

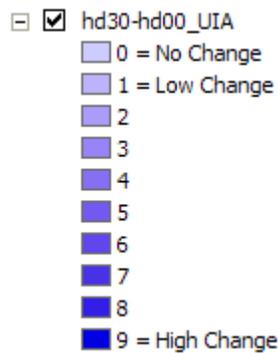
## Appendix H – Colorado Statewide Forest Resource Assessment

### Urban Influence Areas

**Overview:** The purpose of the urban influence areas dataset is to show the extent of the urban and community forestry areas and important to a large majority of Coloradans.

**Methods:** Process steps for the creation of the Urban and Community Forestry Layer

1. Start with Night Lights data and clip to Colorado Boundary. This dataset is referred to as the Urban Influence Areas (UIA)
2. Within the UIA, create the areas of high-development pressure in the next 20 years.
  - a. Use data from Dave Theobald – bhcs\_FOTH20080612; downloaded from Theobald’s FTP site.
  - b. Subtract bhcs2000 from bhcs2030 (bhcs2030-bhcs2000) to get raster hd30-hd00. This is the area of housing density change. 0 = no change and 9 = high change.
  - c. Reproject hd30-hd00 from native Albers to UTM NAD83 zone 13 (hd30-hd00\_utm).
  - d. Mask (hd30-hd00\_utm) with the UIA dataset to only include housing density change in the UIA. Values from 0 = no housing density change through 9 = high housing density change. The NoData values represent public or protected lands.



- e. Reclass hd30-hd00\_UIA as follows:
      - i. 0 = 0
      - ii. 1-3 = 1 (low)
      - iii. 4-6 = 2 (medium)
      - iv. 7-9 = (high)
    - f. Output is uia\_rc
  3. Within UIA, classify areas of capacity defined as communities with paid professional forestry staff (WebDET activity code = 11020).
    - a. Create a new shapefile called UrbanInfluenceAreas\_withCapacity.shp.
    - b. Add fields: capacity number 0 = no capacity and 10 = yes capacity, capacity\_T text no = no capacity and yes = yes capacity.
    - c. Select polygons that intersect capacity as defined above and add attributes for 1/yes and 0/no.
  4. Convert UrbanInfluenceAreas\_withCapacity.shp to raster based on Capacity field (output = uai\_cap).
  5. Add uai\_rc and uai\_cap rasters to get uai\_hd\_cap final output grid. Values as below:

Attributes of uai\_hd\_cap

Rowid	VALUE *	COUNT	DESCRIP
0	0	496116	No U&CF Capacity + No Housing Density Change
1	1	185066	No U&CF Capacity + Low Housing Density Change
2	2	64600	No U&CF Capacity + Moderate Housing Density Change
3	3	13477	No U&CF Capacity + High Housing Density Change
4	10	566472	Existing U&CF Capacity + No Housing Density Change
5	11	572715	Existing U&CF Capacity + Low Housing Density Chan*
6	12	241605	Existing U&CF Capacity + Moderate Housing Density*
7	13	85127	Existing U&CF Capacity + High Housing Density Cha*

Record: 0 Show: All Selected Records (0 out of 8 Selected)

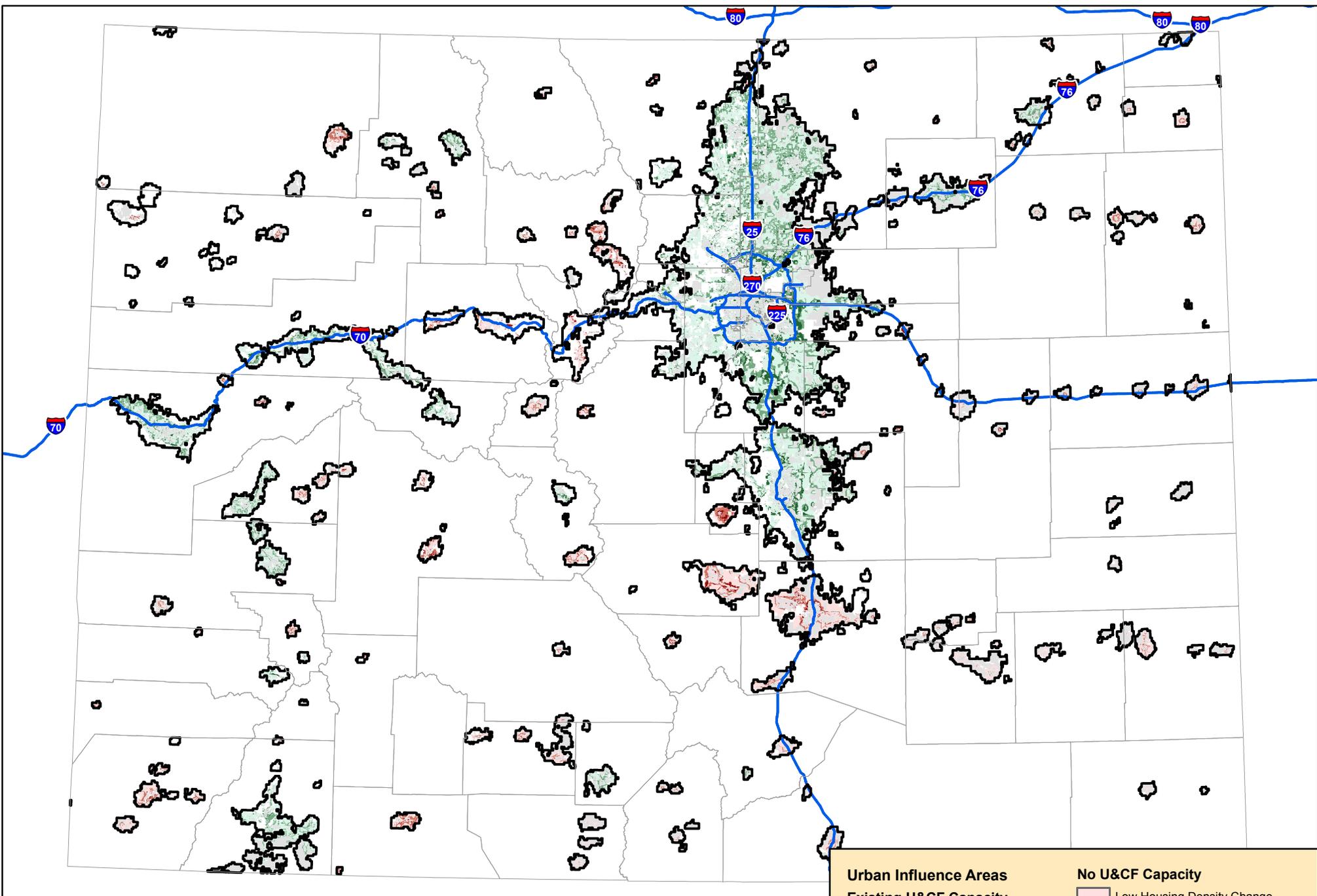
A layer file also was created for the final output grid.

### Data Sources:

1. Night Lights dataset - USGS
2. Housing density and projected housing density from Dave Theobald - <http://www.nrel.colostate.edu/ftp/theobald/>
3. Capacity of urban areas from CSFS WebDET geodatabase.

### References:

None



<b>Urban Influence Areas</b>	<b>No U&amp;CF Capacity</b>
<b>Existing U&amp;CF Capacity</b>	Light Pink: Low Housing Density Change
Light Green: Low Housing Density Change	Red: Moderate Housing Density Change
Medium Green: Moderate Housing Density Change	Dark Red: High Housing Density Change
Dark Green: High Housing Density Change	<b>VALUE</b>
	Light Blue: No Housing Density Change

Urban Influence Areas - Community Capacity (Staff) and Housing Density Change