THE INDIAN HEALTH SERVICE
PRCDA MAP APP
QUICK START GUIDE

Office of Public Health Support
Division of Planning, Evaluation, & Research

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I. GETTING STARTED WITH THE IHS MAP PORTAL

Introduction to the IHS Map Portal

The IHS Map Portal is a map-centric content management system hosted and managed within the IHS IT infrastructure framework. The IHS Map Portal contains a library of different types of geographic content called “items” including map layers, web maps, and web map applications. Users sign in the IHS Map Portal to search, explore, share geographic content or to collaborate on a map project.

There are two main Portal member types: Viewers and Creators. Creators can view, share, create, and edit content in the IHS Map Portal. Viewers can only view content; viewers cannot edit or create content.

Access to the IHS Map Portal is granted to IHS employees and tribal partners on a case-by-case basis depending on user needs and availability of accounts and licenses. The IHS Map Portal currently has over 600 members. The IHS opened up the IHS Map Portal to tribal partners in 202. There are currently have 24 tribal users representing 17 different tribes in the IHS Map Portal.

Main Types of Geographic Content in the IHS Map Portal

The IHS Map Portal contains a library of different types of geographic data known as “map layers.” Equivalent to a legend item on a paper map, map layers are logical collections of geographic data that are used to create web maps and web map apps. For example, on a road map, rivers, highways, and state borders would be considered different layers.

Different types of geographic content have different capabilities. Figure 1 shows the different types of geographic content available in the DCC Portal Group. The symbols circled in red in Figure 1 tell you the content type. Additionally, if you hover over the item, a black box will appear with a tip indicating the content type.

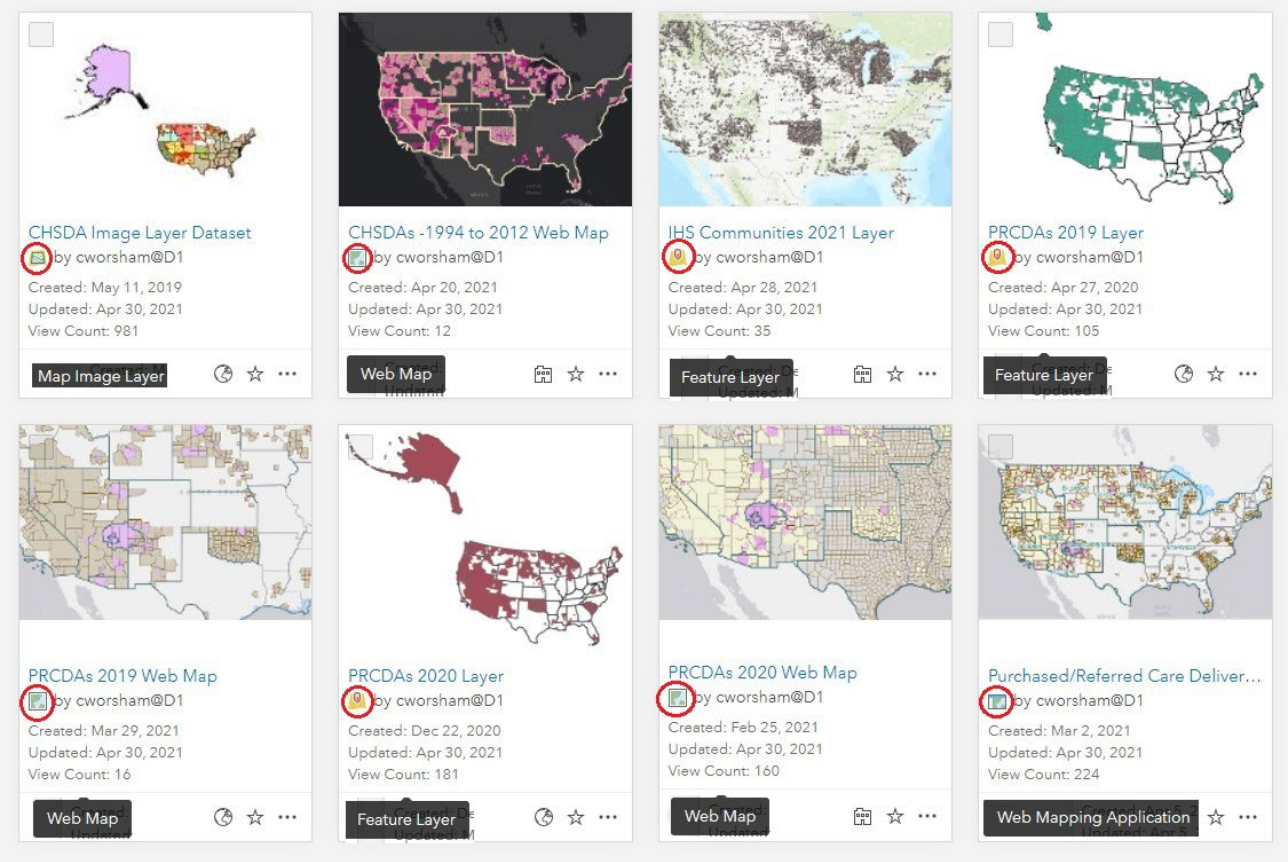
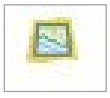


Figure 7. ORAP DCC Collaborators Portal Group Geographic Content

Layers, Web Maps, and Web Map Apps

— A **map layer** is a grouping of similar geographic features. For example, PRCDA boundaries, federally recognized Indian lands, and IHS communities are all layers. Feature layers can be points, lines, or polygons (areas) but a feature layer cannot contain multiple geometry types in the same layer. Layers are the building blocks of web maps.



— Like a feature layer, a **map image layer** is a grouping of similar geographic features in the form of points, lines, or areas but the data is rendered as images, like a photograph, rather than raw data. Map image layers draw faster than feature layers but this speed comes with some limitations.

— A **web map** contains one or more layers that are published to a special kind of server that knows how to render geographic data.

— A **web map application** is built from one or more web maps around a common theme or issue that includes an interactive display of geographic information and widgets that you can use to answer questions and solve problems with a geographic component.

II. THE PRCDA MAP APPLICATION

The purpose of PRCDA map application is to provide the Division of Contract Care (DCC) a relevant web map application with a user-friendly map interface and tools ("widgets") to support PRC Program staff in carrying out their responsibilities, including being able to quickly determine a person's PRC eligibility requirement based on where they live.

The PRCDA map application contains several different widgets highlighted in red in Figure 1 to help you explore and query the data.

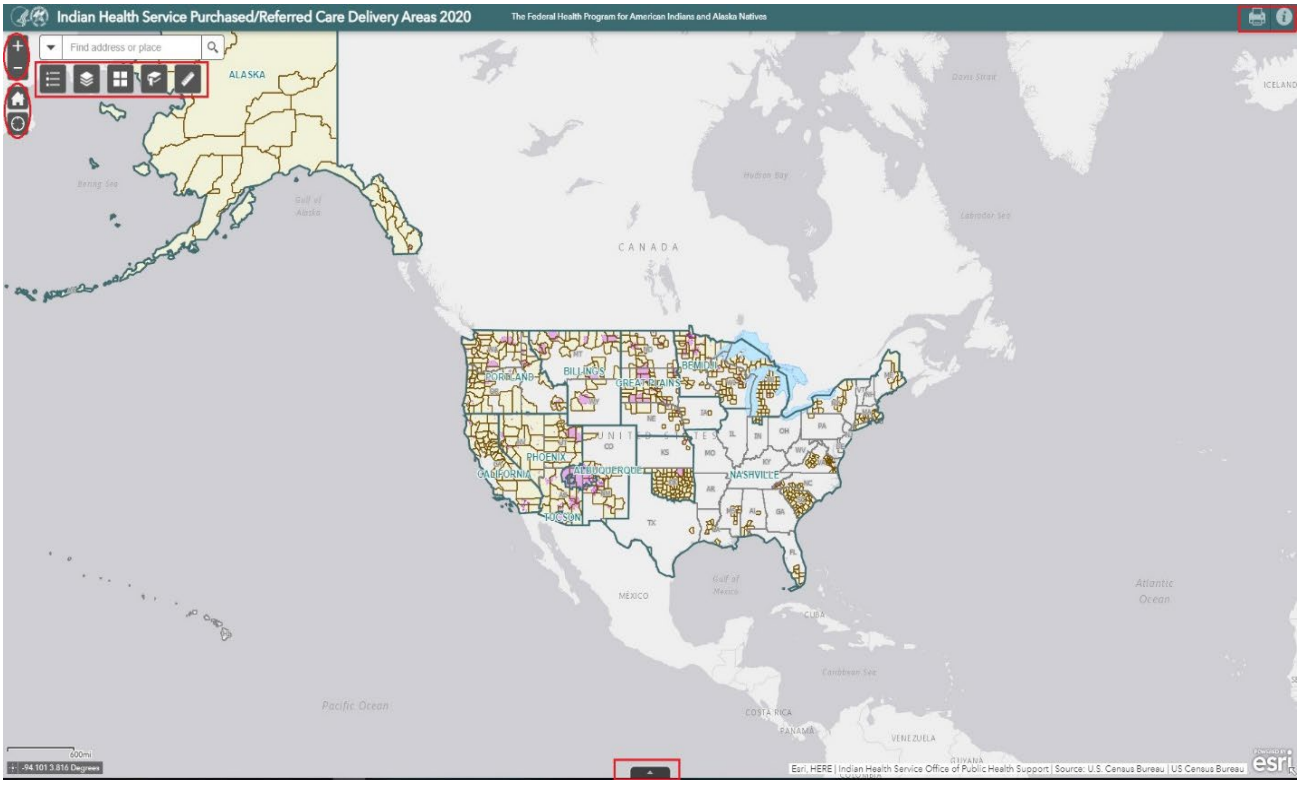
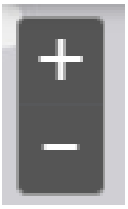


Figure 1. The PRCDA Map App User Interface

PRDCA Map Application Widgets

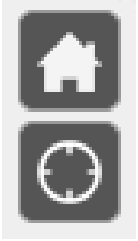
Top Left Vertically Positions Widgets



Zoom Slider Widget — allows you to manually control the zoom level in and out on the map.

1. Practice using the **Zoom Slider Widget** to zoom in and out on the map. You can also use your mouse wheel to zoom in and out.

2. To move the map around without changing the zoom level, hold down the left click button on your mouse until you see the four sided arrow then drag the map to your desired location.



Home Button Widget—returns you to the zoom level of the map's initial display extent.

My Location Widget—detects your physical location and zooms to it on the map if you have allowed this on your computer.

3. Click the home button to return to the map's initial display extent.

The Search Widget

The **Search Widget** enables you to find an address or search the PRCDA 2020 layer on the map.

4. Click the drop down arrow to the left of the **Search box** as shown in Figure 2.

The drop down arrow gives you the option to search for an address or place on all data sources or limit your search to the PRCDA 2020 data. You can search the PRCDA layer by tribe, state, or PRC Area.

Figure 2. How to Specify Search Sources

5. Select **Search Address or Place** from the drop down arrow that is left of the Search box.

6. In the Search box, type **"830 West Central Avenue Missoula, MT."**

7. When you enter an address, place, or a keyword in the Search box, you see suggestions as you type. The map also zooms to the searched location on the map as shown in Figure 3.

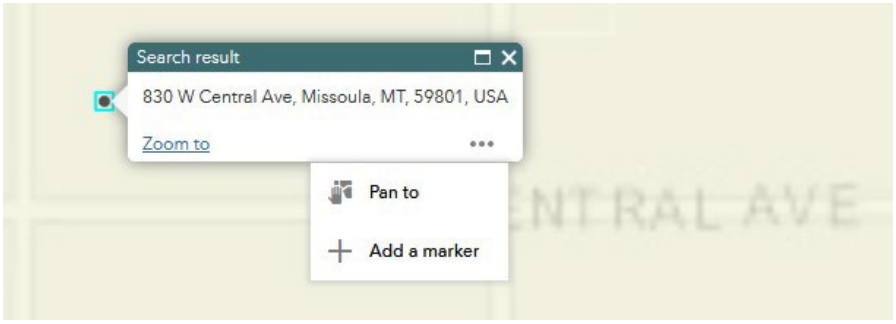


Figure 3. Zooming on the Map to Search Results

8. Chose **Add a marker** as shown in Figure 3 above. This adds a temporary marker symbol to the map as seen in Figure 4 below.

Figure 4. Adding a Marker to the Map

9. From the drop down arrow to the left of the Search box, this time select **Search PRCDA data** as the source. When you tell the Search Widget to search on the PRCDA layer, you can search by tribe, state, or PRCDA name (usually a county) in the Search box.

10. In the Search box, type "**Ho-Chunk**."

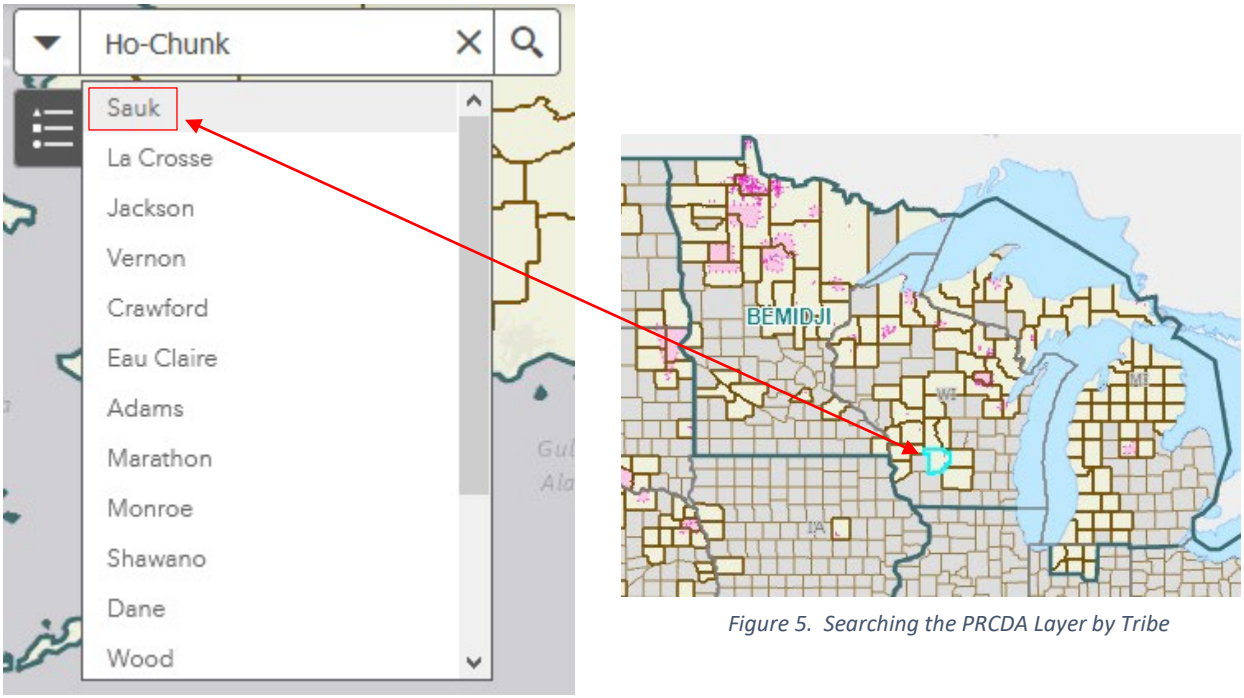


Figure 5. Searching the PRCDA Layer by Tribe

11. As Figure 5 shows, searching by "Ho-Chunk" returns all the PRCDAs that belong to the Ho-Chunk Tribe and highlights the first result on map.

12. Now type "**Texas**" in the Search box.

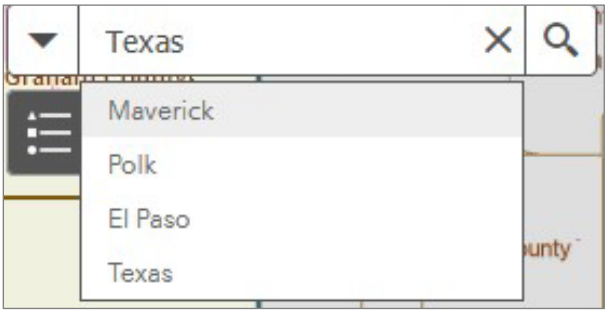


Figure 6. Searching the PRCDA Layer by State

Similarly, searching the PRCDA layer by "Texas" returns the PRCDAs that are inside Texas as shown on the left in Figure 6.

13. Clear the Search box and hit the **Home** button.

The PRCDA 2020 Table Widget

The **PRCDA 2020 Table Widget** displays a tabular view of the 2020 PRCDA layer's attributes at the bottom of your web app as shown in Figure 7. The table can be opened, resized, or closed.

Figure 7. The Table Widget

14. Open the **PRCDA 2020 Table Widget** at the bottom of your web app. The table displays seven columns from left to right: PRC Area Name, PRC Entity Name, Tribal Entity, Shared, State, PRC Year, and FRN Citation.

15. Click **Options** on the top left as shown in Figure 8.

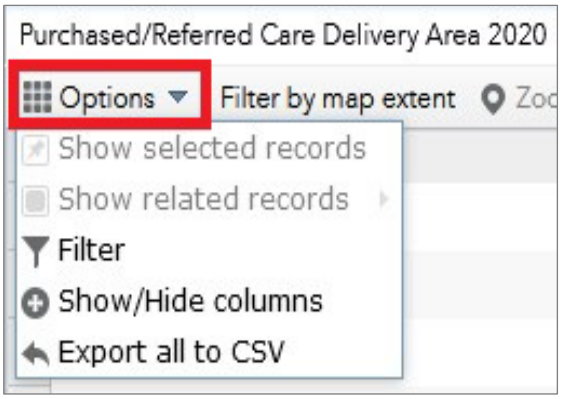


Figure 8. Selecting Options in the Table Widget

16. Clicking **Options** on the table panel reveals your three choices as shown in Figure 8:

- **Filter**—filters records in the table by attribute.
- **Show or Hide Columns**—sets visibility for individual columns by clicking the plus button on right side of the table panel.
- **Export to CSV**—exports the attributes to a CSV file. If records are filtered, only selected records are exported. If no records are filtered, all records are exported.

17. Select **Filter** from **Options**. The Filter box opens.

18. Next in the Filter box, select **Add expression** and then choose **Shared (String)** from the drop down menu option as shown in Figure 9.

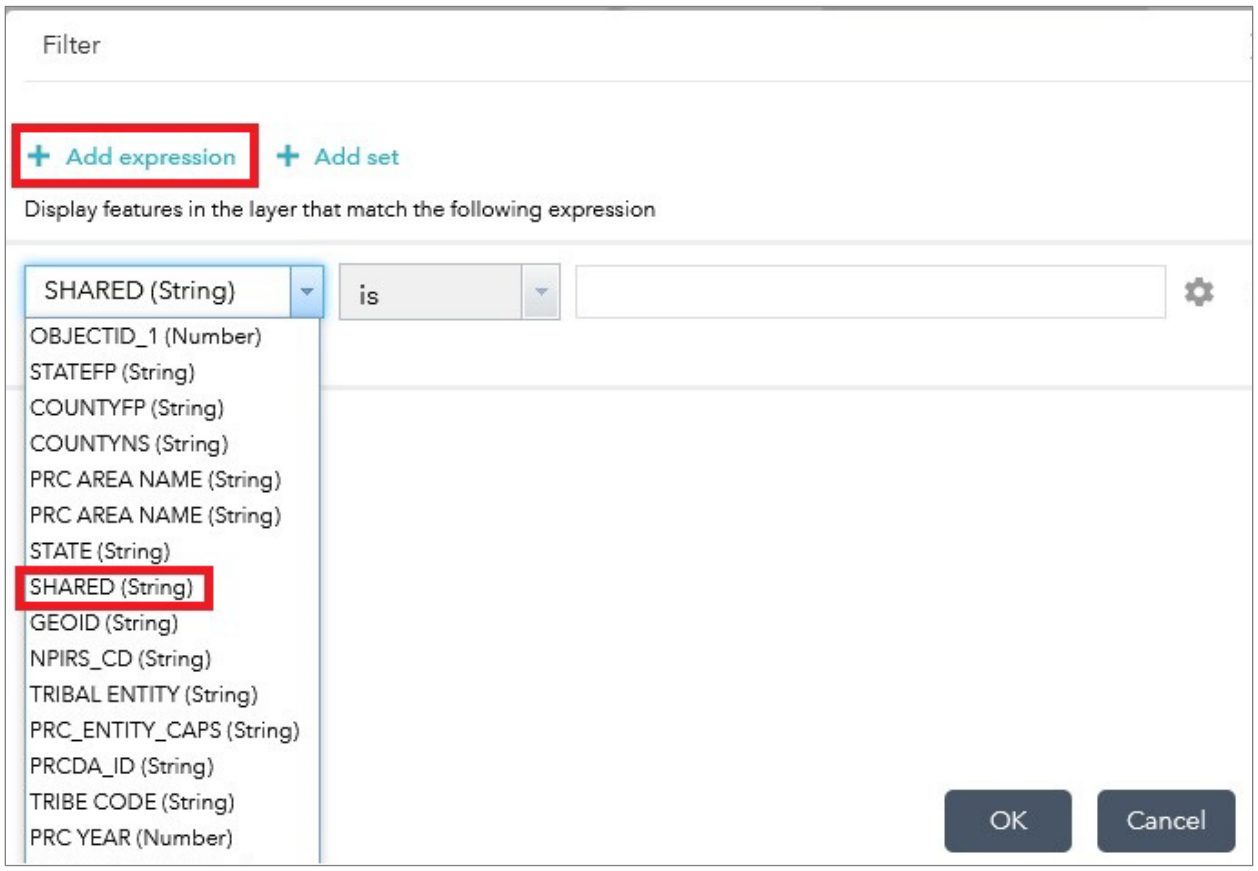


Figure 9. Creating An Expression with the Filter

19. Next click on the **Wheel** icon on the left side of the Filter box.

20. Select **Unique** to **set the input type** as indicated in the image on the left side in Figure 10.

21. Now select **Yes** as indicated in the right image in Figure 10.

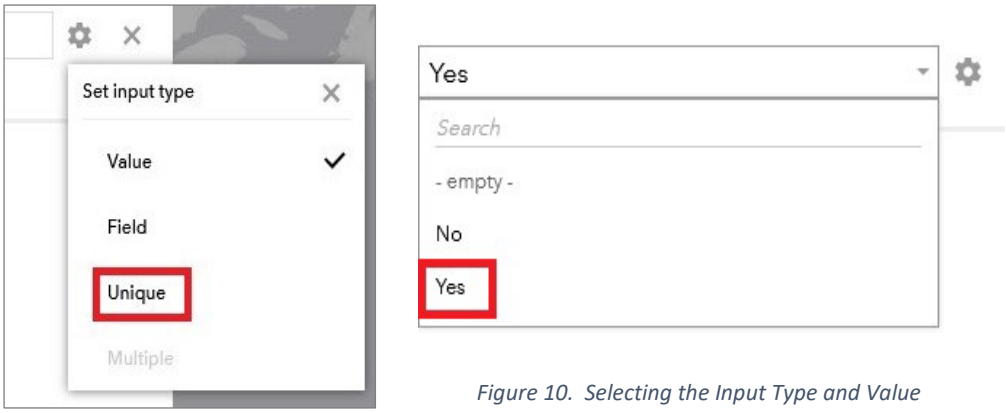


Figure 10. Selecting the Input Type and Value

22. The table returns only 178 features or records for PRCDAs that are shared with more than one tribe.

23. Click **Options** again from the left side of the table panel and select **Export all to CSV** as shown in Figure 11.

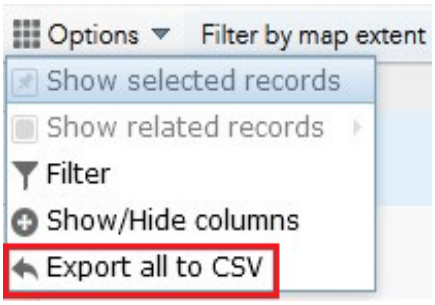


Figure 11. Export all to CSV

24. Hit **OK** when you receive the prompt to **Export data to CSV file** as shown in Figure 12.

25. Save the CSV file to your preferred location.

Figure 12. Exporting and Saving the CSV

Top Left Horizontally Positions Widgets

Legend Widget—interactively displays a legend for the visible layers in the map.

1. Click on the **Legend Widget** to open the map Legend as show in Figure 13. How many layers are visible in the legend at the map's initial display extent?

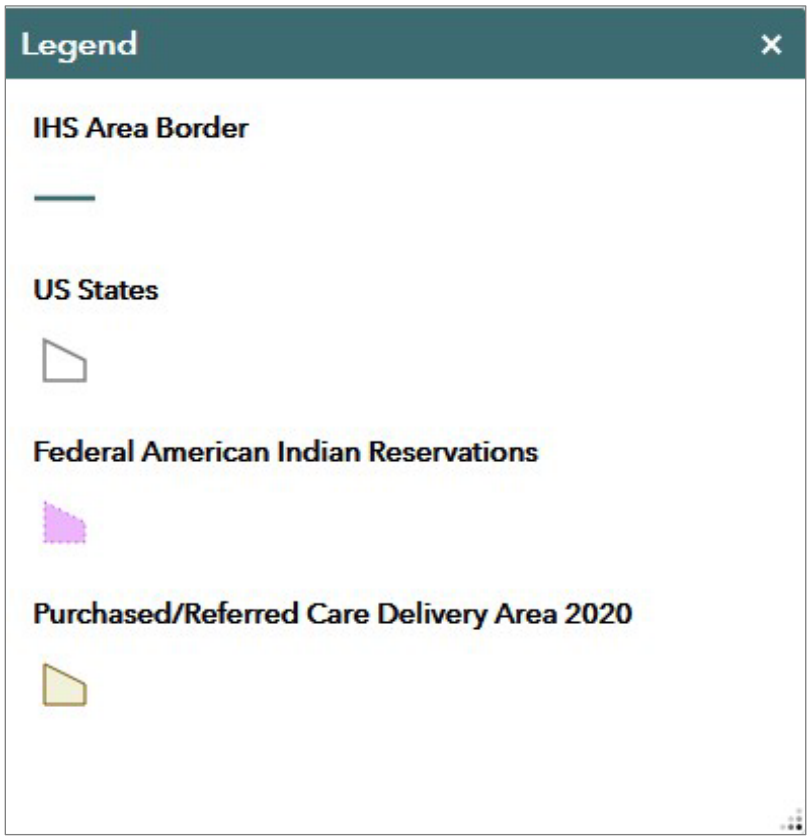


Figure 13. The Legend Widget

The PRCDA Map App has 12 different map layers; however, only layers that are visible in the current display will appear in the legend. As you zoom into the map, additional layers will activate and show up in the legend.

Additionally, some layers are turned off by default, including IHS and tribal health facilities, Navajo Chapters, and the zip code layers. Layers that are turned off by default will not appear in the legend unless you turn them on in the Layers List widget described next.

2. Zoom into **Nevada**. How many layers appear in the Legend Widget now?

3. Hit the **Home** button  to return to the map's initial display extent.

4. Close the **Legend Widget**.

Layer List Widget—displays a list of all layers in the app.

5. Click on the **Layer List Widget** to open the Layer List.

The PRCDA Map App contains 12 different layers as shown in Figure 14 from top to bottom: IHS & Tribal Health Facilities, IHS Communities, IHS Area Borders, US States, Navajo Chapters, Zip Code Areas, Federally-Recognized Indian Reservations, PRCDAs, and Non-PRCDAs.

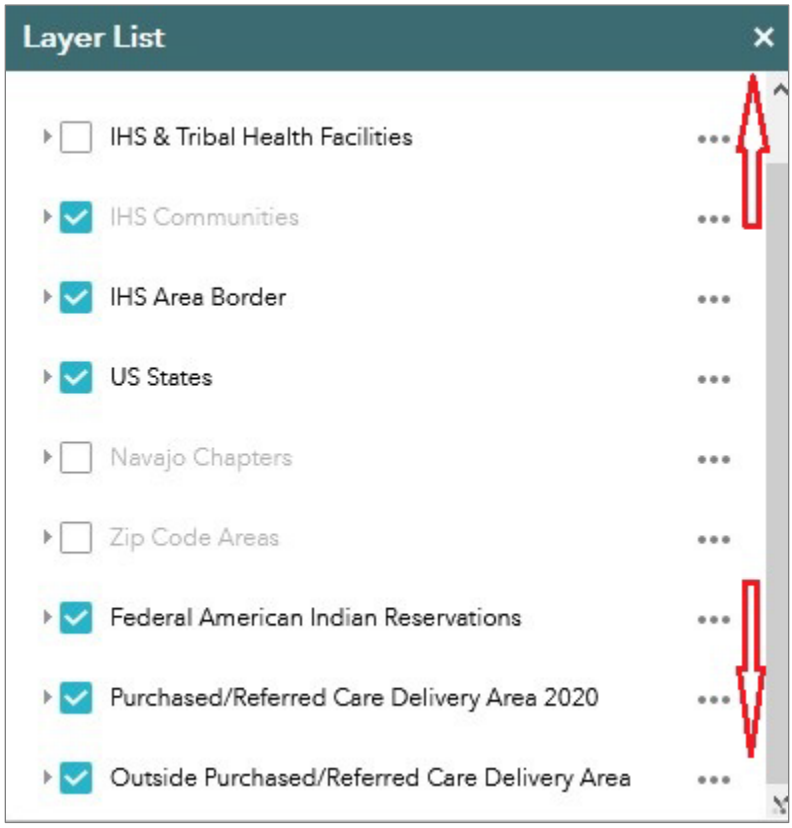


Figure 14. The Layer List Widget

The IHS & Tribal Health Facility and IHS Community layers are both point layers, whereas IHS Area Borders is a line layer. The other six layers are polygon or area layers.

Notice what layers are turned off by default in the Layer List Widget. Map layers that are turned off will not be visible in the map or the Legend Widget until you turn them on.

Additionally, layers in the Layer List Widget that are greyed out are not visible until you zoom into the map even if they are turned on. This is by design to reduce clutter in the map's initial display extent. You can toggle layers on and off in the Layer List Widget as needed.

6. Turn on the **Navajo Chapters** layer in the **Layer List Widget**.

7. Click the "**meatballs**" option for Navajo Chapters and select **Zoom to** as shown in Figure 15. The map zooms to the extent of the Navajo Chapters layer.

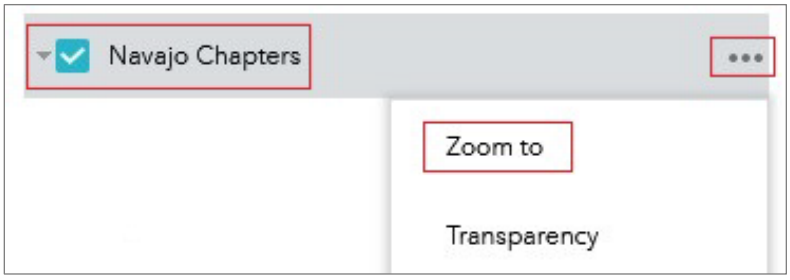


Figure 15. Zoom to Navajo Chapters

8. Next click on the "**meatballs**" options for **Federally-Recognized Indian Reservations** and then choose **Transparency**.

9. Adjust the **transparency level** to 100% and observe how the Federally-Recognized Indian Reservations layer fades from view. The labels for this layer will remain visible for reference, however.

10. Turn off the **Navajo Chapters** layer.

11. Set a transparency of 50% on the **Purchased/Referred Care Delivery Area** layer.

12. Close the **Layer List Widget**.

13. Hit the **Home** button to return to the map's initial display.

Basemap Widget—The Basemap Widget presents a gallery of alternative basemaps for you to use, including streets for navigation and high-resolution satellite imagery of the Earth's surface.

14. Click the **Basemap Widget** to open the **Basemap Gallery** as shown in Figure 16.

The Basemap Gallery Widget for the PRCDA Map App has three basemaps options: **Satellite Imagery with Labels**, **Streets**, and **Light Gray Canvas**. The app's default basemap is the LightGray Canvas.

Figure 16. The Basemap Gallery

15. Select **Imagery with Labels** basemap. Give the map a few seconds to draw the new basemap.

16. Zoom to **Mississippi**. Does the town of Ackerman fall in a PRCDA?

17. Close the **Basemap Gallery Widget**.

Bookmark Widget—allows you to create spatial bookmarks for quick navigation to your favorite places on the map.

18. Click on the **Bookmark Widget** to open it and select **Add** as shown in Figure 17.

Figure 17. The Bookmark Widget

19. Name your bookmark "**Mississippi**" as shown in Figure 18.

Figure 18. Give Your Bookmark A Name

20. Close the **Bookmark Widget**.

21. Hit the **Home** button  to return to the map's initial display extent.

22. Click on the **Bookmark Widget** again and select the Mississippi bookmark you created to convince yourself this location is saved.

23. Close the **Bookmark Widget** again.

Measurement Widget—allows you to measure the area of a polygon, length of a line, or find the coordinates of a point

24. Click on the **Measurement Widget** to open the Measurement tool.

25. The Measurement tool has three options as shown in Figure 19.

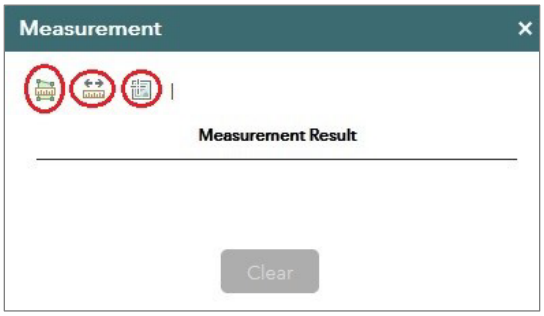


Figure 19. The Measurement Widget

26. Select the middle option that has a ruler and then select **Miles** from the linear unit drop down menu as shown in Figure 20.

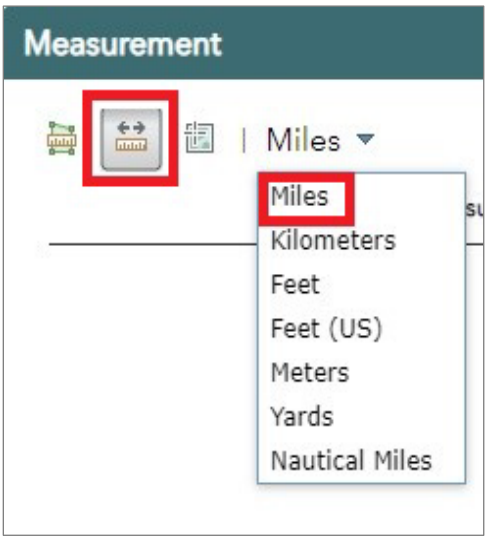


Figure 20. Measuring Distance in Miles on the Map

27. Next, you will measure how far **Ackerman** is from the Winston County PRCDA.

28. Hold the **CTRL key** down and hover your mouse over **Ackerman** until you see the crosshairs as shown in Figure 21.

Figure 21. Measuring Distance in Miles on the Map

29. Keep holding the **CTRL** key down and click once on the **crosshairs**.

30. Now double click on the PRDCA boundary that is closest to Ackerman as shown in Figure 22.

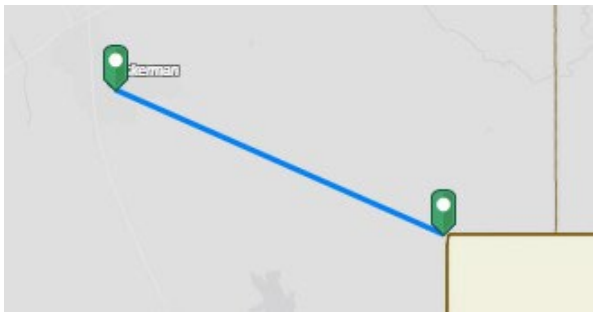


Figure 22. Measuring Distance in Miles on the Map

31. How many miles is Ackerman from the PRCDA border?

32. Clear your results and close the **Measurement Widget**.

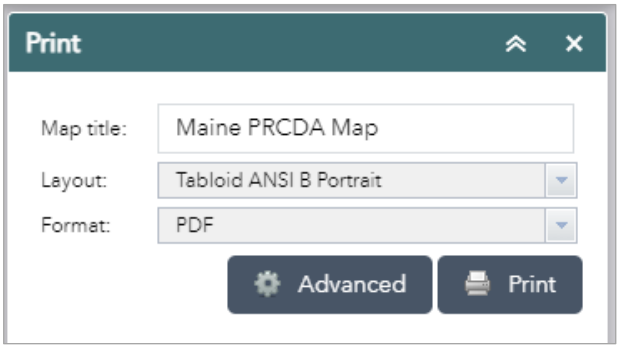
Top Right Horizontally Positions Widgets

Print Widget—provides the ability to print the current map.

1. Zoom to the state of Maine.

2. In the **Layer List Widget**, turn off IHS Communities and turn on the health facilities.

3. Click on the **Print Widget** in the upper right corner of the app to open the Print Widget as shown in Figure 23.



The **Print Widget** gives you three basic options:

- **Map Title**
- **Layout**
- **Format**

Figure 23. The Print Widget

4. Type an appropriate title for the map in the **Map title** text box.

5. The **Layout** option allows you to select the **page size** and **page orientation**. The default page size is Letter ANSI A Landscape.

- A3 (11.7” x 16.5”) Landscape
- A3 (11.7” x 16.5”) Portrait
- A4 (8.3” x 11.7”) Landscape
- A4 (8.3” x 11.7”) Portrait
- Letter ANSI A (8.5” x 11”) Landscape - Default
- Letter ANSI A (8.5” x 11”) Portrait
- Tabloid ANSI B (11” x 17”) Landscape
- Tabloid ANSI B (11” x 17”) Portrait
- MAP_ONLY – prints only the map, omitting any marginal information from the output

6. Select either **Tabloid ANSI B Portrait**. If your map has a north-south orientation, choose Portrait. If your map has an east-west orientation, chose Landscape.

7. **Format** allows you to select from the following options:

- PDF – Best option if you want to print your map
- PNG32 – Supports transparency and complex colors with larger size
- PNG8 – Supports simple colors with smaller size
- JPG – Best option if you want to view the map electronically
- GIF - Popular for viewing on the Web
- EPS – High quality print output
- SVG – Primary use is sharing graphics on the Web
- SVGZ – Zipped SVG

Note: Unless you are a graphic designer, stick with either PDF for maps you want to print and JPG for maps you want to view and share electronically.

8. Select either **PDF** or **JPG** for **Format**.

9. Click **Print** to submit all information to the print service.

10. A progress bar displays next to the executing task as shown in Figure 24.

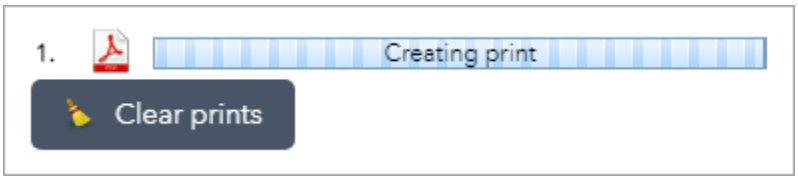


Figure 24. Printing a Map with the Print Widget

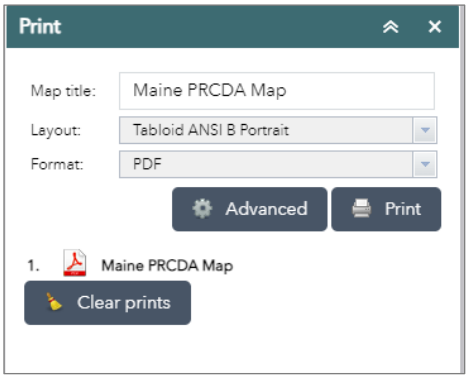


Figure 25. Print Output Ready

11. Upon completion of the print job, a link to the print output displays as shown in Figure 25.

12. Click the displayed output file to open the map in a new window.

13. Click **Clear prints** to clear the print history.

14. Take a few minutes to create another custom map and print it using the Print Widget on your own.

15. Volunteer to share your map with the group.

About Widget—provides information about the map app.

16. Click the **About Widget** to open it and explore the contents. Note that the About Widget contains a copy of the PRCDA Map App Quick Start Manual.

17. Close the **About Widget**.

NEED HELP?

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Or

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III. GLOSSARY OF MAP TERMS

Basemap - Basemaps serve as a reference map on which you overlay data from layers and visualize geographic information. Basemaps are the foundation for your maps and provide context for your work.

Geographic Information Systems (GIS) – An integrated collection of computer software and data used to manage, analyze, and visualize spatial data**.**

Map Layer - A map layer is the visual representation of a geographic dataset in any digital map environment. Conceptually, a layer represents the geographic reality on the ground in a particular area, and isequivalent to a legend item on a paper map. On a road map, for example, roads, national parks, political boundaries, and rivers might be considered different layers.

Metadata – Information that describes the content, quality, condition, source, and other characteristics of data**.**

Spatial or Geographic Data - Spatial data are just data that includes location information. People use spatial data daily, often without consciously recognizing it as spatial data. John Snow's map showing clusters of cholera cases in London in 1854 is one of the first uses of map-based spatial analysis.

Table—A collection of rows and columns, where each row, or record, represents a feature—such as an IHS community—and each column, or field, describes a particular attribute of the feature, such as the name for the community, or what county the feature is located in. Tables can include location information, such as addresses, or no location information, for example, a simple list of community names and states. Tables are not typically drawn on the map even if they include location information.

Web Map - A web map contains one or more layers services that are published to a special kind of server that can render geographic data.

Web Map App – A web map application is built from one or more web maps around a common theme or issue. Web map applications are an interactive display of geographic information that you can use to tell stories and answer questions.

Widget - A widget is an interactive graphic component of a user interface, such as a button, scroll bar, or legend list for example