

Adding AKEPIC ArcGIS REST Service to ArcGIS Pro

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The Alaska Exotic Plants Information Clearinghouse (AKEPIC) is a database and mapping application that provides geospatial information for non-native plant species in Alaska and neighboring Canadian Territories. It is the most comprehensive data set of non-native plant presence, absence for the region and widely used by land managers and research scientists. These products are the result of an ongoing cooperation among the U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Department of Natural Resources Plant Material Center, and Alaska Center for Conservation Science (ACCS) in support of the Alaska Invasive Species Partnership (AKISP).

With the changes in policy within the Department of Interior requiring the use of secure http services and to facilitate updated data delivery for data managers, the ACCS has added an ArcGIS REST Web Service feature to access AKEPIC. Using the REST service allows users to pull data from the AKEPIC dataportal directly into their ArcGIS Pro application. Therefore, the REST service eliminates the need for data managers to download and refresh data for every use. In the past, data managers have pulled data from AKEPIC, but rarely refreshed the data causing misinformation of the landscape leading to mishaps which could have led to the accidental spread of invasive species. For example, outdated AKEPIC data were used by land managers which resulted in fire-fighting suppression activities to withdraw water from a newly *Elodea* infested lake in Interior Alaska.

There are two sets of data for the AKEPIC REST Service: **AKEPIC_Data** and **AKEPIC_Data_Positive_Records**. It is imperative to understand the difference and limitations between both data sets. *Users should choose the best data set for their analyses.*

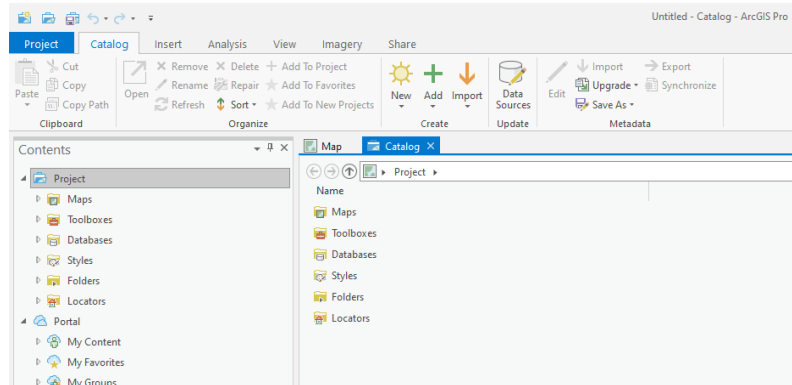
The **AKEPIC_Data** is the entire AKEPIC dataset that is available in the ACCS data portal. This dataset includes positive and negative records. Due to the nature of the REST Service, all data are initially displayed the same within the map with the same symbolization. For example, professionals will survey for *Elodea* sp. in lakes and not detect it, creating a negative occurrence data point. However, the negative data will be displayed in the REST service the same as a

positive occurrence. This can visually cause an alarmingly false rate of Elodea in the Alaska ecosystem. This can be corrected by querying or symbolizing the features based on the 'Presence' field, where '0' values are a negative occurrence and '1' values are a positive occurrence. It's best to then display '0' values on top of '1' values to view current infestations since older infestations may have been treated and Elodea is no longer detected at the site.

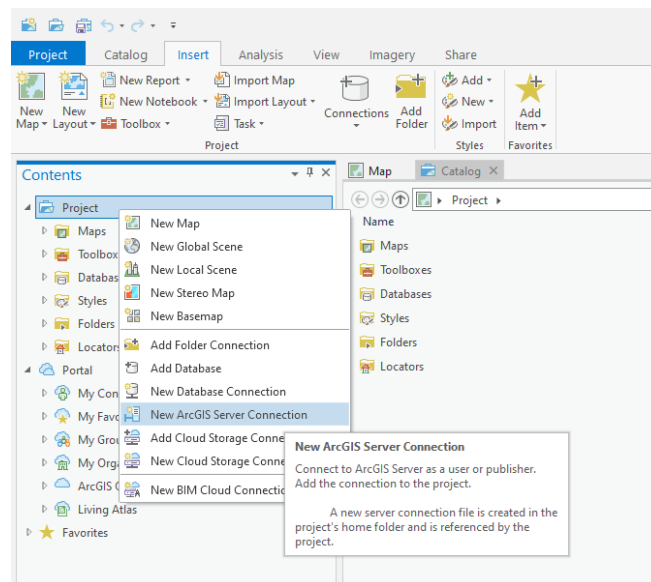
The **AKEPIC_Data_Positive_Records** is a dataset displaying only positive occurrences from the AKEPIC dataset. This will display the best available data on current infestations only. For example, *Elodea* sp. occurred in Sports Lake on the Kenai Peninsula prior to 2017 but was eradicated with herbicide. A follow up survey in 2018 and 2019 did not find *Elodea* sp. in the lake. The updated negative occurrences overlay the old positive occurrences, displaying the lake as negative. Therefore, neither the positive nor negative data from this lake are included in this dataset since the lake no longer has positive infestation records. Another example, professionals surveyed Whiskey Lake and did not find *Elodea* resulting in a negative occurrence. This survey effort would not be included in this dataset.

Adding AKEPIC REST Feature Service to ArcGIS Pro

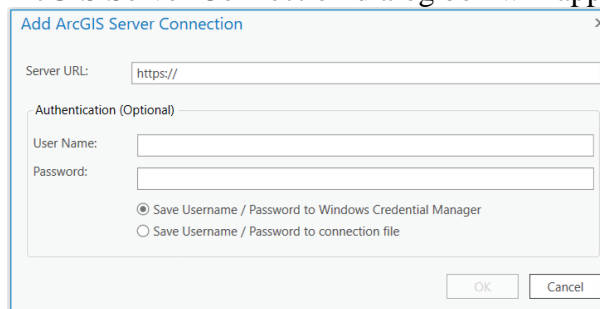
1. Open or create a new project in ArcGIS Pro.
2. Create an ArcGIS Server connection.
 - a. On the Ribbon, choose 'View', then 'Catalog View'. A new window will open.



- b. In the Contents pane on the left, right click on Project tab, then select 'Add New ArcGIS Server Connection'.

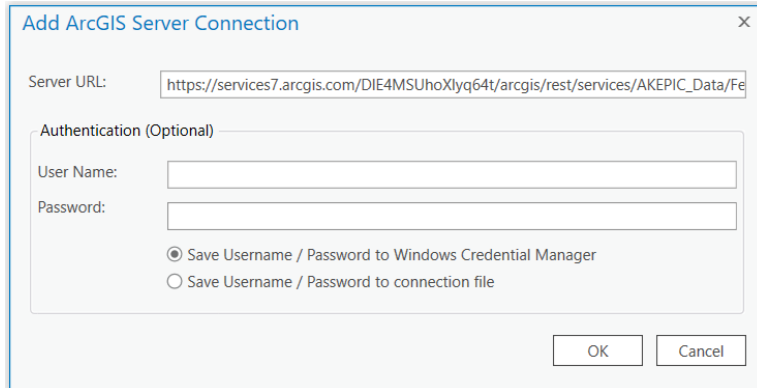


- c. The Add ArcGIS Server Connection dialog box will appear.




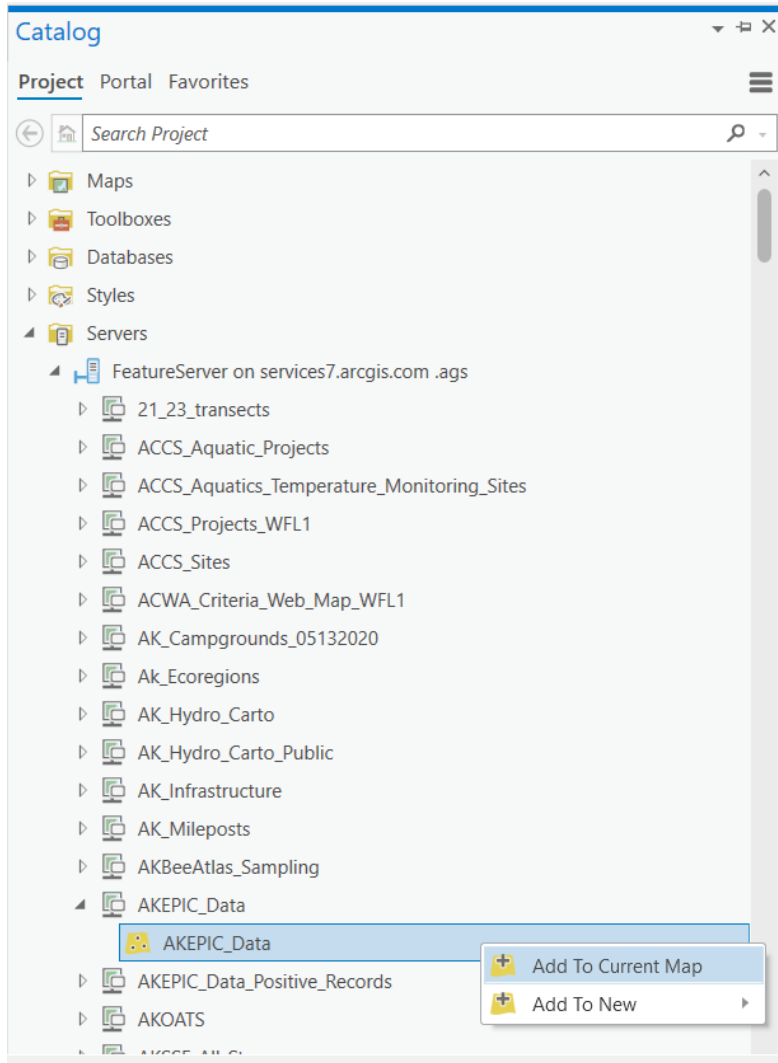
- Copy and paste the following link to 'Server URL' field in 'Add ArcGIS Server Connection' form. It's helpful to first delete the https:// that's prefilled out so it is not duplicated, otherwise the URL will not work. The Authentication section can remain blank.

https://services7.arcgis.com/DIE4MSUhoXlyq64t/arcgis/rest/services/AKEPIC_Data/FeatureServer



Click **OK**

- In the Contents pane, a new item, Servers will be created . Expand the new icon and a server of data hosted by ACCS is available to add to your map.
- Find **AKEPIC_Data** or **AKEPIC_Data_Positive_Records** and chose one based on your data needs.
 - AKEPIC_Data**: the entire AKEPIC dataset that is available in the ACCS data portal. Please note that this dataset includes positive and negative data records.
Warning! All of the data are initially displayed the same within the map. Users will need to filter or Symbolize with unique values on the 'Presence' field: '1' values are positive infestations, '0' values are negative infestations for that species. This data layer may not be correctly interpreted if a user does not query 'Presence'.
 - AKEPIC_Data_Positive_Records**: these are only positive occurrences from the AKEPIC dataset. This will display the best available data on current infestation status.
- Right click on **AKEPIC_Data** or **AKEPIC_Data_Positive_Records** then select to 'Add To Current Map' or Add To New' to use it in your project.



7. Click on the Map tab to return to the map. The AKEPIC data should be displayed in your associated map.

