

Accessing Land Ownership GIS Data at DNR

State of Alaska Department of Natural Resources

Information Resource Management (IRM) Section

Date of last revision: January 21, 2026

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Brief Intro and History

This document is meant to inform users of the various methods of viewing GIS data, specifically services offered by IRM. This is meant to serve as a starting point for research. Please always confirm land status by consulting the authoritative data source.

There are many ways to accomplish the same task across Esri / ArcGIS platforms. Consider what is needed to achieve your goal and the route that will best suit your needs; platform, skillset, complexity/simplicity.

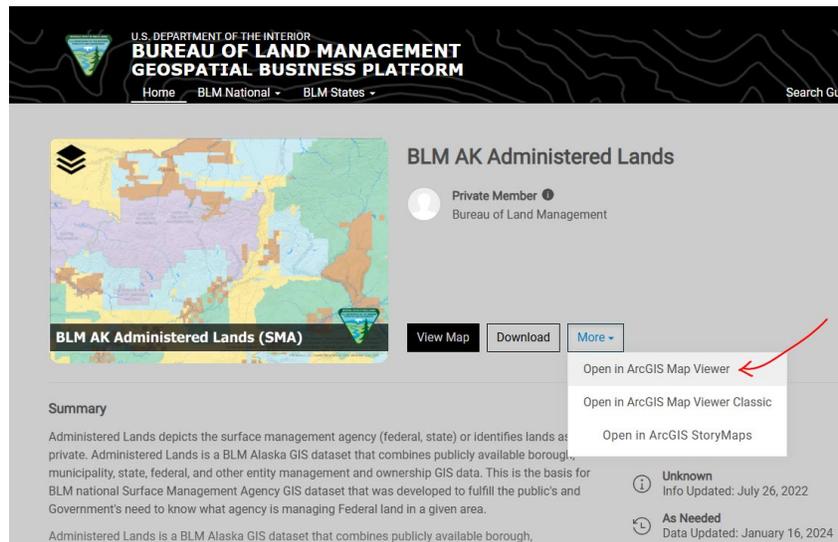
In the past, the Information Resource Management Section (IRM) created General Land Status "GLS" maps of Alaska. These portrayed a simplified land status per section, intended for large scale maps like basemaps. These were NOT suitable for research and do not provide information on the whole picture.

We have updated our process to create a yearly Alaska Land Status map that now use BLM's AK Administered Lands data, which is parcel level. This data can be brought into a web map, or into ArcGIS Pro.

Federal - Bureau of Land Management (BLM)

BLM's AK Administered Lands data: <https://gbp-blm-egis.hub.arcgis.com/datasets/BLM-EGIS::blm-ak-administered-lands/about>

You can quickly view this data by clicking the 'More' button and selecting 'Open in ArcGIS Map Viewer'. You can also copy/paste the service URL into ArcGIS Pro (more details about using service URLs on page 12).



BLM also has the 'Lands, Mineral, and Realty' web map – this is a good starting place. This web map includes the BLM AK Administered Lands data as well as others.

<https://experience.arcgis.com/experience/27bee3d0631345dba0f02653b74e92c6>

View the 'Date Processed' field within the pop-up box to view the time of last update. It is important to note that BLM compiles these datasets, so the data displaying may not always be the most current, so it is always **verify by checking with the authoritative source**. For example if you select an area of the map that states it is Local Government, make sure to visit the associated Borough, Municipality, or Census Area's website to confirm.

BLM's Spatial Data Management System (SDMS): <https://sdms.ak.blm.gov/sdms/>

State - Alaska Mapper

Our section, Information Resource Management (IRM) helps maintain Alaska Mapper. This is a web application that allows you to view the data within DNR's Land Administration System (LAS) – displaying what the casefile looks like on a map (when available), and it's associated information.

Alaska Mapper: <https://mapper.dnr.alaska.gov/>

Alaska Mapper User Guide [PDF](#) and [Story Map](#) are available.

We have a Case Types document that briefly describes all DNR datasets shown in the Alaska Mapper application and each associated case type all in one place:

https://dnr.alaska.gov/projects/irm/GIS_resources/CaseTypes_Document.pdf

Instruction on accessing this data via data services is provided later in this documentation.

As with any information provided in documents or services we provide, if you notice any errors and need for updates, please contact dnr.gissupport@alaska.gov if you are a State of Alaska employee, or dnr.gispub@alaska.gov if you are a member of the public.

We appreciate your feedback and questions to help us in best providing information to those who need it.

Other State GIS

- Alaska Department of Transportation and Public Facilities (ADOT&PF)
Open Data Portal: <https://data-soa-akdot.opendata.arcgis.com/>
Geo Hub and Web Application: <https://egis-akdot.hub.arcgis.com/>
- Alaska Mental Health Trust Land Office
<https://alaskamentalhealthtrust.org/trust-land-office/land-sales/maps-and-data/>
- University of Alaska
<https://www.alaska.edu/ualand/>

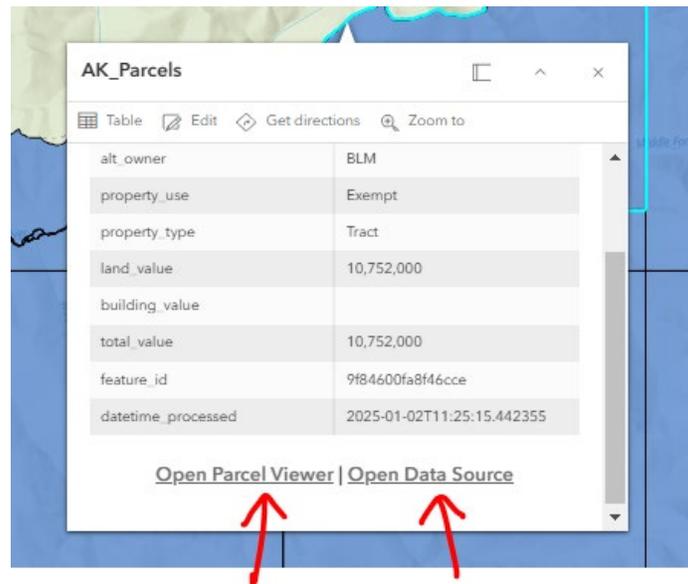
Local Government and Private Data

The following link will lead you to a compiled list of local government GIS parcels to conveniently view data in one place. You can view this data together, or copy/paste individual services into a web map or Pro session to view this data.

**This list may not complete, but efforts are being made to incorporate available datasets.

<https://soa-dnr.maps.arcgis.com/home/item.html?id=458be3d8aafa47cd882af05cee983f6b>

Please refer to the websites and data that the authoritative sources maintain. A pop-up will appear when a parcel is clicked on. To view the authoritative source and the complete attributes, click Open Parcel Viewer, or Open Data Source for its REST page.



Local government data and links can also be found in various hub websites, as described in the **Finding Data in GIS Hubs** section.

The State of Alaska Department of Commerce, Community, & Economic Development, Division of Community and Regional Affairs (SOA DCCED DCRA) Research and Analysis Section provides the following boundary datasets which may also be useful.

- City Boundaries
<https://gis.data.alaska.gov/datasets/DCCED::city-boundaries/about>
- Alaska Borough and Census Area Boundaries
<https://dcra-cdo-dcced.opendata.arcgis.com/datasets/DCCED::alaska-borough-and-census-area-boundaries/about>

Data Services

Services allow you to easily view data in ArcGIS Pro, a web map, or other applications. You can do this by adding the URL for the REST service, creating a server connection, or adding via Portal (all of which are described later).

Some services are set to dynamically update once the dataset has been changed, unlike when you download a dataset – you will want to confirm the setting of your data service from its information page or metadata. Two common data service types are Feature Services and Map Services. Map services can have less strain on the ArcServer and draw faster, but they have a set symbology that you can't change. Depending on your use case and the sharing settings of the service, it might be more applicable to use one versus another. Read more about [map vs feature services](#).

Here is the [ADNR ArcGIS REST Services Directory](#). The blue folder links are groups of services – feature and map. You can add the entire group, or individual services within to a map by copy and pasting the associated URL.

ArcGIS REST Services Directory

[Home](#) > [services](#)

[JSON](#) | [SOAP](#)

Folder: /

Current Version: 11.3

Folders:

- [AG](#)
- [DEC](#)
- [DPOR](#)
- [GW](#)
- [Mapper](#)
- [MentalHealth](#)
- [MLW](#)
- [OpenData](#)
- [OPM](#)
- [SSD](#)
- [StandardMapProducts](#)
- [Utilities](#)
- [Workflow](#)

Services:

- [SampleWorldCities](#) (MapServer)

Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

Some services also allow the option to view the data directly in a Web Map or ArcGIS Pro from their REST page:

ArcGIS REST Services Directory

[Home](#) > [services](#) > [Mapper](#) > [Base_Layers \(MapServer\)](#)

[JSON](#) | [SOAP](#)

Mapper/Base_Layers (MapServer)

View In: [ArcGIS JavaScript](#) [ArcGIS Online Map Viewer](#) [ArcGIS Earth](#) [ArcGIS Pro](#)

Service Description: Service containing Mapper symbology for base layers, such as surveys, boroughs, recording districts, and more.

Map Name: Base_Layers

[Legend](#)

[All Layers and Tables](#)

[Dynamic Legend](#)

[Dynamic All Layers](#)

Layers:

Our Data Service Categories

IRM maintains two major data folders - **Mapper** and **OpenData**:



ArcGIS REST Services Directory

[Home](#) > [services](#)

[JSON](#) | [SOAP](#)

Folder: /

Current Version: 11.3

Folders:

- [AG](#)
- [DEC](#)
- [DPOB](#)
- [GW](#)
- [Mapper](#)
- [MentalHealth](#)
- [MLW](#)
- [OpenData](#)
- [OPM](#)
- [SSD](#)
- [StandardMapProducts](#)
- [Utilities](#)
- [Workflow](#)

Services:

- [SampleWorldCities](#) (MapServer)

Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

The **Mapper** folder displays data similarly to that of the [Alaska Mapper](#) web application. This data only includes active case statuses, and closely resembles the symbols used in Mapper. The categories are divided into related topics; Mineral Estate Layers, Water Estate Layers, etc.

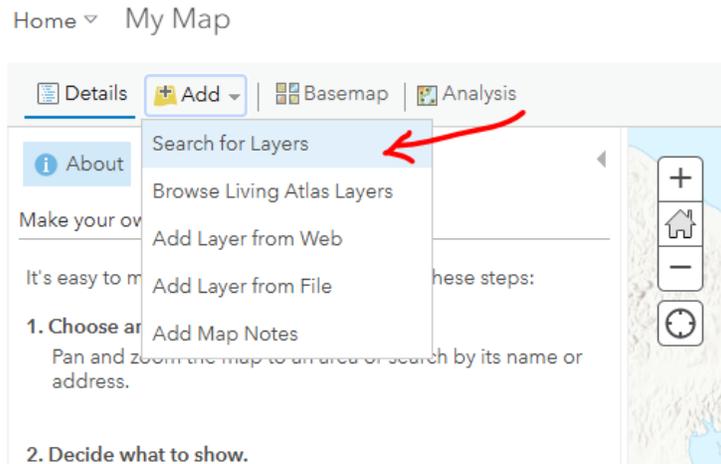
The **OpenData** folder also lists this data, but doesn't group them in the same way and includes additional datasets. Most of this data also only includes active case statuses, except for the **Alphabetical_All** subfolder which includes historic and current cases. Also note that many datasets include "...All" at the end of their title – this indicates that all case subtypes are included in this layer, and it isn't broken down by attribute. For example LandDisposal_All vs. viewing by specific case status: LandDisposal_Conveyed, Other, or Available.

View Data in a Web Map

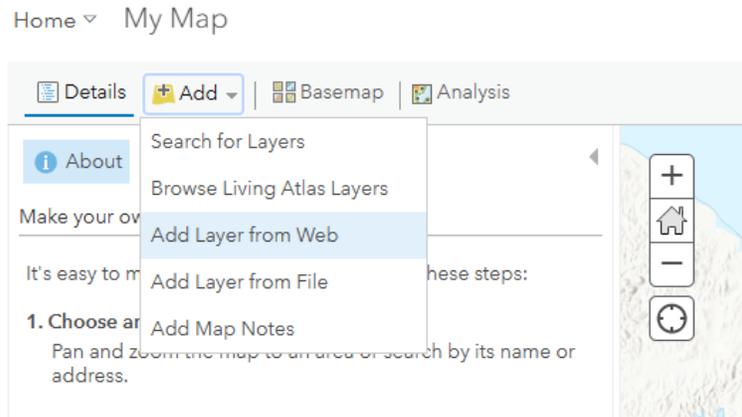
- If you'd like to create a new web map, 'Map' tab at the top of ArcGIS Online.



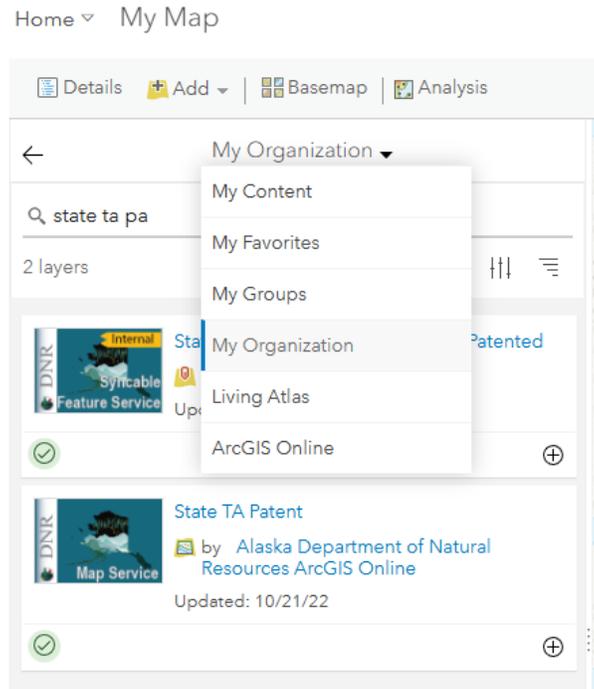
- Once in a web map, you can 'Search for Layers' to search content that has been shared within ArcGIS Online.



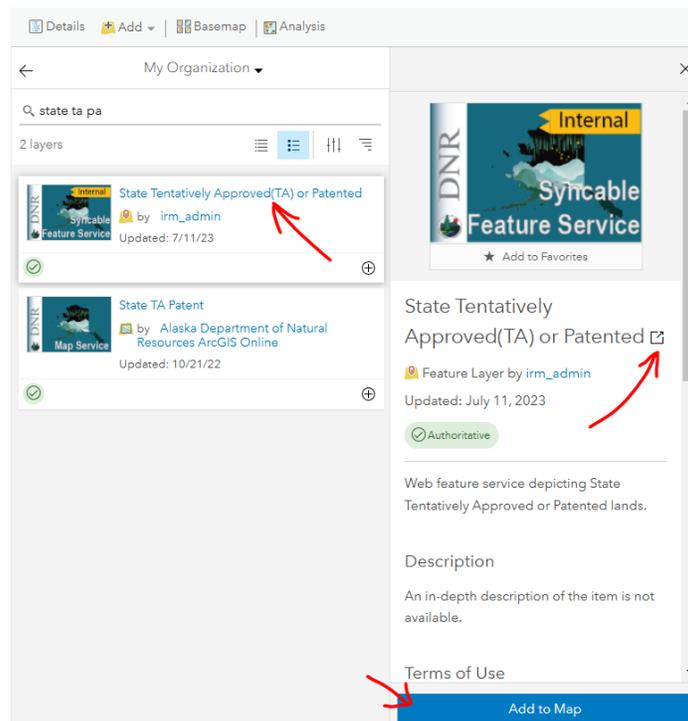
- 'Add Layer from Web' if you'd like to add a data service URL.



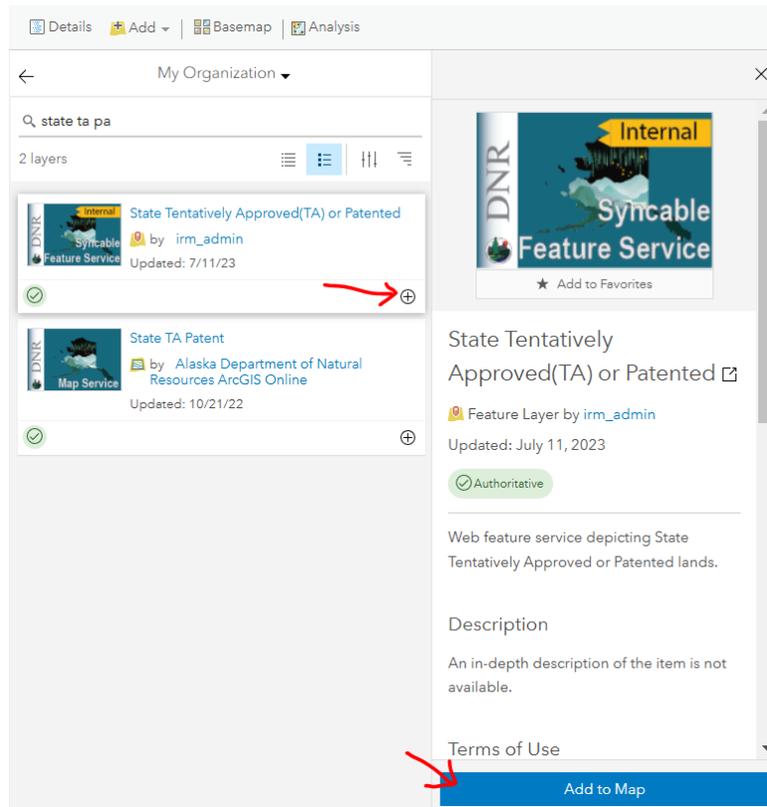
- This drop-down helps filter items that have been shared within ArcGIS Online.



- You can click the layer name to bring up more information on this data.
-  This button takes you to the item's ArcGIS Online page to read even more about the data, copy the REST service link, etc.



- Add data to map by clicking either buttons:



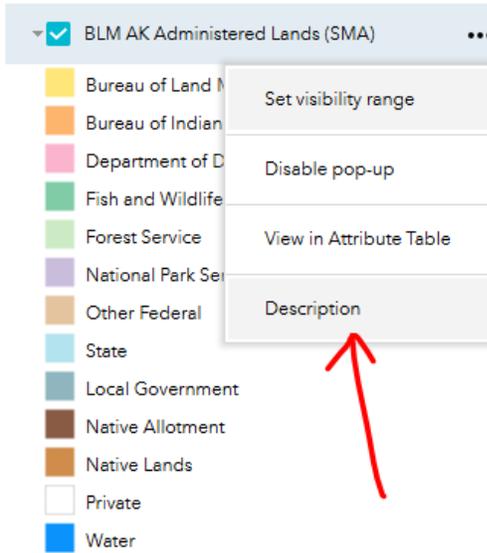
- In the ArcGIS Online item page, you can view the data within a web map, ArcGIS Pro, or at the bottom, view or copy the REST service link.

The screenshot shows the ArcGIS Online interface for an item titled "State Tentatively Approved(TA) or Patented". The page is divided into several sections:

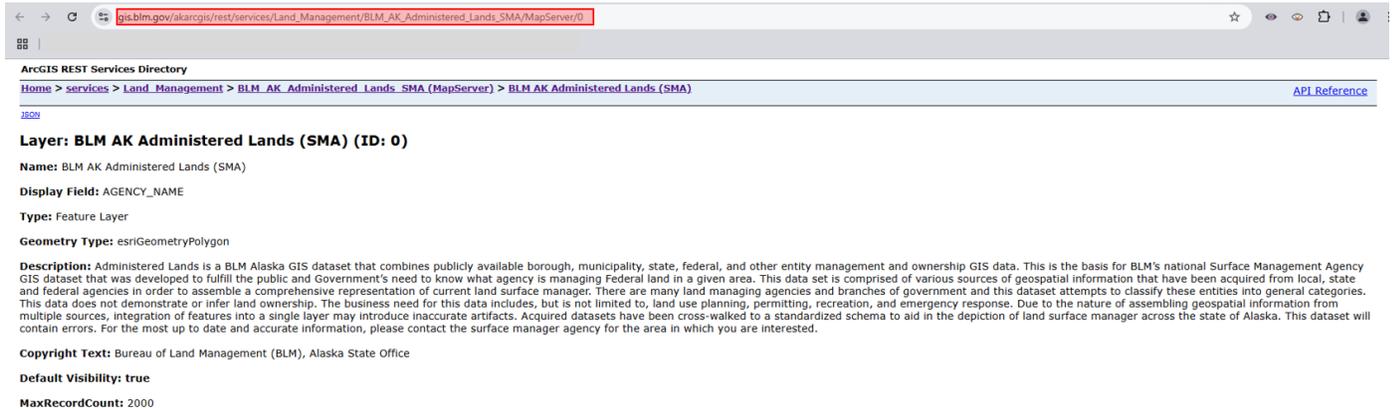
- Overview:** Contains the item title, a thumbnail, a description ("Web feature service depicting State Tentatively Approved or Patented lands."), metadata (created by im_admin, Nov 2, 2021; updated Jul 11, 2023; 3,114 views), and an "Authoritative" badge.
- Description:** A section for adding an in-depth description of the item.
- Layers:** Lists two layers: "State TA Patented - Line" (Line layer) and "State TA Patented - Polygon" (Polygon layer).
- Terms of Use:** A section for adding or editing terms of use.
- Comments:** A section for leaving comments.
- Item Information:** A progress bar showing item quality from Low to High, with a "Top Improvement: Add a description" prompt.
- Details:** Provides source information (Feature Service), size (1 KB), ID, and star ratings.
- Share:** A section for sharing the item via social media or other methods.
- Owner:** Shows the item is owned by "im_admin" with a "Change owner" option.
- Folder:** Shows the item is in the "FEature SErVICES org only" folder.
- Categories:** Lists categories like "Land Estate", "Ownership", and "Mineral Estate".
- Tags:** Lists tags such as "ADNR, Alaska, Ownership, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 121, 129, Land Activity, Mineral Activity, Natural Resource, sync".
- Credits (Attribution):** Lists "Alaska Department of Natural Resources, GIS Services Unit".
- URL:** Displays the REST service URL: `https://arcgis.dnr.alaska.gov/arcgis/rest/s`. A red arrow points to the "View" icon next to the URL, and another red arrow points to the URL text itself.
- Help:** Provides links for "Feature layers" and "Feature layers (developer)".

Red arrows in the image highlight the "Open In Map Viewer Classic" button in the top right and the "View" icon and URL text in the "URL" section.

- To view the source of a data layer within a web map or application, click the 3 dots to the right of the layer, and scroll to 'Description'.



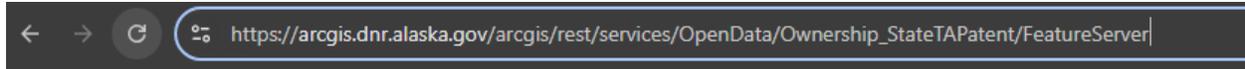
- This will bring you to the data's source, where you can read the metadata and access the URL to copy and use in another map.



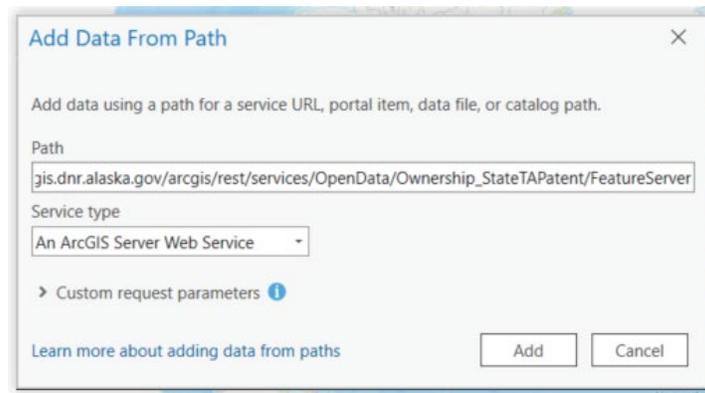
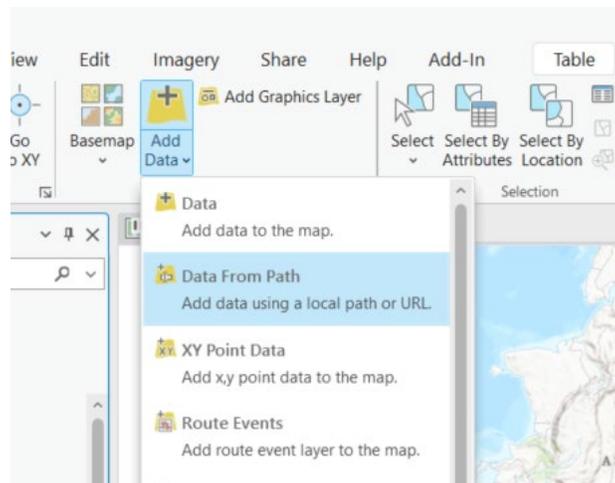
ArcGIS Pro

Adding a data service in Pro:

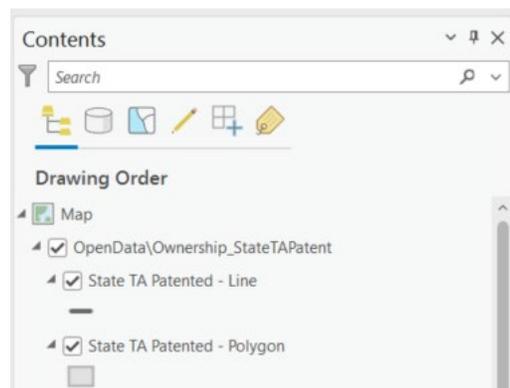
- Copy the URL for the service(s) you'd like:



- Select the 'Add Data' drop-down button, and click 'Data From Path', and paste this URL



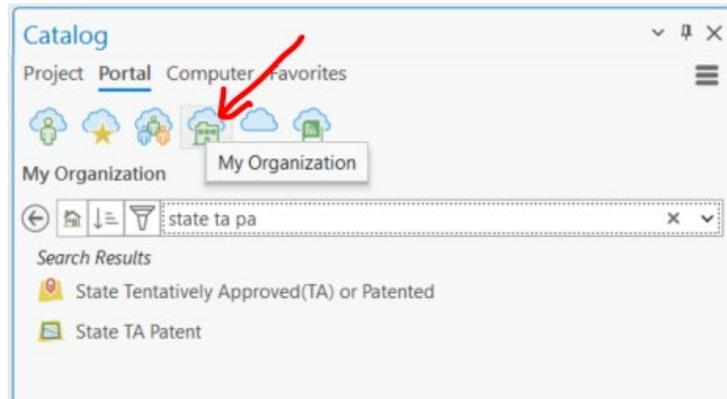
This will add the feature service to your map:



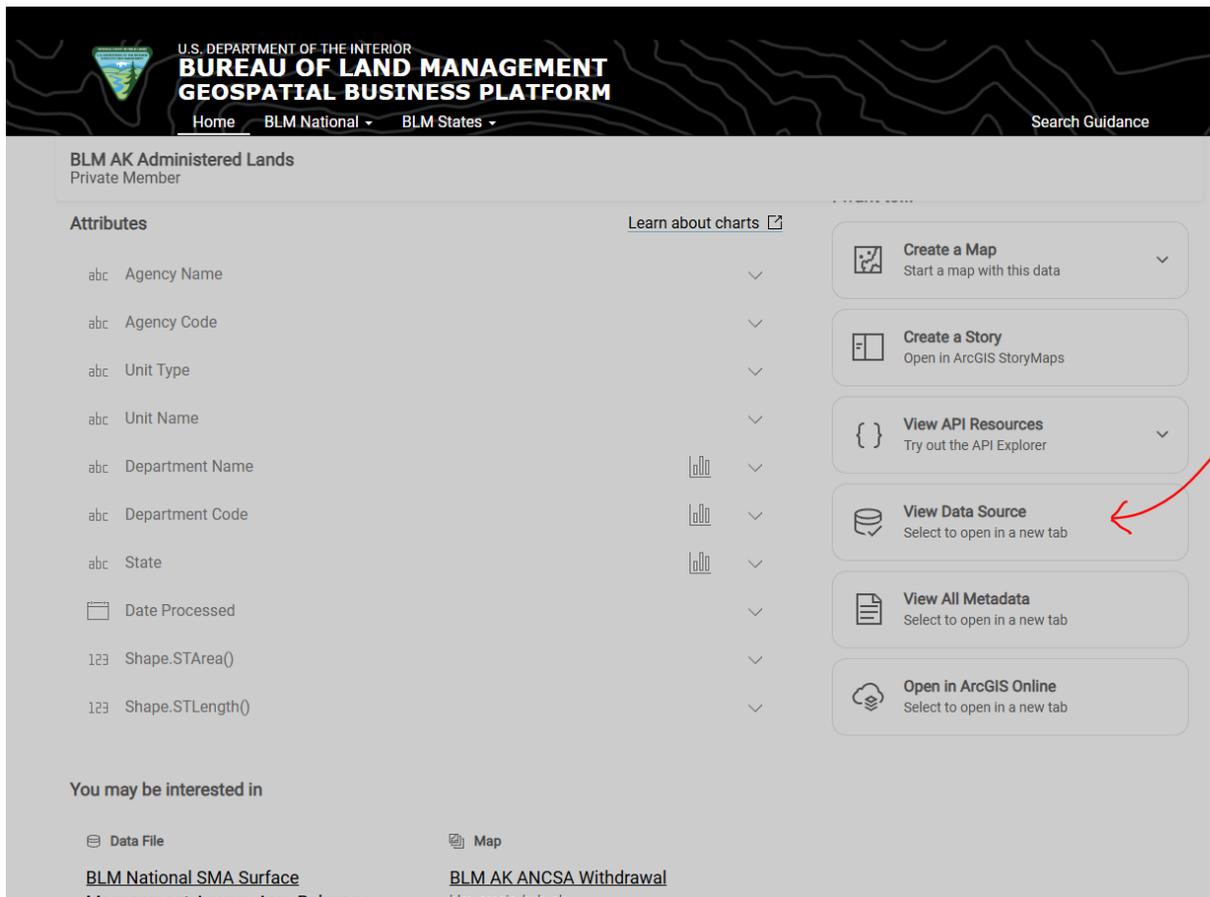
Another option for adding data to ArcGIS Pro is to search the 'Portal' in the Catalog tab.

Below, I've selected the 'My Organization' button to search for items that have been shared with Alaska Department of Natural Resources ArcGIS Online.

(You can also select 'My Content' to search for your ArcGIS Online items, 'My Groups' to search content shared with the groups you are part of, etc.)

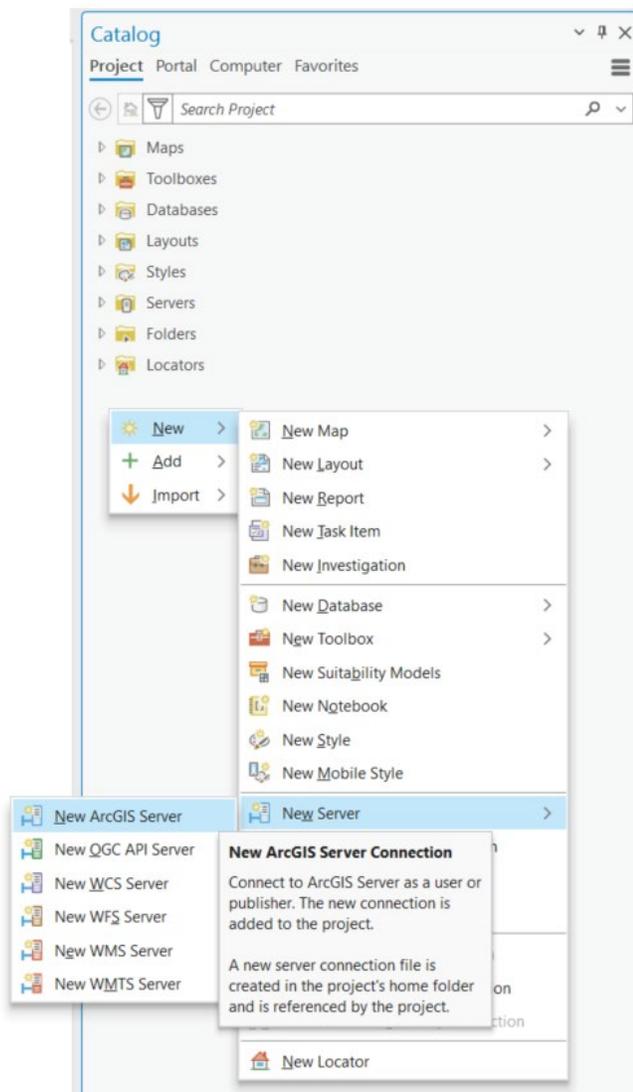


To access a service page from an item's ArcGIS Online page, scroll down and click the View Data Source button.

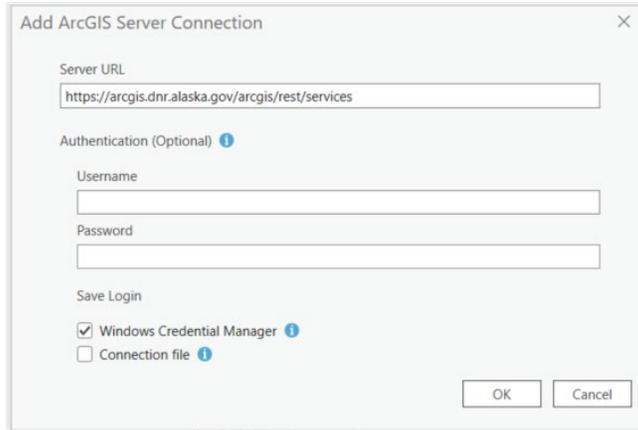


You can add connections to your Pro session by right-clicking in the Catalog pane.

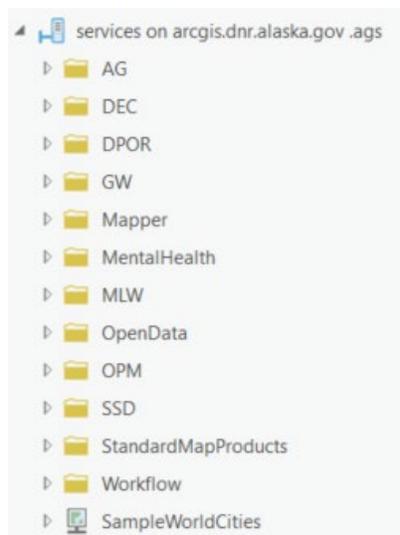
- Right click 'New', 'New Server', 'New ArcGIS Server'



- To connect to our REST services – enter: <https://arcgis.dnr.alaska.gov/arcgis/rest/services>
No username or password required.



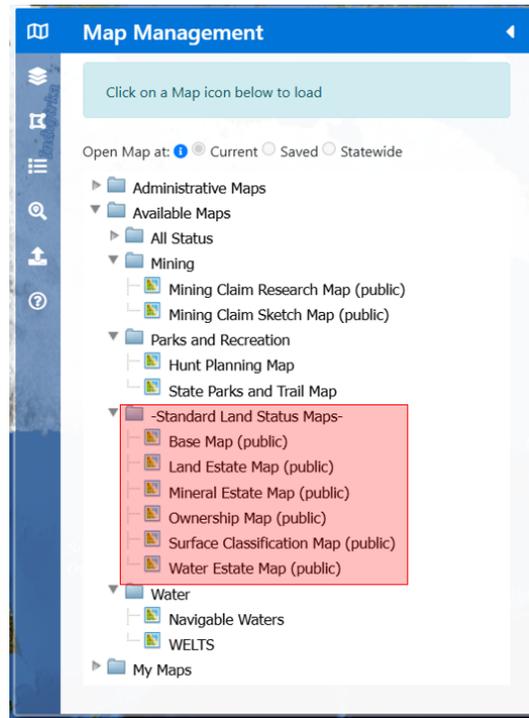
You can right click and 'Add to Favorites' to have this connection available in every Pro project.



Layer Packages and Style Files

We have created Mapper layer packages that allow you to bring in the REST services described above, and attributes a similar symbology as Alaska Mapper.

They are grouped according to the following Standard Land Status Map:



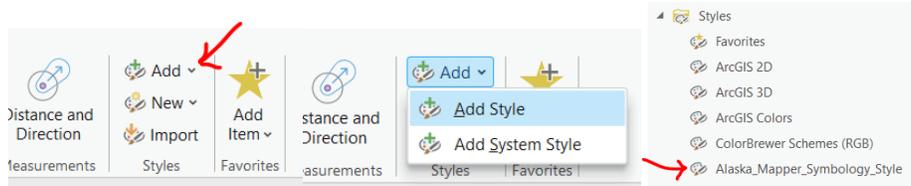
You can search the Geoportal for “mapper” and the Feature and Map service layer packages will appear.

<https://data-soa-dnr.opendata.arcgis.com/search?q=mapper>

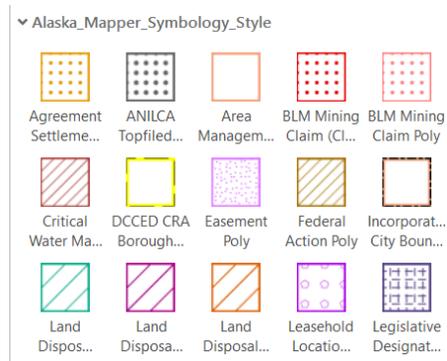
We also have a Style File that replicates the symbology used in Mapper which you can apply to your data.

<https://soa-dnr.maps.arcgis.com/home/item.html?id=bdeb1e53eedd43a0aee895ba5550228e>

After downloading this style, you can add it into Pro by selecting ‘Insert’ in the top ribbon, and clicking ‘Add’ drop-down in the Styles group, ‘Add Style’. After selecting the desired style, it will appear in the ‘Styles’ folder in the Catalog pane.



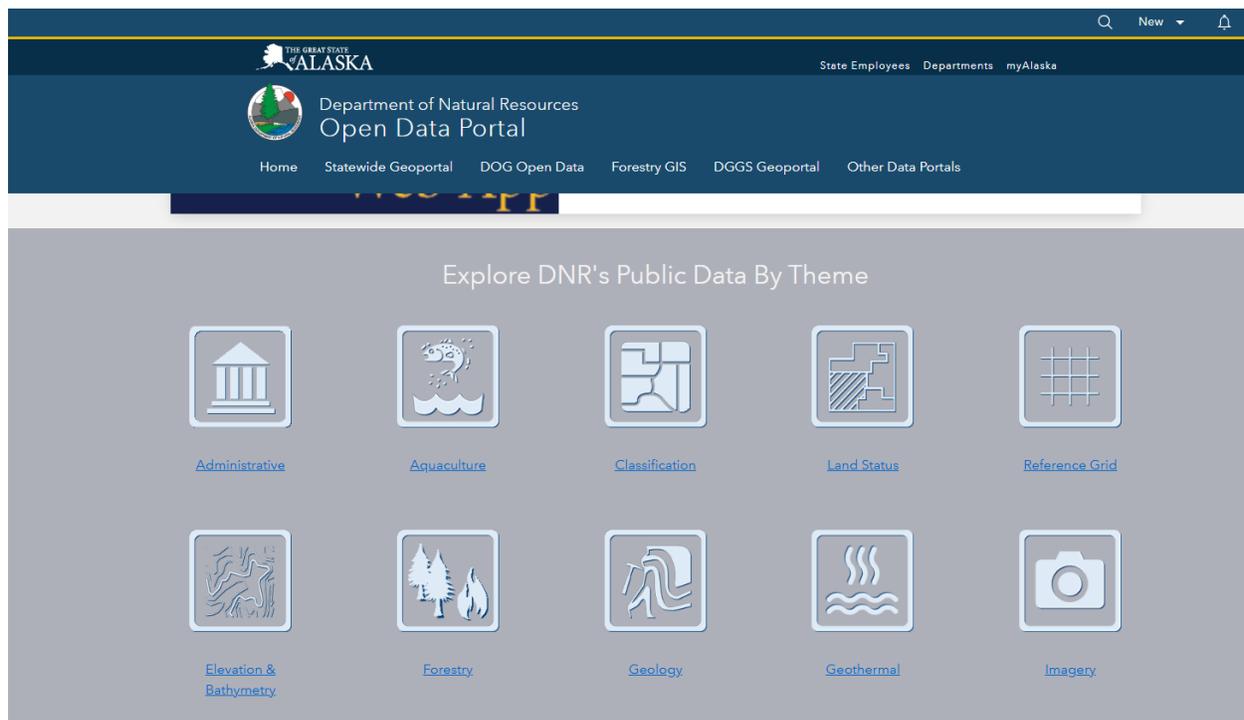
Clicking on a layer's symbol will bring up the Symbology pane in which you can view this style file and apply desired symbol.



Finding Data in GIS Hubs

Hubs allow for the distribution of data, links to resources, web maps, and other applications – you can browse data by theme, agency, search keywords, etc. The categorization is dependent on the correct tags being used, so these may not always be the a complete representation of what is offered, but can be a useful guide to browse data.

- The Department of Natural Resources Open Data Portal links to DNR data <https://data-soa-dnr.opendata.arcgis.com/>
- The State of Alaska Geoportal includes even more data from local and federal sources, additional themes, imagery, etc. <https://gis.data.alaska.gov/>



- Our GIS Services Unit (GISSU) Hub site highlights events, resources, and web maps <https://gis-services-unit-soa-dnr.hub.arcgis.com/>
- Our DNR GIS Training Hub shares short tutorials and guidance, like the information provided in this document. <https://dnr-gis-training-hub-soa-dnr.hub.arcgis.com/>