighborhoods with largest percentage of properties suitable for solar installations.
4. Target efforts to encourage solar installations for particular cities, neighborhoods, and businesses

