**The 1990-2020 wildland-urban interface of the conterminous United States - geospatial data**

**Metadata:**

* [Identification\_Information](file:///C:\\_User\\_RD_Data_Archive\\Submissions\\2023\\FY23-072_RDS-2015-0012-4_Mockrin_LP\\2023_0731\\_metadata_RDS-2015-0012-3.html" \l "Identification_Information)
* [Data\_Quality\_Information](file:///C:\_User\_RD_Data_Archive\Submissions\2023\FY23-072_RDS-2015-0012-4_Mockrin_LP\2023_0731\_metadata_RDS-2015-0012-3.html#Data_Quality_Information)
* [Spatial\_Data\_Organization\_Information](file:///C:\_User\_RD_Data_Archive\Submissions\2023\FY23-072_RDS-2015-0012-4_Mockrin_LP\2023_0731\_metadata_RDS-2015-0012-3.html#Spatial_Data_Organization_Information)
* [Spatial\_Reference\_Information](file:///C:\_User\_RD_Data_Archive\Submissions\2023\FY23-072_RDS-2015-0012-4_Mockrin_LP\2023_0731\_metadata_RDS-2015-0012-3.html#Spatial_Reference_Information)
* [Entity\_and\_Attribute\_Information](file:///C:\_User\_RD_Data_Archive\Submissions\2023\FY23-072_RDS-2015-0012-4_Mockrin_LP\2023_0731\_metadata_RDS-2015-0012-3.html#Entity_and_Attribute_Information)
* [Distribution\_Information](file:///C:\_User\_RD_Data_Archive\Submissions\2023\FY23-072_RDS-2015-0012-4_Mockrin_LP\2023_0731\_metadata_RDS-2015-0012-3.html#ID0EXNAC)
* [Metadata\_Reference\_Information](file:///C:\_User\_RD_Data_Archive\Submissions\2023\FY23-072_RDS-2015-0012-4_Mockrin_LP\2023_0731\_metadata_RDS-2015-0012-3.html#Metadata_Reference_Information)

*Identification\_Information:*

*Citation:*

*Citation\_Information:*

*Originator:*Radeloff, Volker C.

*Originator:*Helmers, David P.

*Originator:*Mockrin, Miranda H.

*Originator:*Carlson, Amanda R.

*Originator:*Hawbaker, Todd J.

*Originator:*Martinuzzi, Sebastián

*Publication\_Date:*2022

*Title:*

The 1990-2020 wildland-urban interface of the conterminous United States - geospatial data

*Edition:*3rd

*Geospatial\_Data\_Presentation\_Form:*vector digital data

*Publication\_Information:*

*Publication\_Place:*Fort Collins, CO

*Publisher:*Forest Service Research Data Archive

*Other\_Citation\_Details:*

Updated 01 August 2023

*Online\_Linkage:*<https://doi.org/10.2737/RDS-2015-0012-3>

*Description:*

*Abstract:*

The Wildland-Urban Interface (WUI) is the area where houses meet or intermingle with undeveloped wildland vegetation. This makes the WUI a focal area for human-environment conflicts such as wildland fires, habitat fragmentation, invasive species, and biodiversity decline. Using geographic information systems (GIS), we integrated U.S. Census and USGS National Land Cover Data, to map the Federal Register definition of WUI (Federal Register 66:751, 2001) for the conterminous United States from 1990-2020. These data are useful within a GIS for mapping and analysis at national, state, and local levels. Data are available as a geodatabase and include information such as housing densities for 1990, 2000, 2010, and 2020; wildland vegetation percentages for 1992, 2001, 2011, and 2019; as well as WUI classes in 1990, 2000, 2010, and 2020.

*Purpose:*

To provide a spatially detailed national assessment of the wildland-urban interface (WUI) and WUI change between 1990 and 2020 across the coterminous U.S. to support wildland fire research, policy and management, and inquiries into the effects of housing growth on the environment.

*Supplemental\_Information:*

This data publication, published on 09/08/2022 is a third edition. The first edition (https://doi.org/10.2737/RDS-2015-0012) contained data representing the 2010 WUI of the conterminous United States. The second edition (https://doi.org/10.2737/RDS-2015-0012-2) contained data that represented the 1990-2010 WUI. This third edition contains data that represent the 1990-2020 WUI. On 12/30/2022 the descriptions for WUICLASS2020 were updated.  
  
**On 08/01/2023 updates were made to improve the public land adjustment (PLA) process (step 1) by correcting topological errors and removing erroneous sliver polygons generated during the PLA process. The fourth edition uses this improved PLA housing density dataset to classify WUI from 1990-2020.**   
  
Information about WUI can also be found here: http://silvis.forest.wisc.edu/data/wui-change as well as https://www.fs.usda.gov/research/nrs/projects/wuigrowth.

*Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Multiple\_Dates/Times:*

*Single\_Date/Time:*

*Calendar\_Date:*1990

*Single\_Date/Time:*

*Calendar\_Date:*2000

*Single\_Date/Time:*

*Calendar\_Date:*2010

*Single\_Date/Time:*

*Calendar\_Date:*2020

*Currentness\_Reference:*

Ground condition

*Status:*

*Progress:*Complete

*Maintenance\_and\_Update\_Frequency:*As needed

*Spatial\_Domain:*

*Description\_of\_Geographic\_Extent:*

Data are for the conterminous United States only (lower 48 states and Disrict of Columbia). No data were generated for Alaska, Hawaii, and U.S. territories.

*Bounding\_Coordinates:*

*West\_Bounding\_Coordinate:*-127.977107

*East\_Bounding\_Coordinate:*-65.254885

*North\_Bounding\_Coordinate:*51.649519

*South\_Bounding\_Coordinate:*22.768690

*Keywords:*

*Theme:*

*Theme\_Keyword\_Thesaurus:*ISO 19115 Topic Category

*Theme\_Keyword:*environment

*Theme:*

*Theme\_Keyword\_Thesaurus:*National Research & Development Taxonomy

*Theme\_Keyword:*Environment and People

*Theme\_Keyword:*Fire

*Theme\_Keyword:*Wildland/urban interface

*Theme:*

*Theme\_Keyword\_Thesaurus:*None

*Theme\_Keyword:*fragmentation

*Theme\_Keyword:*wildland-urban interface

*Theme\_Keyword:*WUI

*Theme\_Keyword:*housing growth

*Theme\_Keyword:*wildland fire

*Theme\_Keyword:*sprawl

*Place:*

*Place\_Keyword\_Thesaurus:*None

*Place\_Keyword:*conterminous United States

*Access\_Constraints:*None

*Use\_Constraints:*

These data were collected using funding from the U.S. Government and can be used without additional permissions or fees. If you use these data in a publication, presentation, or other research product please use the following citation:  
  
Radeloff, Volker C.; Helmers, David P.; Mockrin, Miranda H.; Carlson, Amanda R.; Hawbaker, Todd J.; Martinuzzi, Sebastián. 2022. The 1990-2020 wildland-urban interface of the conterminous United States - geospatial data. 3rd Edition. Updated 01 August 2023. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2015-0012-3

*Point\_of\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*Miranda H. Mockrin

*Contact\_Organization:*USDA Forest Service, Northern Research Station

*Contact\_Position:*Research Scientist

*Contact\_Address:*

*Address\_Type:*mailing and physical

*Address:*5523 Research Park Drive Suite 350

*City:*Baltimore

*State\_or\_Province:*MD

*Postal\_Code:*21228-4783

*Country:*USA

*Contact\_Voice\_Telephone:*443-543-5389

*Contact\_Electronic\_Mail\_Address:*miranda.h.mockrin@usda.gov

*Contact Instructions:*This contact information was current as of original publication date. For current information see Contact Us page on: https://doi.org/10.2737/RDS.

*Point\_of\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*David P. Helmers

*Contact\_Organization:*SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison

*Contact\_Position:*GIS Specialist

*Contact\_Address:*

*Address\_Type:*mailing address

*Address:*1630 Linden Dr.

*City:*Madison

*State\_or\_Province:*WI

*Postal\_Code:*53706

*Country:*USA

*Contact\_Voice\_Telephone:*608-890-3160

*Contact\_Electronic\_Mail\_Address:*helmers@wisc.edu

*Contact Instructions:*This contact information was current as of original publication date. For current information see Contact Us page on: https://doi.org/10.2737/RDS.

*Point\_of\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*Volker C. Radeloff

*Contact\_Organization:*SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison

*Contact\_Position:*Professor

*Contact\_Address:*

*Address\_Type:*mailing address

*Address:*1630 Linden Dr.

*City:*Madison

*State\_or\_Province:*WI

*Postal\_Code:*53706

*Country:*USA

*Contact\_Voice\_Telephone:*608-263-4349

*Contact\_Electronic\_Mail\_Address:*radeloff@wisc.edu

*Contact Instructions:*This contact information was current as of original publication date. For current information see Contact Us page on: https://doi.org/10.2737/RDS.

*Data\_Set\_Credit:*

Financial support was provided by the USDA Forest Service under the National Fire Plan. Funding also provided by USDA Forest Service, Northern Research Station.  
  
Data obtained from the U.S. Census and USGS National Land Cover Data, see source citations noted below for more details.  
  
  
Author Information:  
  
Volker C. Radeloff  
SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison  
https://orcid.org/0000-0001-9004-221X  
  
David P. Helmers  
SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison

https://orcid.org/0000-0002-9134-0718  
  
Miranda H. Mockrin  
USDA Forest Service, Northern Research Station  
https://orcid.org/0000-0002-1158-3833  
  
Amanda R. Carlson  
SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison  
https://orcid.org/0000-0002-0450-2636  
  
Todd J. Hawbaker  
U.S. Geological Survey, Geosciences and Environmental Change Science Center, Denver, Colorado, USA  
https://orcid/org/0000-0003-0930-9154  
  
Sebastián Martinuzzi  
SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison

*Native\_Data\_Set\_Environment:*

Microsoft Windows Server 2019; Esri ArcGIS Pro 3.0.0

*Cross\_Reference:*

*Citation\_Information:*

*Originator:*Martinuzzi, Sebastián

*Originator:*Stewart, Susan I.

*Originator:*Helmers, David P.

*Originator:*Mockrin, Miranda H.

*Originator:*Hammer, Roger B.

*Originator:*Radeloff, Volker C.

*Publication\_Date:*2015

*Title:*

The 2010 wildland-urban interface of the conterminous United States - geospatial data

*Geospatial\_Data\_Presentation\_Form:*vector digital data

*Publication\_Information:*

*Publication\_Place:*Fort Collins, CO

*Publisher:*Forest Service Research Data Archive

*Online\_Linkage:*<https://doi.org/10.2737/RDS-2015-0012>

*Cross\_Reference:*

*Citation\_Information:*

*Originator:*Radeloff, Volker C.

*Originator:*Helmers, David P.

*Originator:*Kramer, H. Anu

*Originator:*Mockrin, Miranda H.

*Originator:*Alexandre, Patricia M.

*Originator:*Bar Massada, Avi

*Originator:*Bustic, Van

*Originator:*Hawbaker, Todd J.

*Originator:*Martinuzzi, Sebastián

*Originator:*Syphard, Alexandra D.

*Originator:*Stewart, Susan I.

*Publication\_Date:*2017

*Title:*

The 1990-2010 wildland-urban interface of the conterminous United States - geospatial data

*Edition:*2nd

*Geospatial\_Data\_Presentation\_Form:*vector digital data

*Publication\_Information:*

*Publication\_Place:*Fort Collins, CO

*Publisher:*Forest Service Research Data Archive

*Online\_Linkage:*<https://doi.org/10.2737/RDS-2015-0012-2>

*Cross\_Reference:*

*Citation\_Information:*

*Originator:*Radeloff, Volker C.

*Originator:*Hammer, Roger B.

*Originator:*Stewart, Susan I.

*Originator:*Fried, J.S.

*Originator:*Holcomb, S.S.

*Originator:*McKeefry, J.F.

*Publication\_Date:*2005

*Title:*

The wildland-urban interface in the United States

*Geospatial\_Data\_Presentation\_Form:*journal article

*Series\_Information:*

*Series\_Name:*Ecological Applications

*Issue\_Identification:*15(3):799-805

*Online\_Linkage:*<https://doi.org/10.1890/04-1413>

*Online\_Linkage:*<https://www.fs.usda.gov/research/treesearch/14912>

*Cross\_Reference:*

*Citation\_Information:*

*Originator:*Martinuzzi, Sebastián

*Originator:*Stewart, Susan I.

*Originator:*Helmers, David P.

*Originator:*Mockrin, Miranda H.

*Originator:*Hammer, Roger B.

*Originator:*Radeloff, Volker C.

*Publication\_Date:*2015

*Title:*

The 2010 wildland-urban interface of the conterminous United States

*Geospatial\_Data\_Presentation\_Form:*document

*Series\_Information:*

*Series\_Name:*Research Map

*Issue\_Identification:*NRS-8

*Publication\_Information:*

*Publication\_Place:*Newtown Square, PA

*Publisher:*U.S. Department of Agriculture, Forest Service, Northern Research Station

*Other\_Citation\_Details:*

124 p. [includes pull-out map]

*Online\_Linkage:*<https://doi.org/10.2737/nrs-rmap-8>

*Cross\_Reference:*

*Citation\_Information:*

*Originator:*Radeloff, Volker C.

*Originator:*Helmers, David P.

*Originator:*Kramer, H. Anu

*Originator:*Mockrin, Miranda H.

*Originator:*Alexandre, Patricia M.

*Originator:*Bar Massada, Avi

*Originator:*Butsic, Van

*Originator:*Hawbaker, Todd J.

*Originator:*Martinuzzi, Sebastián

*Originator:*Syphard, Alexandra D.

*Originator:*Stewart, Susan I.

*Publication\_Date:*2018

*Title:*

Rapid growth of the US wildland-urban interface raises wildfire risk

*Geospatial\_Data\_Presentation\_Form:*journal article

*Series\_Information:*

*Series\_Name:*Proceedings of the National Academy of Sciences

*Issue\_Identification:*115(3): 3314-3319

*Online\_Linkage:*<https://doi.org/10.1073/pnas.1718850115>

*Online\_Linkage:*<https://www.fs.usda.gov/research/treesearch/55817>

*Data\_Quality\_Information:*

*Attribute\_Accuracy:*

*Attribute\_Accuracy\_Report:*

We verified that WUI classes were classified correctly based on experience (visual assessment of maps) and also verified that all WUI classes meet the correct combination of housing density and land cover.

*Logical\_Consistency\_Report:*

Topology maintained by ESRI ArcGIS Pro 3.0.0. All fuzzy tolerances during processing were set to 0.00000001 to prevent data loss.

*Completeness\_Report:*

Data are for the conterminous United States only (lower 48 states and Disrict of Columbia). No data were generated for Alaska, Hawaii, and U.S. territories.

*Lineage:*

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*Conservation Biology Institute

*Publication\_Date:*20160901

*Title:*

Protected Areas Database of the US, PAD-US (CBI Edition)

*Edition:*2.1

*Geospatial\_Data\_Presentation\_Form:*Database

*Publication\_Information:*

*Publication\_Place:*Corvallis, OR

*Publisher:*Conservation Biology Institute

*Online\_Linkage:*<https://consbio.org/products/projects/pad-us-cbi-edition>

*Type\_of\_Source\_Media:*online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*20160901

*Source\_Currentness\_Reference:*

Publication Date

*Source\_Citation\_Abbreviation:*

PAD-US (CBI Edition) Version 2.1, September 2016

*Source\_Contribution:*

PAD-US (CBI Edition) Version 2.1 is a comprehensive geospatial data set of United States protected areas, including detailed information on land ownership, management and conservation status.

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*Dewitz, Jon A.

*Originator:*U.S. Geological Survey

*Publication\_Date:*202106

*Title:*

National Land Cover Database (NLCD) 2019 products

*Edition:*2.0

*Geospatial\_Data\_Presentation\_Form:*raster digital data

*Publication\_Information:*

*Publisher:*U.S. Geological Survey

*Online\_Linkage:*<https://doi.org/10.5066/P9KZCM54>

*Type\_of\_Source\_Media:*Online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*2019

*Source\_Currentness\_Reference:*

Ground Condition

*Source\_Citation\_Abbreviation:*

NLCD 2019

*Source\_Contribution:*

Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Dataset (NLCD) 2019. NLCD Land Cover (CONUS) All Years. Product provided landcover information for identifying forest, grassland, and wetland areas (wildland vegetation) for 2010, 2011, 2019 WUI classification.  
  
https://www.mrlc.gov/data/nlcd-land-cover-conus-all-years

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*David P. Helmers, SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison

*Publication\_Date:*20220214

*Title:*

Census block level housing change 1990-2020 for the conterminous United States

*Geospatial\_Data\_Presentation\_Form:*vector digital data

*Other\_Citation\_Details:*

Dataset created by SILVIS Lab by allocating 1990, 2000, and 2010 housing units to 2020 TIGER block geography using Block Relationship Files. See metadata for the U.S. Block Housing Change 1990-2010 dataset on the SILVIS website for more details.

*Online\_Linkage:*<http://silvis.forest.wisc.edu/data/housing-block-change/>

*Type\_of\_Source\_Media:*online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Multiple\_Dates/Times:*

*Single\_Date/Time:*

*Calendar\_Date:*1990

*Single\_Date/Time:*

*Calendar\_Date:*2000

*Single\_Date/Time:*

*Calendar\_Date:*2010

*Single\_Date/Time:*

*Calendar\_Date:*2020

*Source\_Currentness\_Reference:*

Publication Date

*Source\_Citation\_Abbreviation:*

U.S. Block Housing Change 1990-2020

*Source\_Contribution:*

U.S. Census TIGER 2020 block polygons with associated 2020, 2010, 2000, and 1990 housing density. 2020 Census Block housing densities obtained from Summary File 1 and 1990, 2000, 2010 housing densities allocated from Census Bureau 1990-2000, 2000-2010, and 2010-2020 Block Relationship Files.

*Source\_Information:*

*Source\_Citation:*

*Citation\_Information:*

*Originator:*Fry, Joyce

*Originator:*Coan, Michael

*Originator:*Homer, Collin G.

*Originator:*Meyer, D.K.

*Originator:*Wickham, James D.

*Publication\_Date:*2009

*Title:*

Completion of the National Land Cover Database (NLCD) 1992/2001 Land Cover Change Retrofit product

*Geospatial\_Data\_Presentation\_Form:*document

*Series\_Information:*

*Series\_Name:*U.S. Geological Survey Open-File Report

*Issue\_Identification:*2008-1379

*Other\_Citation\_Details:*

18 p.

*Type\_of\_Source\_Media:*Online

*Source\_Time\_Period\_of\_Content:*

*Time\_Period\_Information:*

*Single\_Date/Time:*

*Calendar\_Date:*1992

*Source\_Currentness\_Reference:*

Ground Condition

*Source\_Citation\_Abbreviation:*

NLCD Retrofit 1992

*Source\_Contribution:*

Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Dataset (NLCD) 1992/2001 Retrofit Land Cover Change Product. Provided landcover information for identifying forest, grassland, and wetland areas (wildland vegetation) for 1990 WUI classification.

*Process\_Step:*

*Process\_Description:*

Step 1: Created nationwide map of "protected areas with no housing units", pulled from the PAD-US (CBI Edition) version 2.1, including all federal, state, regional, and local government owned lands. Intersected these protected areas with U.S. block level housing change 1990-2020 dataset and moved housing units out of protected areas into neighboring privately owned blocks with the same block ID (called public land adjustment or PLA). If the same block ID had no private areas then houses remained within the protected lands boundary (no adjustment). Corrected topological errors and removed sliver polygons from public-land adjusted housing density dataset.

*Process\_Date:*20230701

*Process\_Step:*

*Process\_Description:*

Step 2: Integrated U.S. block level housing change 1990-2020 dataset (public land adjusted) with the 2019 National Land Cover Dataset NLCD (years 2001, 2011, and 2019), and the 1992/2001 Retrofit Change Product (1992 values only) using ArcGIS Tabulate Area command. Calculated wildland vegetation % for 4 decades (1990, 2000, 2010, 2020), with wildland vegetation defined as sum of relative percentages of land cover classes for forests, grasslands, and wetlands.

*Process\_Date:*20230701

*Process\_Step:*

*Process\_Description:*

Step 3: Assigned 1990 Intermix WUI classes to all polygons with > 50% wildland vegetation in 1990 and minimum 6.177635 housing units / square kilometers (square km) in 1990. Assigned 2000 Intermix WUI classes to all polygons with > 50% wildland vegetation in 2000 and minimum 6.177635 housing units / square km in 2000. Assigned 2010 Intermix WUI classes to all polygons with > 50% wildland vegetation in 2010 and minimum 6.177635 housing units / square km in 2010. Assigned 2020 Intermix WUI classes to all polygons with > 50% wildland vegetation in 2020 and minimum 6.177635 housing units / square km in 2020.

*Process\_Date:*20220516

*Process\_Step:*

*Process\_Description:*

Step 4: Selected all block housing polygons with >= 75% wildland vegetation in 2020 and dissolved into larger contiguous areas. Buffered areas > 500 hectares by 2,414 m (1.5 miles) to identify potential interface WUI areas. Unioned 2020 buffers with integrated block housing polygons and assigned Interface WUI classes to all polygons falling inside vegetation buffers and minimum 6.177635 housing units / square km (ignoring pre-existing Intermix WUI areas) for all 4 decades 1990, 2000, 2010, 2020.

*Process\_Date:*20230701

*Spatial\_Data\_Organization\_Information:*

*Direct\_Spatial\_Reference\_Method:*Vector

*Point\_and\_Vector\_Object\_Information:*

*SDTS\_Terms\_Description:*

*SDTS\_Point\_and\_Vector\_Object\_Type:*GT-polygon composed of chains

*Point\_and\_Vector\_Object\_Count:*0

*Spatial\_Reference\_Information:*

*Horizontal\_Coordinate\_System\_Definition:*

*Planar:*

*Map\_Projection:*

*Map\_Projection\_Name:*NAD 1983 Albers

*Albers\_Conical\_Equal\_Area:*

*Standard\_Parallel:*29.5

*Standard\_Parallel:*45.5

*Longitude\_of\_Central\_Meridian:*-96.0

*Latitude\_of\_Projection\_Origin:*23.0

*False\_Easting:*0.0

*False\_Northing:*0.0

*Planar\_Coordinate\_Information:*

*Planar\_Coordinate\_Encoding\_Method:*coordinate pair

*Coordinate\_Representation:*

*Abscissa\_Resolution:*0.0001

*Ordinate\_Resolution:*0.0001

*Planar\_Distance\_Units:*meter

*Geodetic\_Model:*

*Horizontal\_Datum\_Name:*D North American 1983

*Ellipsoid\_Name:*GRS 1980

*Semi-major\_Axis:*6378137.0

*Denominator\_of\_Flattening\_Ratio:*298.257222101

*Entity\_and\_Attribute\_Information:*

*Detailed\_Description:*

*Entity\_Type:*

*Entity\_Type\_Label:*wui\_block\_1990\_2020\_change\_v4

*Entity\_Type\_Definition:*

wildland-urban interface (WUI) of the conterminous United States 1990-2020

*Attribute:*

*Attribute\_Label:*OBJECTID

*Attribute\_Definition:*

Internal feature number.

*Attribute\_Definition\_Source:*

Esri

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Sequential unique whole numbers that are automatically generated.

*Attribute:*

*Attribute\_Label:*Shape

*Attribute\_Definition:*

Feature geometry.

*Attribute\_Definition\_Source:*

Esri

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Coordinates defining the features.

*Attribute:*

*Attribute\_Label:*BLK20

*Attribute\_Definition:*

A unique number assigned to Census Blocks concatenated from State, County, Tract, and Block, and Water fields from US Census TIGER. The Census Bureau defines a block as the smallest geographic area for which the Bureau of the Census collects and tabulates decennial census data, [and] are formed by streets, roads, railroads, streams and other bodies of water, other visible and cultural features, and the legal boundaries shown on Census Bureau maps (U.S. Census Bureau).

*Attribute\_Definition\_Source:*

U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*WATER20

*Attribute\_Definition:*

Flag if polygon is a water body using 2020 TIGER water bodies (1=water)

*Attribute\_Definition\_Source:*

U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*AWATER20PC

*Attribute\_Definition:*

% of block area that is water

*Attribute\_Definition\_Source:*

U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*POP2020

*Attribute\_Definition:*

2020 population

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 decennial Census data use differential privacy, a technique that introduces errors into data to preserve respondent confidentiality. Small counts/census block data should be interpreted with caution. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*HU2020

*Attribute\_Definition:*

2020 total housing units

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 housing units at the census block level are preserved as reported without any statistical noise infusion. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*OCCHU2020

*Attribute\_Definition:*

2020 occupied housing units

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 decennial Census data use differential privacy, a technique that introduces errors into data to preserve respondent confidentiality. Small counts/census block data should be interpreted with caution. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*VACHU2020

*Attribute\_Definition:*

2020 vacant housing units

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 decennial Census data use differential privacy, a technique that introduces errors into data to preserve respondent confidentiality. Small counts/census block data should be interpreted with caution. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*POPDEN2020

*Attribute\_Definition:*

2020 population density (persons / square km)

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 decennial Census data use differential privacy, a technique that introduces errors into data to preserve respondent confidentiality. Small counts/census block data should be interpreted with caution. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*HUDEN2020

*Attribute\_Definition:*

2020 total housing density (units / square km)

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 housing units at the census block level are preserved as reported without any statistical noise infusion. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*OCCHUDEN2020

*Attribute\_Definition:*

2020 occupied housing density (units / square km)

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 decennial Census data use differential privacy, a technique that introduces errors into data to preserve respondent confidentiality. Small counts/census block data should be interpreted with caution. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*VACHUDEN2020

*Attribute\_Definition:*

2020 vacant housing density (units / square km)

*Attribute\_Definition\_Source:*

U.S. Census Bureau PL 94-171 Redistricting Data summary file. Note: 2020 decennial Census data use differential privacy, a technique that introduces errors into data to preserve respondent confidentiality. Small counts/census block data should be interpreted with caution. See https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html for more information.

*Attribute:*

*Attribute\_Label:*PUBFLAG

*Attribute\_Definition:*

Flag if polygon is a protected area (1=public land)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*STATE

*Attribute\_Definition:*

2 letter state abbreviation

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*HU1990

*Attribute\_Definition:*

1990 total housing units (allocated)

*Attribute\_Definition\_Source:*

SILVIS Lab, U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*HUDEN1990

*Attribute\_Definition:*

1990 housing density (units / square km)

*Attribute\_Definition\_Source:*

SILVIS Lab, U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*HU2000

*Attribute\_Definition:*

2000 total housing units (allocated)

*Attribute\_Definition\_Source:*

SILVIS Lab, U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*HUDEN2000

*Attribute\_Definition:*

2000 total housing density (units / square km)

*Attribute\_Definition\_Source:*

SILVIS Lab, U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*HU2010

*Attribute\_Definition:*

2010 total housing units (allocated)

*Attribute\_Definition\_Source:*

SILVIS Lab, U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*HUDEN2010

*Attribute\_Definition:*

2010 housing density (units / square km)

*Attribute\_Definition\_Source:*

SILVIS Lab, U.S. Census Bureau

*Attribute:*

*Attribute\_Label:*VEG1992PC

*Attribute\_Definition:*

Wildland Vegetation % in 1992 where wildland vegetation = (forests + grasslands + wetlands)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*VEG2001PC

*Attribute\_Definition:*

Wildland Vegetation % in 2001 where wildland vegetation = (forests + grasslands + wetlands)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*VEG2011PC

*Attribute\_Definition:*

Wildland Vegetation % in 2011 where wildland vegetation = (forests + grasslands + wetlands)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*VEG2019PC

*Attribute\_Definition:*

Wildland Vegetation % in 2019 where wildland vegetation = (forests + grasslands + wetlands)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUIFLAG1990

*Attribute\_Definition:*

Flag designating WUI (1=intermix; 2=interface) vs. non-WUI (0) areas in 1990

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUICLASS1990

*Attribute\_Definition:*

1990 WUI class (see enumerated domains for WUICLASS2020)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUIFLAG2000

*Attribute\_Definition:*

Flag designating WUI (1=intermix; 2=interface) vs. non-WUI (0) areas in 2000

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUICLASS2000

*Attribute\_Definition:*

2000 WUI class (see enumerated domains for WUICLASS2020)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUIFLAG2010

*Attribute\_Definition:*

Flag designating WUI (1=intermix; 2=interface) vs. non-WUI (0) areas in 2010

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUICLASS2010

*Attribute\_Definition:*

2010 WUI class (see enumerated domains for WUICLASS2020)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUIFLAG2020

*Attribute\_Definition:*

Flag designating WUI (1=intermix; 2=interface) vs. non-WUI (0) areas in 2020

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*WUICLASS2020

*Attribute\_Definition:*

2020 WUI class (see enumerated domains)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute\_Domain\_Values:*

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Water

*Enumerated\_Domain\_Value\_Definition:*

open water

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Med\_Dens\_Interface

*Enumerated\_Domain\_Value\_Definition:*

housing density between 49.42108 and 741.3162 and wildland vegetation <= 50% and within 2.414 km of area with >= 75% wildland vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*High\_Dens\_Intermix

*Enumerated\_Domain\_Value\_Definition:*

housing density >= 741.3162 and wildland vegetation > 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Low\_Dens\_Interface

*Enumerated\_Domain\_Value\_Definition:*

housing density between 6.177635 and 49.42108 and wildland vegetation <= 50% and within 2.414 km of area with >= 75% wildland vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Med\_Dens\_Intermix

*Enumerated\_Domain\_Value\_Definition:*

housing density between 49.42108 and 741.3162 and wildland vegetation > 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Low\_Dens\_NoVeg

*Enumerated\_Domain\_Value\_Definition:*

housing density between 6.177635 and 49.42108 and wildland vegetation <= 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Med\_Dens\_NoVeg

*Enumerated\_Domain\_Value\_Definition:*

housing density between 49.42108 and 741.3162 and wildland vegetation <= 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Uninhabited\_NoVeg

*Enumerated\_Domain\_Value\_Definition:*

housing density = 0 and wildland vegetation <= 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Low\_Dens\_Intermix

*Enumerated\_Domain\_Value\_Definition:*

housing density between 6.177635 and 49.42108 and wildland vegetation > 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*High\_Dens\_Interface

*Enumerated\_Domain\_Value\_Definition:*

housing density >= 741.3162 and wildland vegetation <= 50% and within 2.414 km of area with >= 75% wildland vegetation

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Very\_Low\_Dens\_Veg

*Enumerated\_Domain\_Value\_Definition:*

housing density < 6.177635 and wildland vegetation > 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Uninhabited\_Veg

*Enumerated\_Domain\_Value\_Definition:*

housing density = 0 and wildland vegetation > 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*Very\_Low\_Dens\_NoVeg

*Enumerated\_Domain\_Value\_Definition:*

housing density < 6.177635 and wildland vegetation <= 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Enumerated\_Domain:*

*Enumerated\_Domain\_Value:*High\_Dens\_NoVeg

*Enumerated\_Domain\_Value\_Definition:*

housing density >= 741.3162 and wildland vegetation <= 50%

*Enumerated\_Domain\_Value\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*BUFVEG

*Attribute\_Definition:*

flag (1=inside, 0=outside) for polygons within potential interface buffers (2.14 km around dense vegetation areas >= 75% wildland vegetation and > 500 hectares in 2020)

*Attribute\_Definition\_Source:*

SILVIS Lab

*Attribute:*

*Attribute\_Label:*FIPS

*Attribute\_Definition:*

U.S. County Federal Information Processing Standards (FIPS) code.

*Attribute\_Definition\_Source:*

National Institute of Standards and Technology (NIST)

*Attribute:*

*Attribute\_Label:*Shape\_Length

*Attribute\_Definition:*

Length of feature in internal units.

*Attribute\_Definition\_Source:*

Esri

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Positive real numbers that are automatically generated.

*Attribute:*

*Attribute\_Label:*Shape\_Area

*Attribute\_Definition:*

Area of feature in internal units squared.

*Attribute\_Definition\_Source:*

Esri

*Attribute\_Domain\_Values:*

*Unrepresentable\_Domain:*

Positive real numbers that are automatically generated.

*Overview\_Description:*

*Entity\_and\_Attribute\_Overview:*

This data publication includes a geodatabase (\Data\CONUS\_WUI\_block\_1990-2020\_change.gdb) containing WUI data for the conterminous United States. Data include housing and population densities for 1990, 2000, 2010, and 2020; wildland vegetation percentages for 1992, 2001, and 2011; as well as WUI classes in 1990, 2000, 2010, and 2020. Specific information about these data is available in the detailed section above.  
  
Spatial objects (features) do not model any real world entities. Spatial objects (features) can be thought of as uniform areas of housing density and landcover, which have been assigned a wildland-urban interface (WUI) classification. Items pertaining to National Land Cover Data (NLCD) make use of the following classification: https://www.mrlc.gov/data/legends/national-land-cover-database-class-legend-and-description.

*Entity\_and\_Attribute\_Detail\_Citation:*

None provided

*Distribution\_Information:*

*Distributor:*

*Contact\_Information:*

*Contact\_Organization\_Primary:*

*Contact\_Organization:*USDA Forest Service, Research and Development

*Contact\_Position:*Research Data Archivist

*Contact\_Address:*

*Address\_Type:*mailing and physical

*Address:*240 West Prospect Road

*City:*Fort Collins

*State\_or\_Province:*CO

*Postal\_Code:*80526

*Country:*USA

*Contact\_Voice\_Telephone:*see Contact Instructions

*Contact Instructions:*This contact information was current as of August 2023. For current information see Contact Us page on: https://doi.org/10.2737/RDS.

*Resource\_Description:*RDS-2015-0012-3

*Distribution\_Liability:*

Metadata documents have been reviewed for accuracy and completeness. Unless otherwise stated, all data and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. However, neither the author, the Archive, nor any part of the federal government can assure the reliability or suitability of these data for a particular purpose. The act of distribution shall not constitute any such warranty, and no responsibility is assumed for a user's application of these data or related materials.  
  
The metadata, data, or related materials may be updated without notification. If a user believes errors are present in the metadata, data or related materials, please use the information in (1) Identification Information: Point of Contact, (2) Metadata Reference: Metadata Contact, or (3) Distribution Information: Distributor to notify the author or the Archive of the issues.

*Standard\_Order\_Process:*

*Digital\_Form:*

*Digital\_Transfer\_Information:*

*Format\_Name:*GDB

*Format\_Version\_Number:*see Format Specification

*Format\_Specification:*

Esri geodatabase

*File\_Decompression\_Technique:*Files zipped with 7-Zip

*Digital\_Transfer\_Option:*

*Online\_Option:*

*Computer\_Contact\_Information:*

*Network\_Address:*

*Network\_Resource\_Name:* <https://doi.org/10.2737/RDS-2015-0012-3>

*Fees:*None

*Metadata\_Reference\_Information:*

*Metadata\_Date:*20230731

*Metadata\_Contact:*

*Contact\_Information:*

*Contact\_Person\_Primary:*

*Contact\_Person:*David P. Helmers

*Contact\_Organization:*SILVIS Lab, Dept of Forest & Wildlife Ecology, University of Wisconsin-Madison

*Contact\_Position:*GIS/Data Scientist

*Contact\_Address:*

*Address\_Type:*mailing address

*Address:*1630 Linden Dr.

*City:*Madison

*State\_or\_Province:*WI

*Postal\_Code:*53706

*Country:*USA

*Contact\_Voice\_Telephone:*608-890-3160

*Contact\_Electronic\_Mail\_Address:*helmers@wisc.edu

*Contact Instructions:*This contact information was current as of original publication date. For current information see Contact Us page on: https://doi.org/10.2737/RDS.

*Metadata\_Standard\_Name:*FGDC Content Standard for Digital Geospatial Metadata

*Metadata\_Standard\_Version:*FGDC-STD-001-1998

*Metadata\_Access\_Constraints:*None

*Metadata\_Use\_Constraints:*None