

New Mexico Wildfire Risk Assessment Portal User Guide



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Introduction

Compatibility

The current version of NMWRAP 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 nmwrap@edac.unm.edu

Overview

The New Mexico Wildfire Risk Portal is designed to increase wildfire awareness and provide an overview of wildfire risk in New Mexico. It is a web-mapping tool intended for public use. Utilizing this tool a user can generate maps, download data and reports for a selected area of interest such as counties or watersheds.

A User can explore the map and generate a report for a selected area of interest. If the User wants to download the associated GIS data. A login will have to be obtained by emailing nmwrap@edac.unm.edu.

Accessing NMWRAP

To access the NMWRAP web mapping application:

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

<https://nmwrap.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 risk of wildfire. Upon accessing the application, the map opens as shown below.

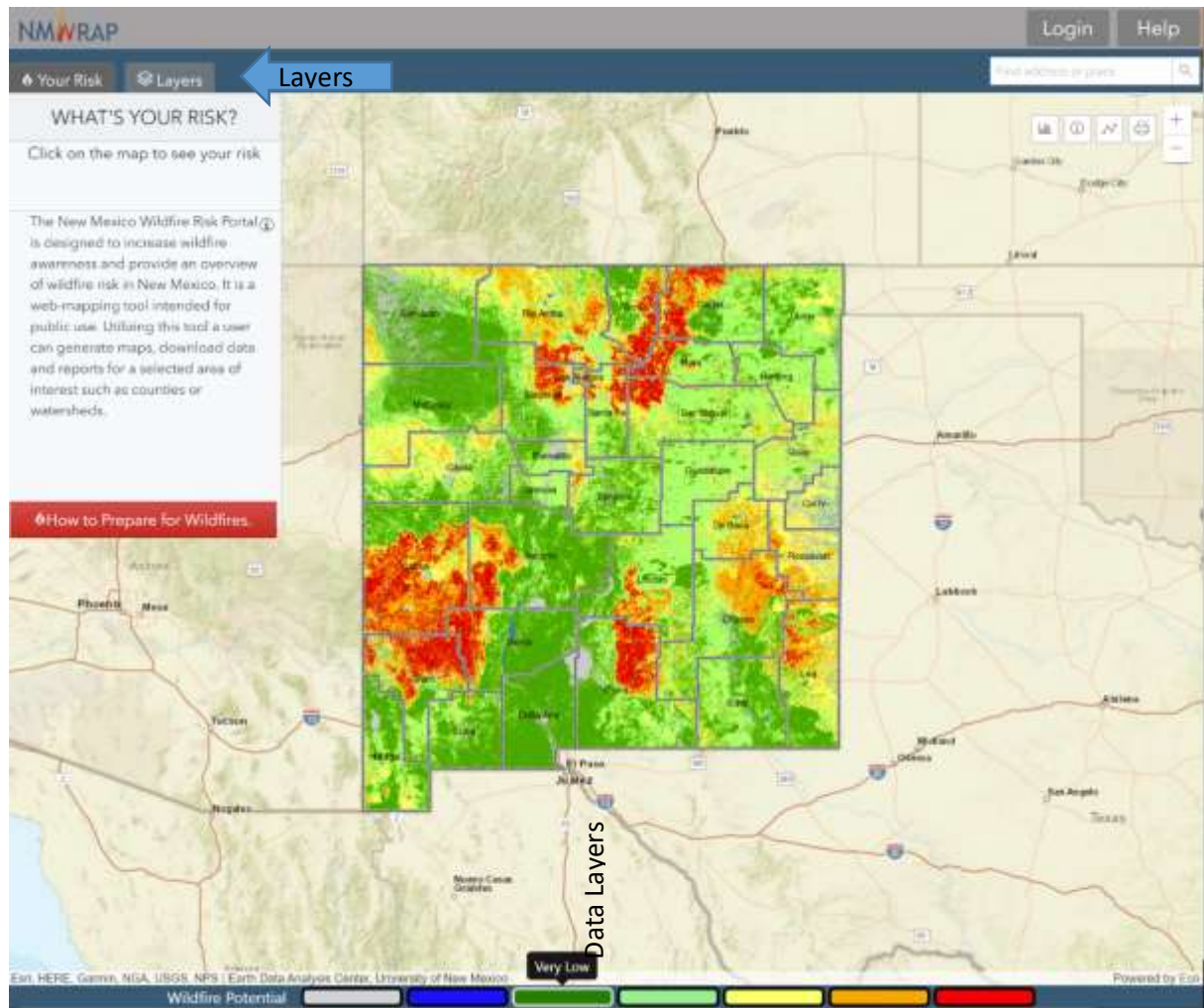



Figure 1. NMWRAP Application

Navigation

There are two ways to navigate the map:

1. Manually navigate using 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.

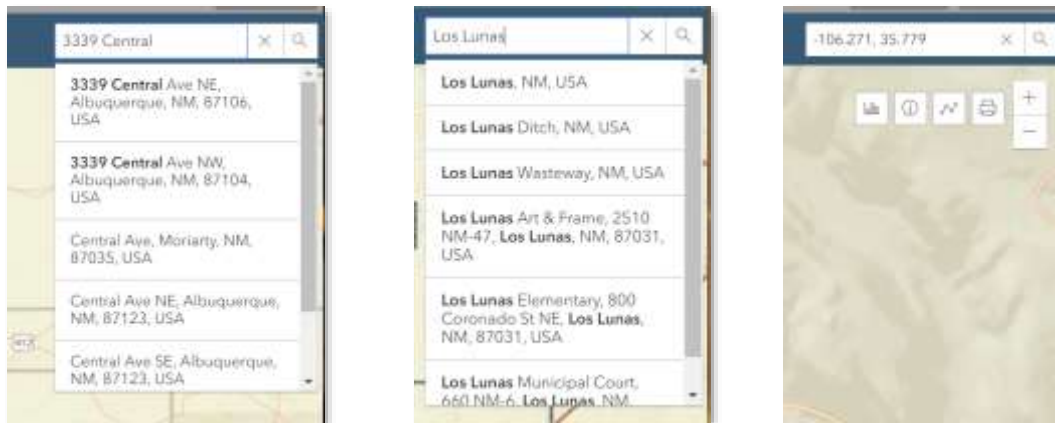


Figure 2. Search Methods

Map Layers

This mapping application contains the following datasets:

Reference Data Layers

- Fire Stations
- Communities at Risk
- Community Boundaries
- Watershed Boundaries HUC-8 & HUC-12
- Soil and Water Conservation Districts Boundaries
- Land Grant Boundaries
- USFS District Boundaries
- Vegetation Treatments
- County Boundaries
- Surface Land Ownership
- Surface Drinking Water Importance – HUC-12 Watersheds
- Index of Forest Importance to Surface Drinking Water

Wildfire Risk Data Layers

- Nature Conservancy At-Risk Watersheds
- Wildland Urban Interface (WUI)
- Where People Live (LANDSCAN)
- Wildfire Potential
- Vegetation

Layers

This displays the layers used in the map. You can expand folders and click the radio button to turn layers on or off, see Figure 3. The Wildfire Potential layer is turned on by default.

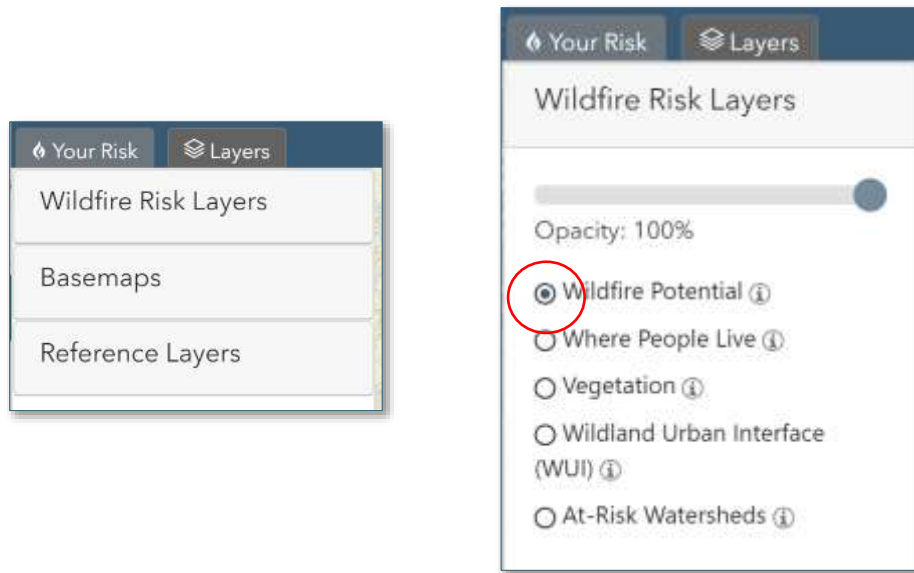


Figure 3. Layer Display

Symbols for Reference Layers

You can view the Reference layer symbology by hovering your cursor over the ⓘ symbol next to the data layer name.

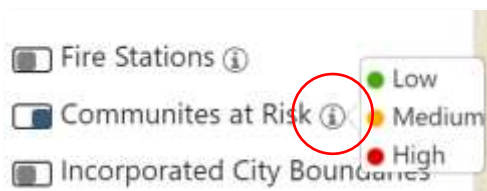


Figure 4. Symbology

The Wildfire Risk 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 5. NMWRAP Legend

Map Data Layers

These layers allow the user to view spatial data associated with Wildfire hazard, basemaps and reference data layers. They are organized into three categories.

- Wildfire Risk Layers
- Basemaps
- Reference Layers

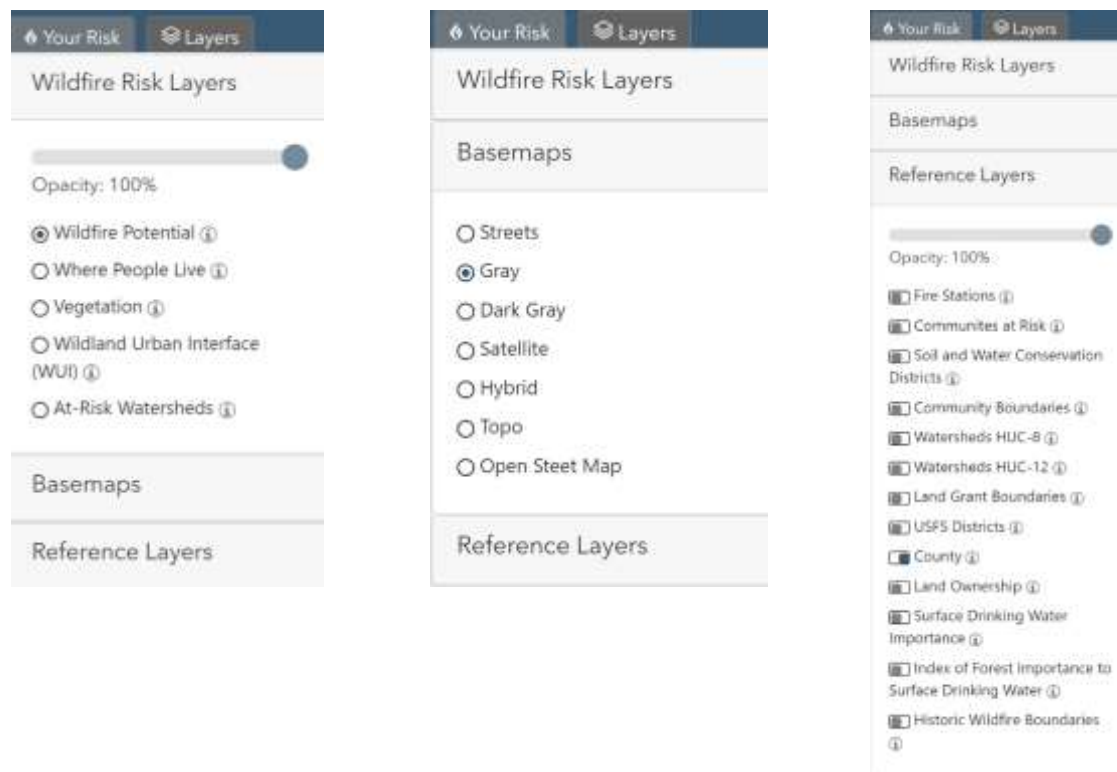


Figure 6. Map Data Layers

The transparency of the data layers can be adjusted by using the Opacity slider at the top of the layer group.

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

What's Your Risk Tool

This tool shows the potential wildfire risk at a selected location on the map. The X on the map marks the location of the risk, see Figure 7.

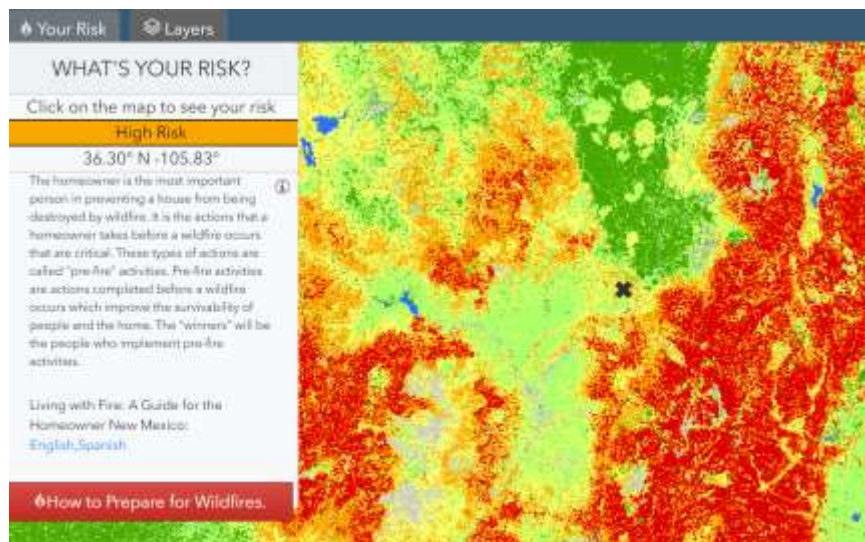


Figure 7. What's Your Risk Location

Basemap

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

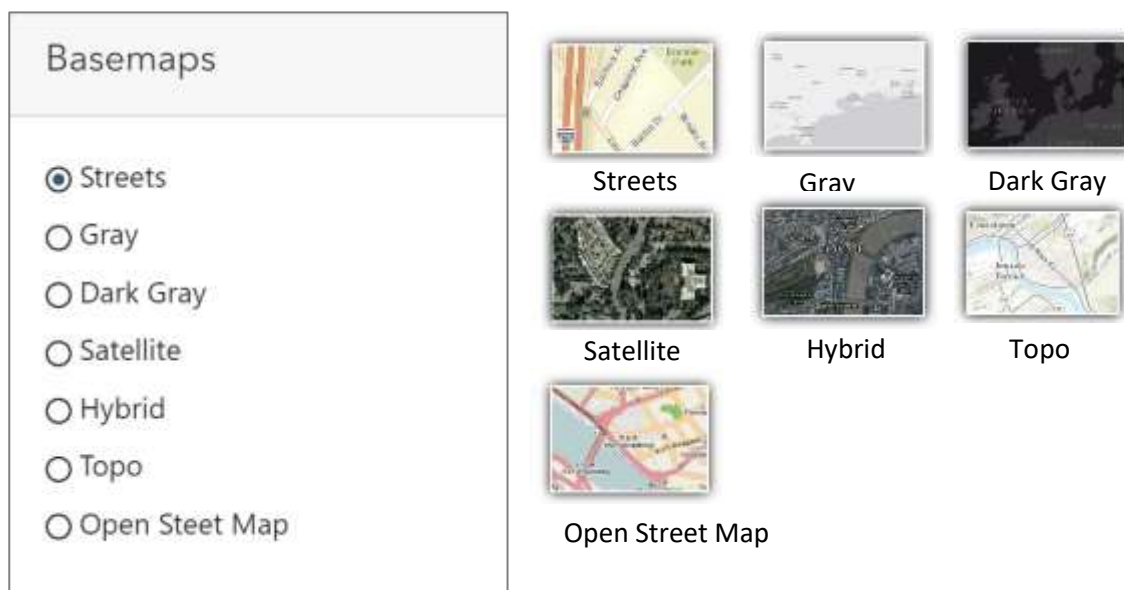


Figure 8. NMWRAP Basemaps

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 Gray Basemap, a neutral basemap with streets, political boundaries, water features.
- Dark Gray: ESRI Dark Gray Basemap, a darker neutral basemap with streets, political boundaries, water features.

- Satellite: ESRI Imagery Basemap, satellite and arial imagery at various scales and derived from varios sources.
- Hybrid: ESRI Imagery Basemap satellite and arial 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.

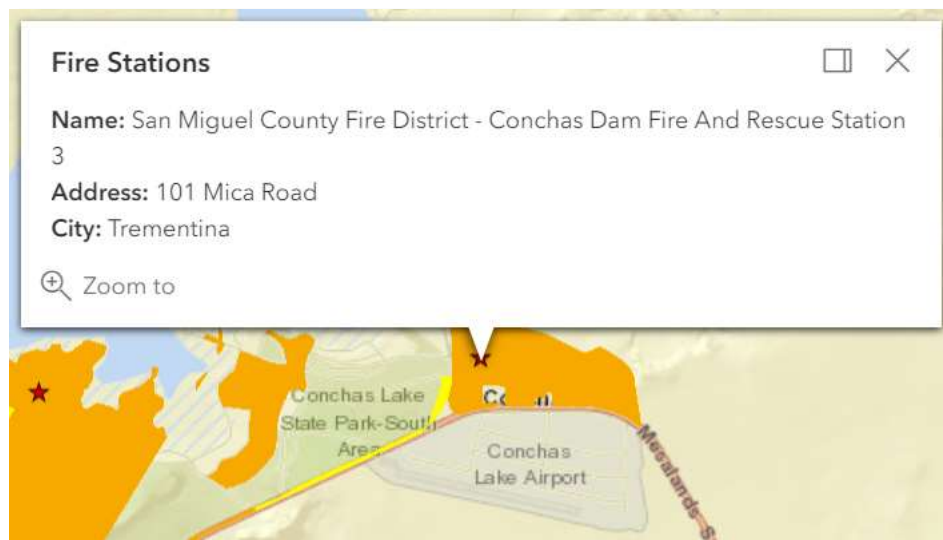


Figure 9. Info Tool Popup Window

Measure Tool



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

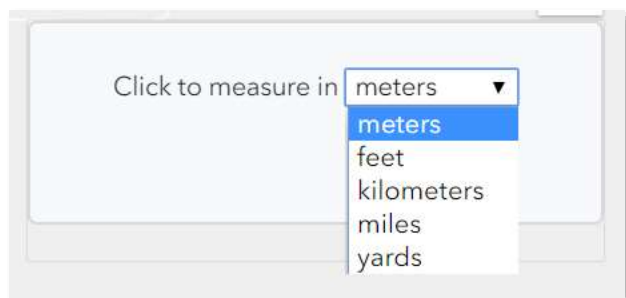


Figure 10. Measure Tool

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.

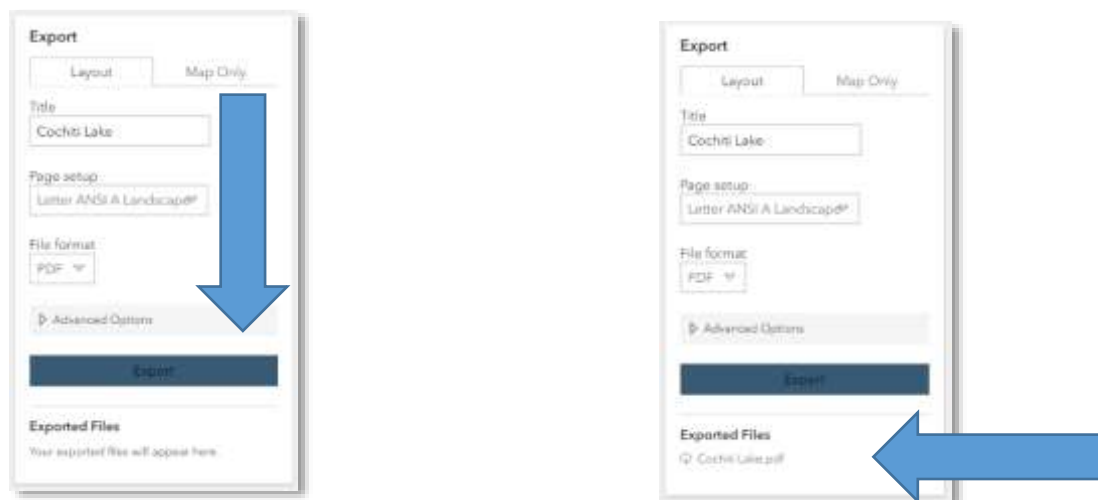


Figure 11 . Print Dialog and Export Pdf File

To close the Print Dialog click the Print Icon



Generate Report

NMWRAP 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.



☒ Draw a polygon ⓘ Clear Polygon
☐ Upload a shapefile ⓘ
☐ Choose Counbes ⓘ

 Title Title of file

 Generate Report

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.

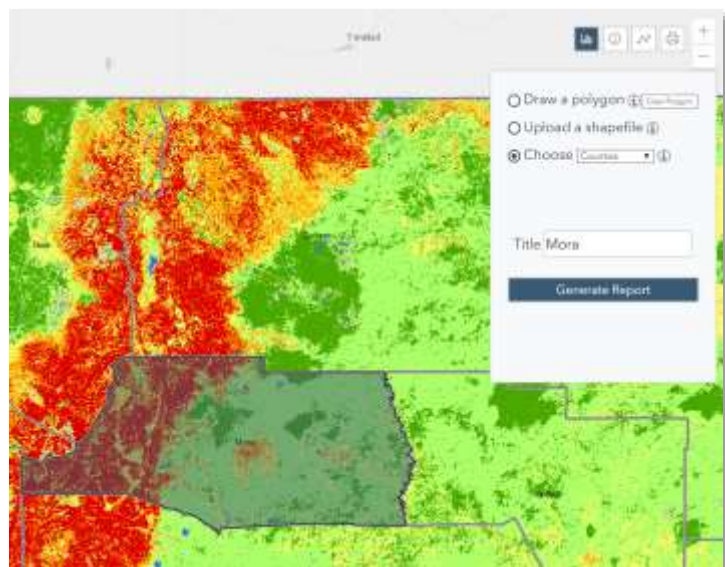


Figure 13. Choose Area of Interest for Report

Advanced Functionality

Extract Data

After selecting the area of interest the User can extract and download the GIS data for this area in a geodatabase. The User has to be logged into NMWRAP to be able to download Data.

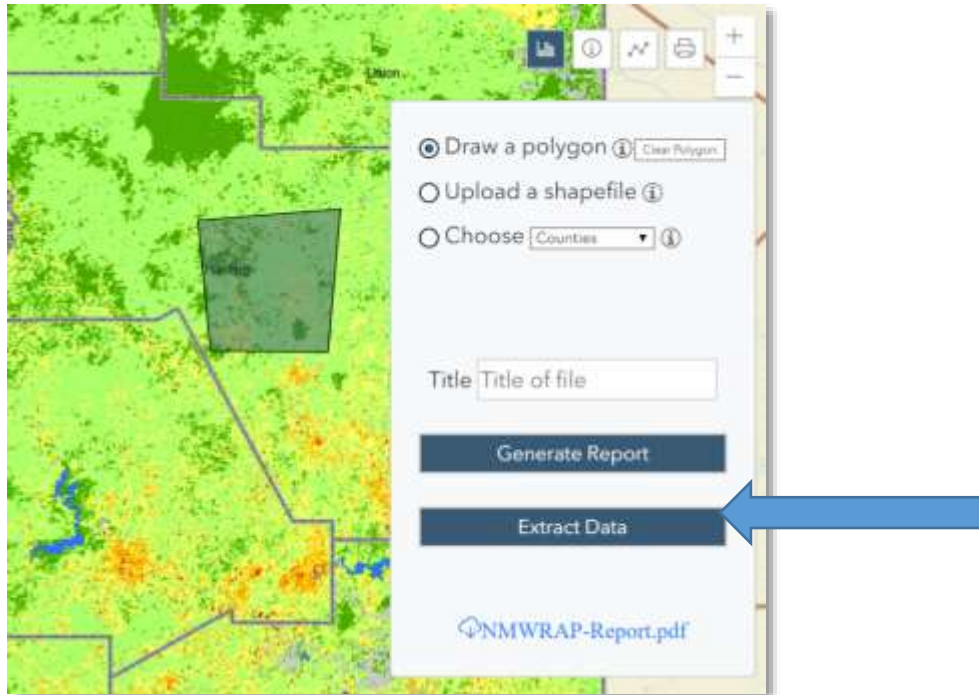


Figure 14. Extract Data for Area of Interest

After clicking the Extract Data button once the User will receive an email with a link to download a zipped geodatabase.



Figure 15. Data Extract window

The email will continue a download link to download the zipped geodatabase for the area of interest.

User Login

To request a login for the advanced functionality on NMWRAP email nmwrap@edac.unm.edu.

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. LANDFIRE Vegetation data from Wildland Fire Science, Earth Resources Observation and Science Center, U.S. Geological Survey. <http://www.landfire.gov>
4. New Mexico State Forestry, Energy, Minerals and natural Resources Department Forestry Division. 2018 New Mexico Communities at Risk Assessment Plan. [View plan](#).
5. 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/ecosystems/services/FS_Efforts/forests2faucets.shtml
6. Vegetation Treatments geodatabase was created by NMFWR (at NMHU main campus) for the Forest and Watershed Health Coordinating Group.
<https://www.arcgis.com/home/item.html?id=a6ffb74828b541c0bbc883543fb774bb>
7. 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>
8. 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>
9. NMWRAP REST Service Directory: <http://edacarc.unm.edu/arcgis/rest/services/NMWRAP>

Acknowledgments and Disclaimer

The information is being provided as is and without warranty of any kind either express, implied or statutory. The user assumes the entire responsibility and liability related to their use of this information. No responsibility is assumed for damages or other liabilities due to the accuracy, availability, use or misuse of the information herein provided. By accessing this web mapping application and/or data

contained within, you hereby release the Earth Data Analysis Center, University of New Mexico and all data providers from liability.

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