New Mexico Climate Risk Map User Guide

NEW MEXICO

emnrd

Energy, Minerals and Natural Resources Department

Contents

Introduction

Compatibility

The current version of New Mexico Climate Risk Map is compatible with the following browsers; however, it is recommended that Firefox or Chrome be used with this application to optimize performance.

- Microsoft Edge
- Mozilla Firefox
- Google Chrome
- Safari

Support

- The User Guide can be found on the Help page.
- For technical support, email

Overview

The Climate Risk Map is designed to help New Mexico communities and citizens identify their climate change risk. Utilizing this tool a user can generate maps and create a hazard summary report for their area of interest, such as a county, community, or watershed. A User can explore the map and generate a report for a selected area of interest.

Accessing New Mexico Climate Risk Map

To access the New Mexico Climate Risk Map web mapping application:

Open a compatible web browser while connected to the internet and navigate to the following web link:

https://nmclimatemap.org

Using the Viewer

The Viewer is designed to let users zoom to a place of interest, explore the map data, and quickly assess the climate risk. Upon accessing the application, the map opens as shown below.

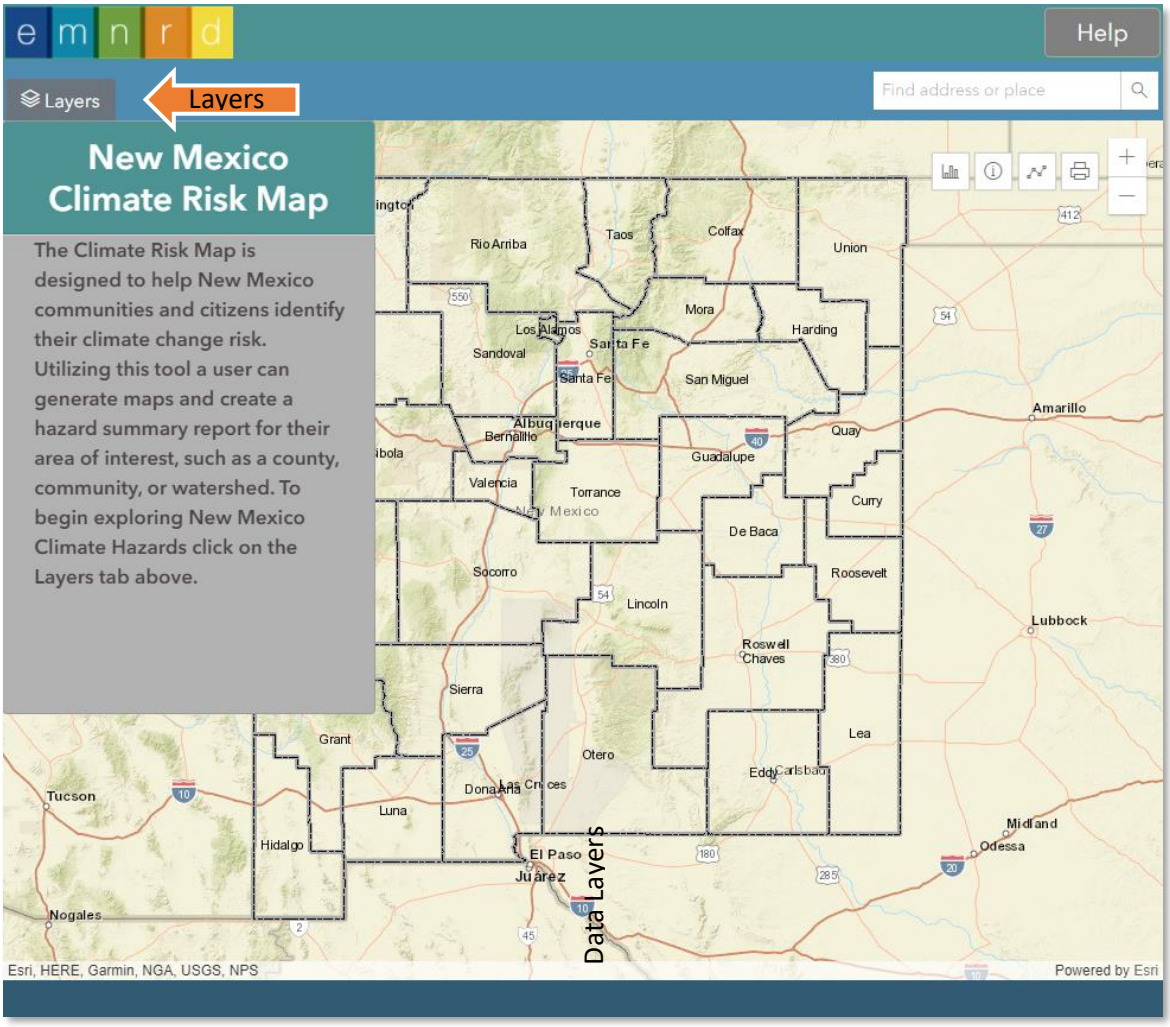

Figure 1. the New Mexico Climate Risk Map Application

Navigation

There are two ways to navigate the map:

1. Manually navigate suing the zoom in/out  buttons.

2. Search for a specific location or place. Click in the box next to the magnifying glass and enter either an address, a town or an X and Y Coordinate. If an address or a location is entered a list of choices is presented, pick the correct address from the displayed list and the map will zoom to that location as shown below.

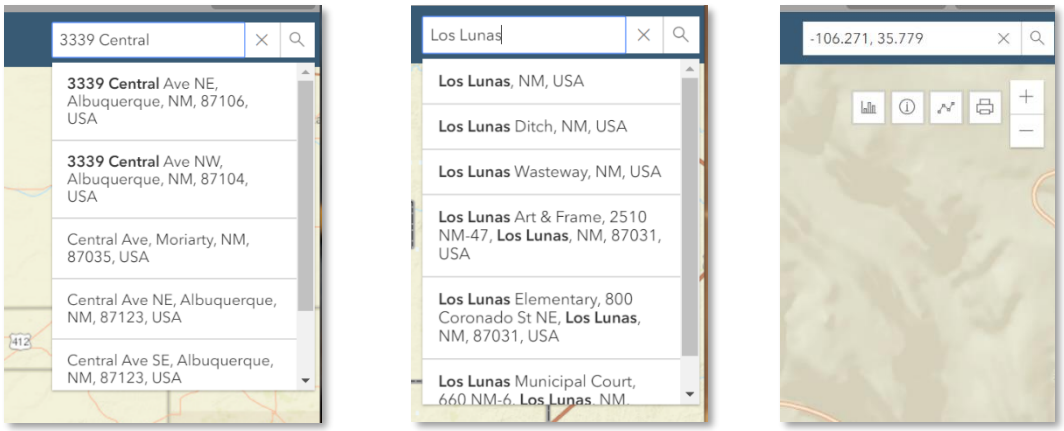

Figure 2. Search Methods

Climate Hazard Layers

The data layers in this mapping application are organized by Climate Hazard Type – Air Quality, Drought Flood, Heat and Wilfire. Each Climate Hazard has three subsets of information Hazard Data, Sensitivity Factors, and Adaptive Capacity Factors. By clicking on the hazard of interest in the table of contents the layers expand and the 3 subsets are shown, see in Figure 3. Click the radio button on the left of the data to turn it on.

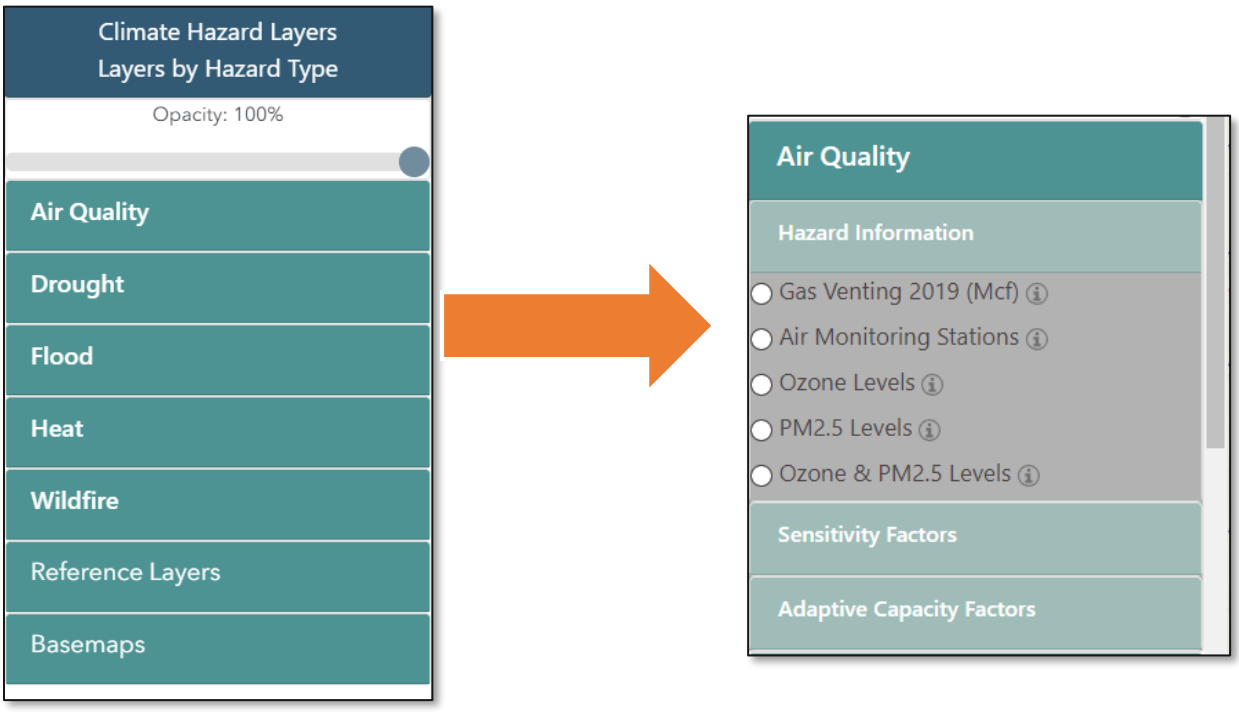

Figure 3. Hazard Layers in Table of Contents

The Climate Hazards layers have a legend along the bottom of the map window. As the user moves the cursor over the map the legend shows the corresponding value.

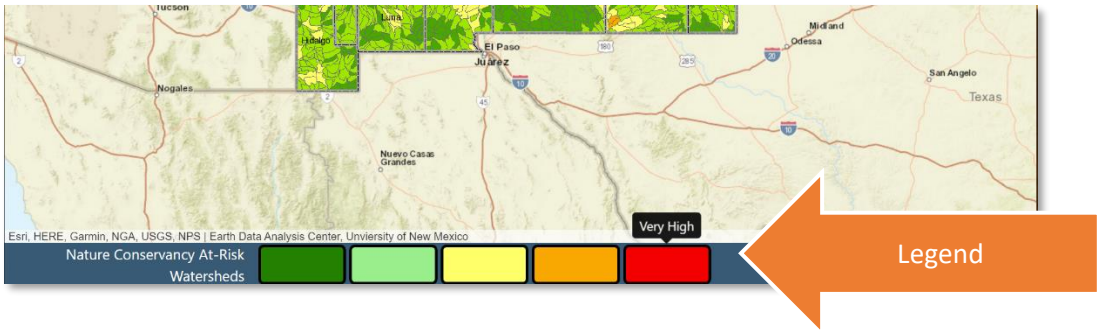

Figure 4. The New Mexico Climate Risk Map Legend

Data Display

The transparency of the data layers can be adjusted by using the Opacity slider at the top of the layer groups, move the button to the left to increase the transparency of the data layers.

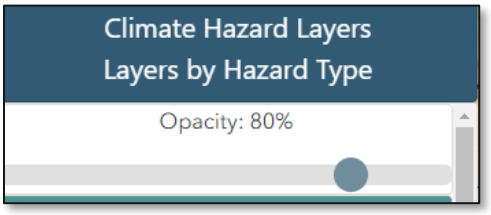

Figure 5. Opacity Control

Information for the Climate Layers can be viewed by clicking on the ⓘ to the right of the layer name.

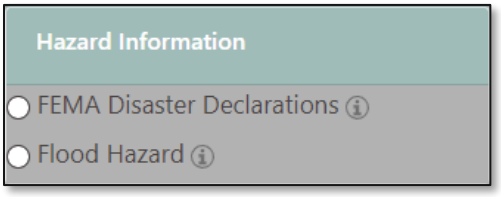

Figure 6. Data Information Button

Reference Layers

In addition to the Climate Hazard layers there are a series of Reference layers that include County boundaries, Tribal Land, Incorporated Places, Land Grant boundaries, and BLM Land Ownership.

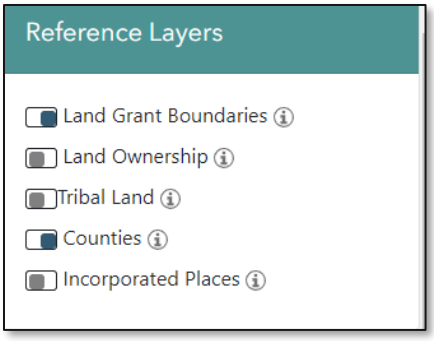

Figure 7. Reference Layers

Basemap

This feature allows you to choose from a selection of basemaps. The default map is the streets basemap.

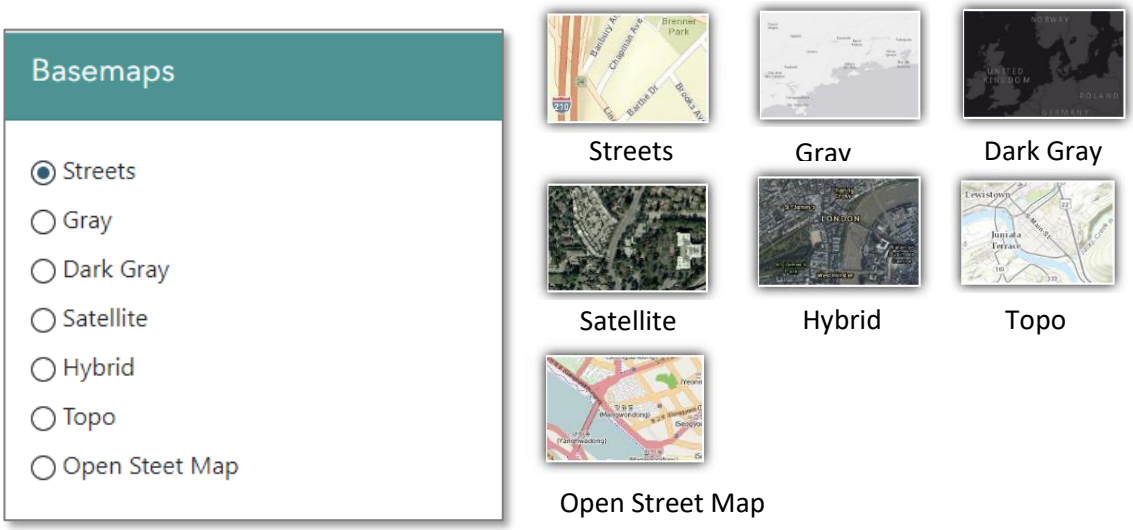

Figure 8. NMWRAP Basemaps

To select a Basemap, click the radio button next to the name.

- Streets: ESRI Street Basemap showing roads and highways, water features, political boundaries, and places.
- Gray: ESRI Light Gary Basemap, a nuetral basemap with streets, political boundaries, water features.
- Dark Gray: ESRI Dark Gray Basemap, a darker nuetral basemap with streets, political boundaries, water features.
- Satellite: ESRI Imagery Basemap, satellite and arieal imagery at various scales and derived from varios sources.
- Hybrid: ESRI Imagery Basemap satellite and arieal imagery at various scales and derived from varios sources with place names.

- Topo: ESRI Topographic Basemap, topographic Basemap showing generalized topography, strees, political areas and water features.
- Open Street Map: Open data streets, roads, highways, water features, polictical boundaries and places.

Map Tools

Info Tool 

The Info tool allows the User to click on a data layer and see informaton about that data feature. See Figure 9. To turn off the Info Tool click the info Icon.

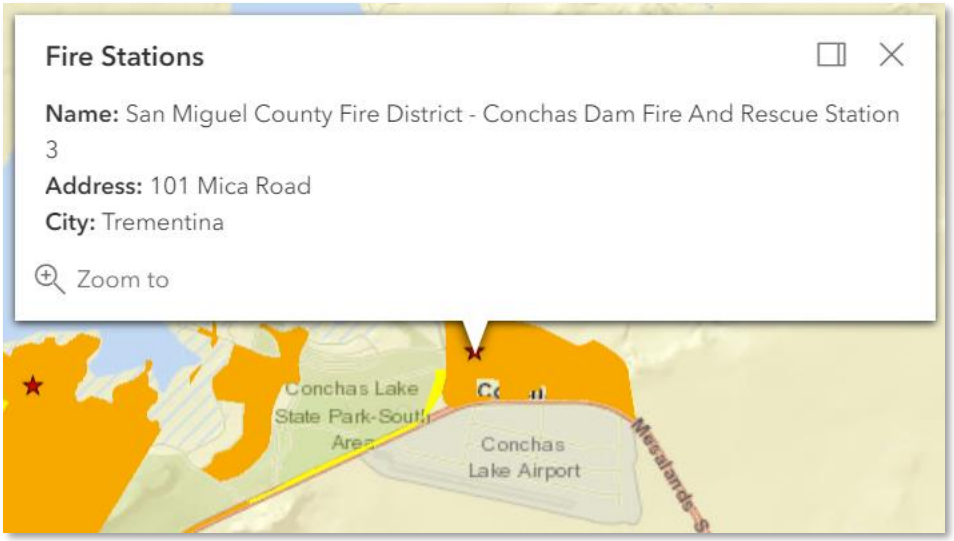

Figure 9. Info Tool Popup Window

Measure Tool 

The Measure tool measures distance in meters, feet, kilometers, miles, and yards.

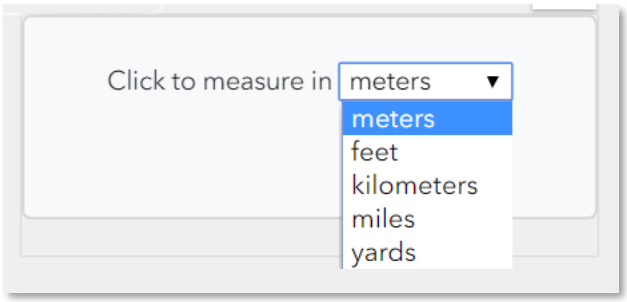

Figure 10. Measure Tool

Print 

Clicking the print button creates a map of the current viewing extent. You have the option to print the map to different file types and at various sizes. The default print setting is to print a PDF file at letter sized paper (ANSI A) in portrait orientation. The User can add a custom title to the map and if desired under Advanced Options an Author and copyright information can be added. Once the desired parameters are selected click the Export Button to create the pdf file, once the file is generated click on the file name to download. Once the pdf file is generated it can be emailed or printed.

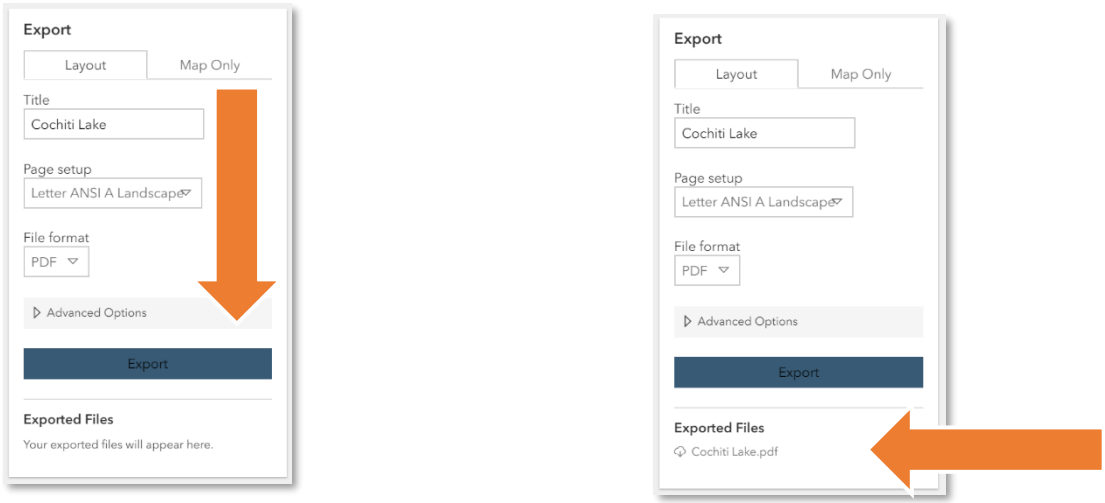

Figure 11 . Print Dialog and Export Pdf File

To close the Print Dialog click the Print Icon 

Generate Report

The New Mexico Climate Risk Map will generate a downloadable report of a user's area of interest that summarizes the GIS data that is loaded in the application. A User can draw a polygon on the map, upload a shapefile with a custom area of interest or choose a County or City Boundary. The report is downloaded as a pdf file.

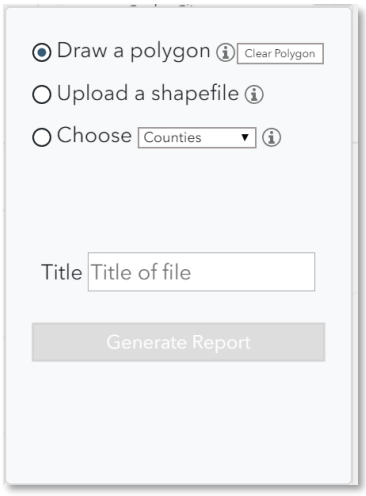

Figure 12. Report Generation Tool

The User can upload a shapefile with a single area of interest, it will need to be zipped in a zip file. Choose the Upload a shapefile option on the report menu and navigate to the zipped shapefile in the selection window. Then click generate Report.

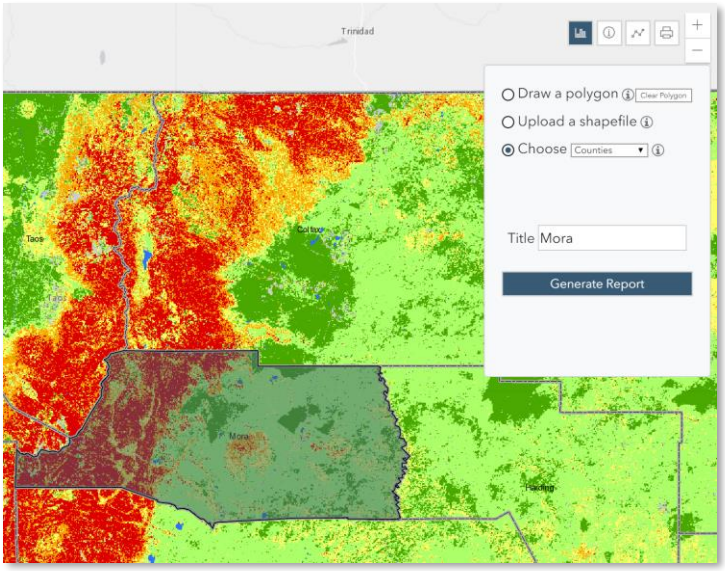

Figure 13. Choose Area of Interest for Report

Primary Data Sources

1. The wildfire hazard potential (WHP) data are from Wildfire risk data is from the USDA Forest Service, Fire Modeling Institute (FMI), Missoula Fire Sciences Laboratory.
   Dillon, Gregory K. 2018. Wildfire Hazard Potential (WHP) for the conterminous United States (270-m GRID), version 2018 classified. 2nd Edition. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2015-0046-2

2. GIS Data from the NMRGIS, the New Mexico spatial data clearinghouse. RGIS.unm.edu
3. New Mexico State Forestry, Energy, Minerals and natural Resources Department Forestry Division. 2018 New Mexico Communities at Risk Assessment Plan. View plan.
4. Surface Drinking Water Importance Index and Index of Forest Importance to Surface Drinking Water

   The USDA Forest Service Forests to Faucets project uses GIS to model and map the continental United States land areas most important to surface drinking water, the role forests play in protecting these areas, and the extent to which these forests are threatened by development, insects and disease, and wildland fire.

   https://www.fs.fed.us/ecosystemservices/FS_Efforts/forests2faucets.shtml

5. Vegetation Treatments geodatabase was created by NMFWRI (at NMHU main campus) for the Forest and Watershed Health Coordinating Group.
   https://www.arcgis.com/home/item.html?id=a6ffb74828b541c0bbc883543fb774bb
6. The wildfire hazard potential (WHP) data are from Wildfire risk data is from the USDA Forest Service, Fire Modeling Institute (FMI), Missoula Fire Sciences Laboratory.
   Dillon, Gregory K. 2018. Wildfire Hazard Potential (WHP) for the conterminous United States (270-m GRID), version 2018 classified. 2nd Edition. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2015-0046-2

7. Wildland Urban Interface (WUI) data http://silvis.forest.wisc.edu/data/wui-change/
   Radeloff, Volker C.; Helmers, David P.; Kramer, H. Anu; Mockrin, Miranda H.; Alexandre, Patricia M.; Bar Massada, Avi; Butsic, Van; Hawbaker, Todd J.; Martinuzzi, Sebastián; Syphard, Alexandra D.; Stewart, Susan I. 2017. The 1990-2010 wildland-urban interface of the conterminous United States - geospatial data. 2nd Edition. Fort Collins, CO: Forest Service Research Data Archive. https://doi.org/10.2737/RDS-2015-0012-2

8. The New Mexico Climate Risk Map REST Service Directory:
   https://edacarc20.unm.edu/arcgis/rest/services/NMEMNRD

Acknowledgments and Disclaimer