

# Wildfire Defensible Space Mapping

## BOULDER COUNTY

### PROJECT SUMMARY

The Colorado State Forest Service (CSFS) defines wildfire defensible space as an area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire towards the structure and identifies three defensible space management zones. Boulder County, Colorado had a requirement to calculate a defensible space score for properties in select areas around the county using high-resolution imagery.

LOCATION  
Boulder County,  
Colorado, USA

PERIOD  
2010 – 2011

### PROJECT DETAILS

Boulder County, Colorado, has created parcel based wildfire hazard maps in the past for the urban wildland interface. Creating these maps typically involved visiting the parcels in the field to determine their hazard rating. The hazard rating is determined by several input parameters including access to the property, home construction and roof materials, slope of the property, and the amount and type of vegetation in the structure's defensible space.

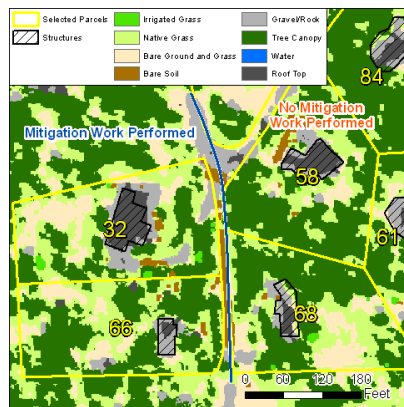
Creating hazard maps is typically done once and updating them is difficult. Boulder County hired Riverside Technology, inc. (Riverside) to research a method of using remote sensing and GIS analysis to create a score for each property's defensible space. The score would



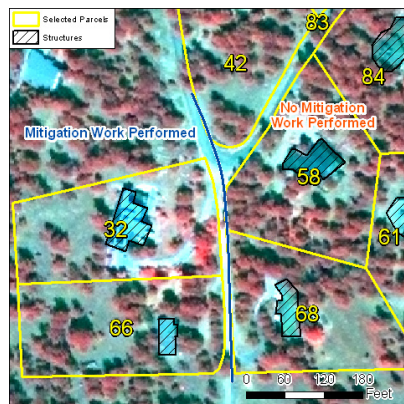
Boulder Four Mile Fire Canyon Burning In the Distance

be a component of the overall wildfire hazard for the property and could be updated yearly. By updating the defensible space scores and notifying homeowners and communities of their score, Boulder County hopes to see an increase in wildfire mitigation work, lowering the overall wildfire risk in a community. Boulder County is investigating different ways to use the score as incentive for homeowners to perform the mitigation work. This ranges from:

- Online public defensible space maps for HOAs
- Reports for potential home buyers to see the defensible space score
- Possible tax breaks for wildfire hazard mitigation work



Mitigation Results Land Cover



Mitigation Results Image

Riverside developed the score itself by buffering each structure to create three defensible space zones. Riverside created a land cover classification from high-resolution satellite imagery. The area of each land cover type was tabulated by zone and input into a formula with a cover type dispersion indicator to determine defensible space scores. The study was performed on a subset of properties with mitigation work completed.

The standardized methods and technologies used in this project allow Riverside the capability to easily replicate this service for other interested communities.

### RELATED PROJECTS

Flood Risk Mapping in Pilot Areas of Ethiopia and Sudan

Using GIS Technology to Determine Future Water Demands

South Platte Decision Support System

#### CORPORATE

2950 E. Harmony Rd.

Suite 390

Fort Collins, CO 80528

(970) 484-7573

#### D.C. AREA OFFICE

1010 Wayne Ave.

Suite 500

Silver Spring, MD 20910

(240) 638-3345

www.riverside.com