NV5 GEOSPATIAL

EAGLE AERIAL SOLUTIONS



Color infrared imagery showing healthy vegetation in red

IRRIGATED LANDSCAPE ASSESSMENT

ACQUIRE ANALYZE ANSWER

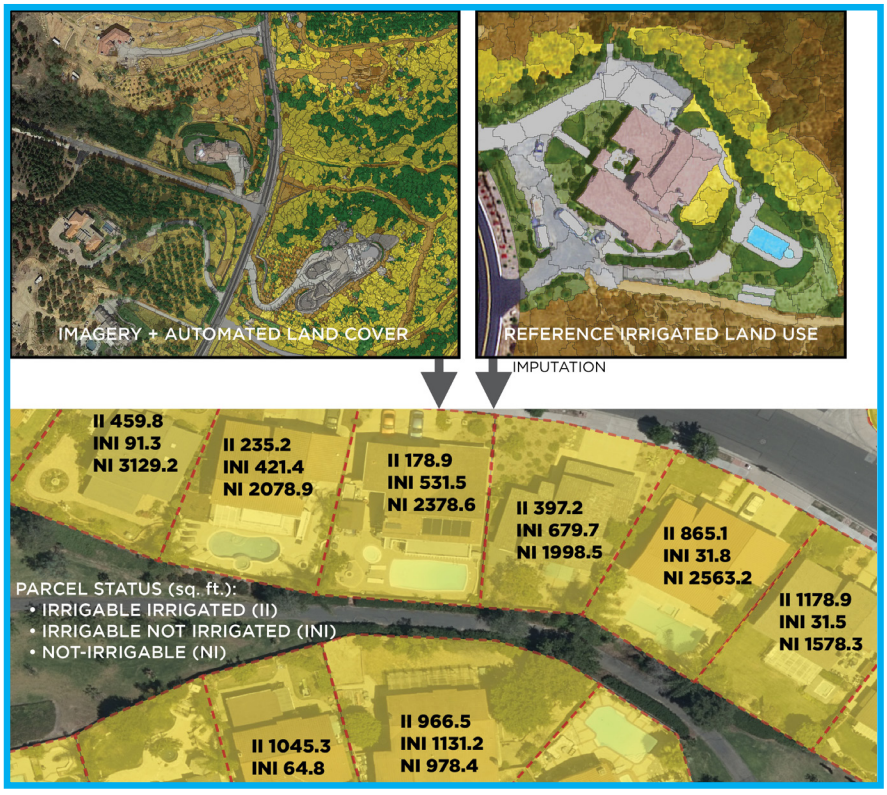
Many regions in the US, particularly in the west, are increasingly facing water shortages, and efficient use of this resource is of critical concern to municipalities, water districts, and their residents. To address tightening water budgets, NV5 Geospatial is collaboratively working to quantify and map irrigated land use and water transport across urban and agricultural environments at teh regional, local, and residential levels.

WATER RESOURCE ALLOCATION

For a key project initiative in California, NV5 Geospatial and Eagle Aerial Solutions (Eagle) have collaborated with the California Department of Water Resources (DWR) to examine water resource allocation at the water district level, quantifying water usage down to the residential parcel level. The project has involved integrating spatially-explicit climate and population data to accurately determine fair and reasonable water allowance for defined parcels of land, and to provide a baseline against which sustainable water use can be monitored and evaluated into the future.

Residential irrigated and not irrigated landscapes





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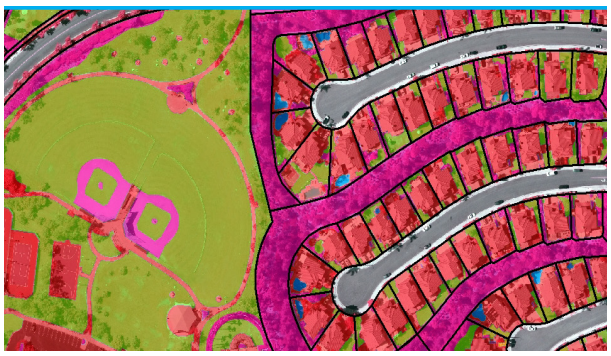
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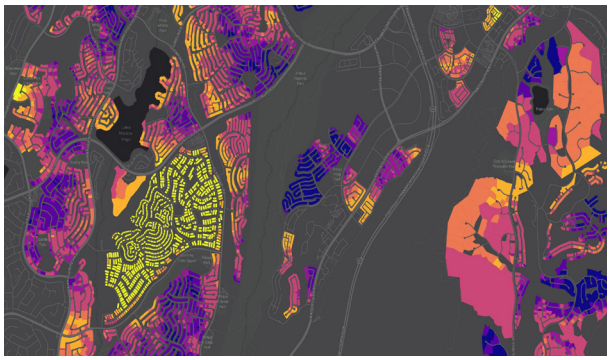
ACQUIRE
ANALYZE
ANSWER

APPLICATIONS



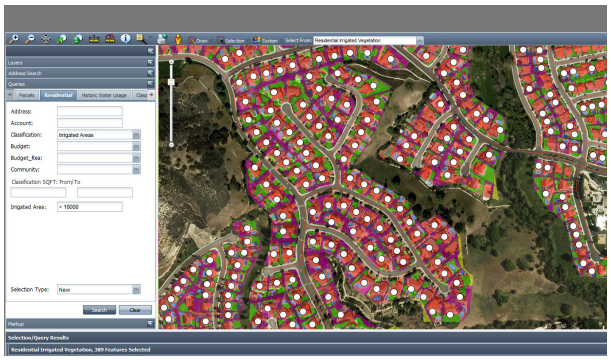
MAPPED IRRIGATED LAND USE

Using summer-collected imagery, OBIA methodology apportions the landscape into classes based on their spectral and spatial characteristics. Then, using a reference parcel training dataset, properties are categorized and mapped by irrigation status into 8 to 10 classes that inform water budget analyses, reveal parcel-level trends, and find opportunities for water conservation.



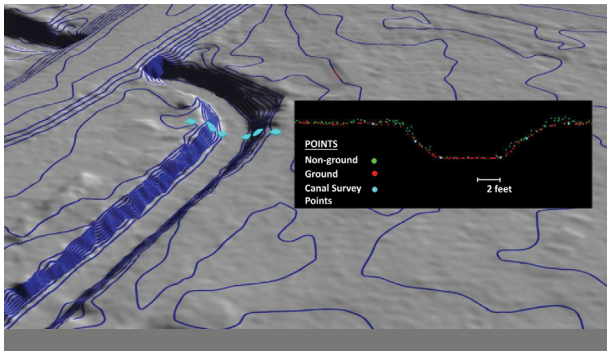
TREND ANALYSIS

To understand the impact of continual land use change on water conservation, we have developed an irrigated land use trend analysis that allows water districts to spatially assess effectiveness of "waterwise" land use initiatives (left: participating neighborhoods in yellow; land use positive change in green/negative change in red).



DATA VIEWING PORTAL

Eagle Aerial Solutions is in the process of developing a free web portal to host irrigated vegetation assessment data for Water District access and QC purposes. Data will include imagery, parcel data, district boundaries, water use data, ET data, land classifications, GIS tools, and will be mobile-device friendly.



CANAL DELIVERY WATER EFFICIENCY

Farmer's Conservation Alliance (FCA), working with QSI, has developed a program that both reduces water loss and provides energy production for rural Oregon communities. Utilizing LiDAR, engineers are able to design enclosed piping systems that reduce evaporative and leakage water loss while also generating hydroelectric power.

For more information or to schedule a meeting contact nv5g-srsales@nv5.com