



Introduction to GIS with ArcGIS Pro

Controlling Feature Display and Selection: Selecting Features with Queries

Session 9

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Lecture Outline

- Introduction & Recap (5 minutes)
- Selecting Features with Queries (45 minutes)
- Guided Exercise & Q&A (10 minutes)


Week 3: Coordinate Systems

- **Class 5:** Understanding Coordinate Systems
- **Class 6:** Managing Projections and Transformations

Week 4: Symbolizing Layers

- **Class 7:** Fundamentals of Symbolology
- **Class 8:** Applying Different Symbolology Methods

Week 5: Controlling Feature Display and Selection

- **Class 9:** Selecting Features with Queries
 - **Class 10:** Managing Feature Visibility
 - **Milestone:** Assignment 1 (Data Creation and Mapping) will be assigned.
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Recap of Season 7 & 8

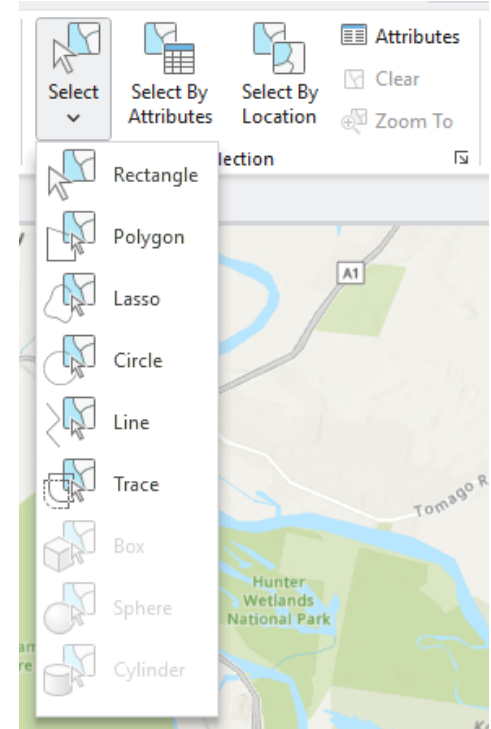
- Symbology in ArcGIS Pro
- Layer Symbology
- Different Symbology Methods

Selecting Features with Queries

in ArcGIS Pro

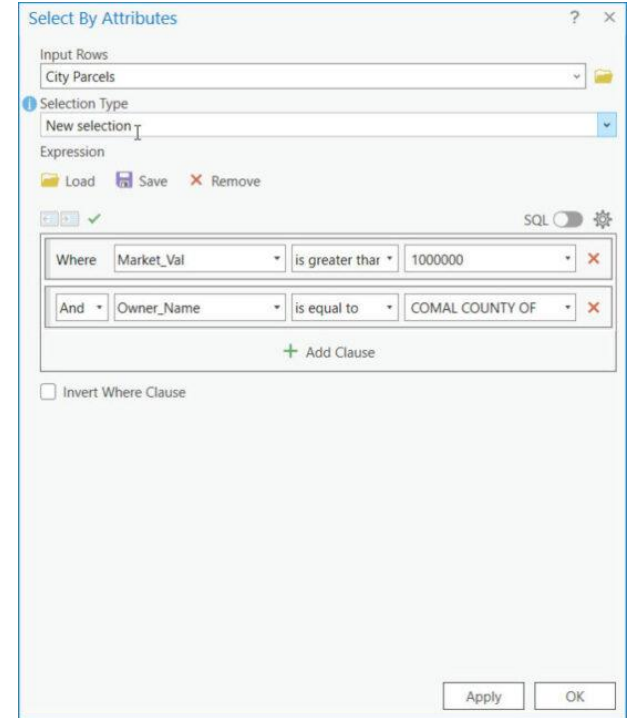
Interactive feature selection

Interactive feature selection involves clicking a single feature in the view or digitizing a shape to select a set of features.



Select features using **attributes**

When you select by attribution, you choose the selection method and write an expression to select an exact subset of features.



The screenshot shows the 'Select By Attributes' dialog box. At the top, the title is 'Select By Attributes'. Below it, the 'Input Rows' dropdown is set to 'City Parcels'. The 'Selection Type' dropdown is set to 'New selection'. The 'Expression' field is empty. Below the expression field are three buttons: 'Load', 'Save', and 'Remove'. To the right of these buttons is an 'SQL' toggle switch, which is currently turned off. Below the buttons is a list of clauses. The first clause is 'Where Market_Val is greater than 1000000'. The second clause is 'And Owner_Name is equal to COMAL COUNTY OF'. Below the clauses is a green plus icon and the text 'Add Clause'. At the bottom left is a checkbox labeled 'Invert Where Clause', which is currently unchecked. At the bottom right are two buttons: 'Apply' and 'OK'.

Select By Attributes

Input Rows
City Parcels

Selection Type
New selection

Expression

Load Save Remove

SQL

Where Market_Val is greater than 1000000

And Owner_Name is equal to COMAL COUNTY OF

+ Add Clause

☐ Invert Where Clause

Apply OK

Select features by **location**

Select Layer By Location geoprocessing tool.

Spatial relationship that can be used for selection:

- Intersect
- Within a distance
- Contains
- Have their center in
- etc.


The screenshot shows the 'Batch Select Layer By Location' tool in the Geoprocessing pane. The 'Parameters' tab is active. The tool has the following settings:

- Input Features:** A list box containing 'blockgroups'.
- Relationship:** A dropdown menu set to 'Within a distance'.
- Batch Selecting Features:** A list box containing 'rivers' and 'lakes'.
- Search Distance:** A text box with '500' and a unit dropdown set to 'US Survey Feet'.
- Selection Type:** A dropdown menu set to 'Add to the current selection'.
- Invert Spatial Relationship:** An unchecked checkbox.

Work with **selected features**

- View attribute values or edit them in the **Attributes** pane.
- Interact with the **attribute table**.
 - View only selected attributes.
 - Switch the selection.
 - Copy the attribute table toolbar to copy the rows of attributes to the clipboard.
 - Manipulate attributes.
- Create a **selection layer**.
- Generate a **definition query**.
- **Zoom** to selected features.
- **Export** selected data.

Clear Selection

Clear selected features by clicking  **Clear** from either the ribbon or the **List by Selection** tab of the **Contents** pane, or by clicking the map in a place where there are no features.

Query expressions: Interactive query builder

The image shows a screenshot of an interactive query builder interface. It features a top bar with navigation icons, a green checkmark, a blue circle with the number '1', and a blue circle with the number '2' next to a toggle switch labeled 'SQL Editor'. Below this, a red rectangular box highlights two query clauses. The first clause, indicated by a blue circle with the number '3', starts with 'Where' and contains a dropdown menu with 'Accessible' selected, followed by 'includes the v:', another dropdown with 'Accessible,Not Evaluated' selected, and a red 'X' icon. The second clause starts with 'And' and contains a dropdown menu with 'Facility Type' selected, followed by 'is equal to', another dropdown with 'Swimming Pool' selected, and a red 'X' icon. Below the highlighted clauses is a button with a green plus icon and the text 'Add Clause', with a blue circle containing the number '4' next to it.

1

2 SQL Editor

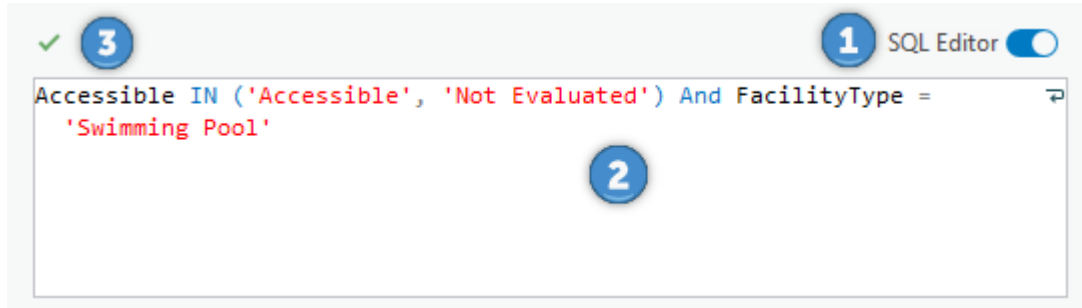
3

Where Accessible includes the v: Accessible,Not Evaluated X

And Facility Type is equal to Swimming Pool X

4 + Add Clause

Query expressions: SQL Editor



Exercise

Exercise

1. Select a few features interactively.
2. Select a few features with attributes.
3. Select a few features using location.

Sample Shapefiles - City of Newcastle, Australia

<https://classroom.google.com/c/NzkxNDA4MzgwOTE3/m/ODAzNjU5NTY0Mzc0/details>

Preview for Season 10

Managing Feature Visibility

References

Selection options in ArcGIS Pro

<https://pro.arcgis.com/en/pro-app/latest/help/mapping/navigation/selection-options.htm>

Introduction to query expressions in ArcGIS Pro

<https://pro.arcgis.com/en/pro-app/latest/help/mapping/navigation/write-a-query-in-the-query-builder.htm>