

Building a GIS from the Beginning: Part 4: Simple Analytics and Outputs

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Simple Analytics and Outputs

Presentation Agenda

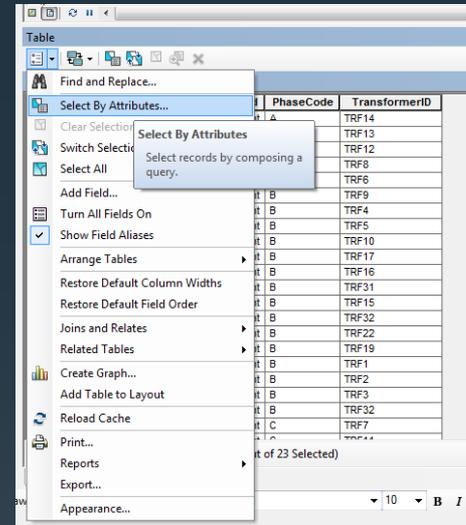
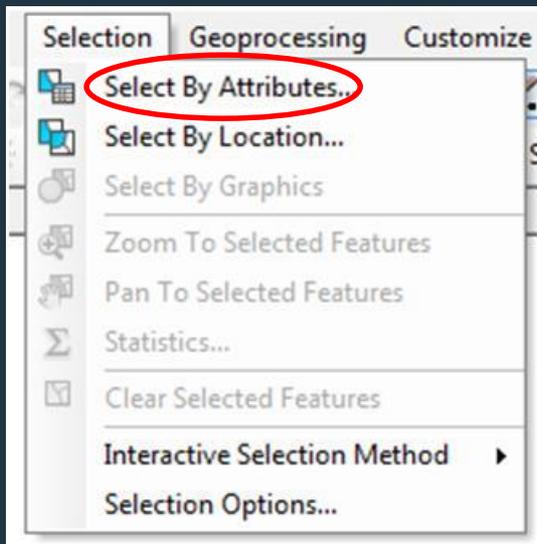
- Simple Analytics
 - Select by Attributes/Location
 - Calculate Mileage and Downstream Trace (w/ Geometric Network)
- Outputs
 - Building a Map Layout
 - Single Maps and Mapbooks
 - Exports
 - Reports
 - Web Services
 - KML (Google Earth)



Simple Analytics

Select by Attributes

- A selection method where one uses attributes contained in your GIS feature
 - SQL query expression
- This can be done in both the default map view and feature attribute table





Simple Analytics

Select by Attributes

- Select layer
- Select field
- Select operator
 - Equals, greater/less than, And/Or/Not, etc.
- Unique values
 - can help build query
- Verify query

Select By Attributes

Layer: TransformerBank
 Only show selectable layers in this list

Method: Create a new selection

[OBJECTID]
[subtypeCod]
[PhaseCode]
[TransformerID]

= <> Like A - A, A
> >= And B - B, B
< <= Or C - C, C
? * () Not
Is In Null Get Unique Values Go To:

SELECT * FROM TransformerBank WHERE:
[PhaseCode] = 'A'

Clear Verify Help Load... Save...
OK Apply Close



Simple Analytics

Select by Attributes

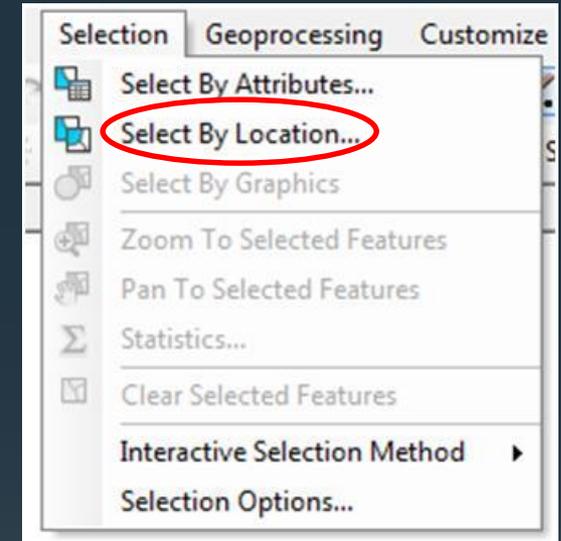
- Select by Attributes examples:
 - Select devices based on phase
 - Select poles based on height
 - OH/UG primary lines based on:
 - Phase
 - Conductor type
 - Has conduit
 - Select devices based on substation or circuit
 - Basically query anything based off attribute information contained in your features



Simple Analytics

Select by Location

- A selection method where one selects features based on their location relative to features in another layer
 - Many spatial relationship rules to use for your selection
 - Intersect
 - Are within a distance of
 - Are within
 - Are completely within
 - Contain
 - Completely contain
 - Have their centroid in
 - Share a line segment with
 - Touch the boundary of
 - Are identical to
 - Are crossed by the outline of





Simple Analytics

Select by Location

- Select by Location examples:
 - Number of consumers in a township/county/map grid/etc.
 - Searching for duplicate features
 - Ex. Two pole features from two sources
 - Apply search distance to see where duplicates are located

Select By Location

Select features from one or more target layers based on their location in relation to the features in the source layer.

Selection method:
select features from

Target layer(s):

- ServiceLocation
- TransformerBank
- SwitchDeviceBank
- Poles
- OHPPrimaryLine
- UGPrimaryLine
- UGSecondaryLine
- Streets
- Parcels
- MapGrid

Only show selectable layers in this list

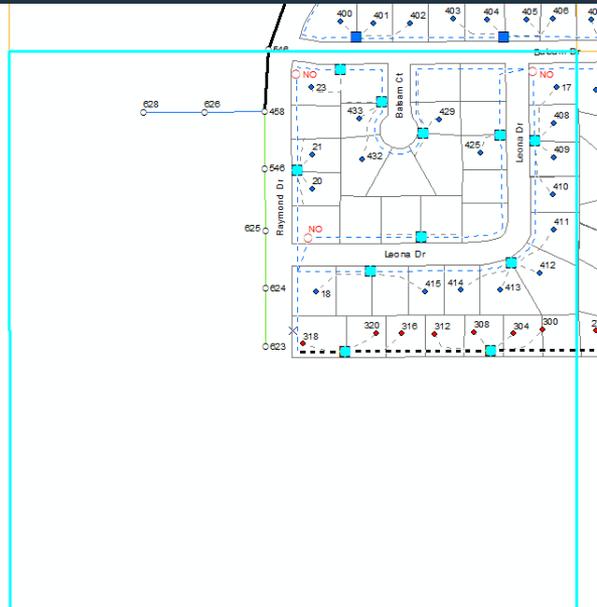
Source layer:
MapGrid

Use selected features (1 features selected)

Spatial selection method for target layer feature(s):
Intersect the source layer feature

Apply a search distance
300,000000 Feet

[About select by location](#) OK Apply Close

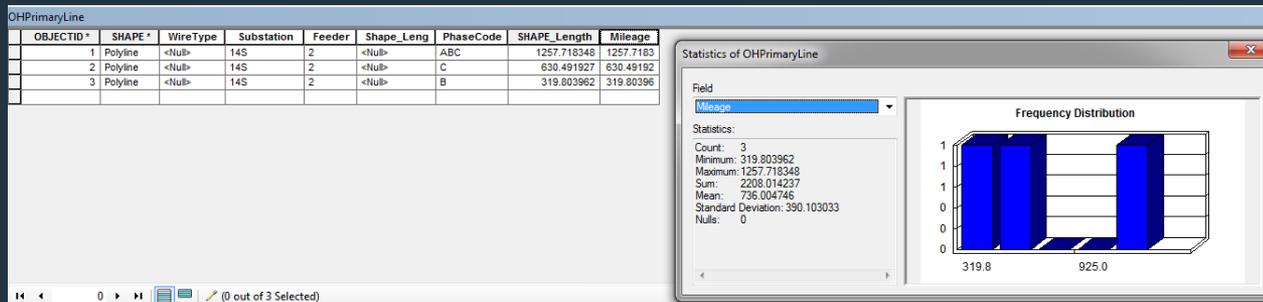




Simple Analytics

Calculate Mileage

- Ability to calculate mileages of line features
 - Overhead
 - Underground
 - Service Wire
- Distances summarized off of 'Mileage' field created within feature

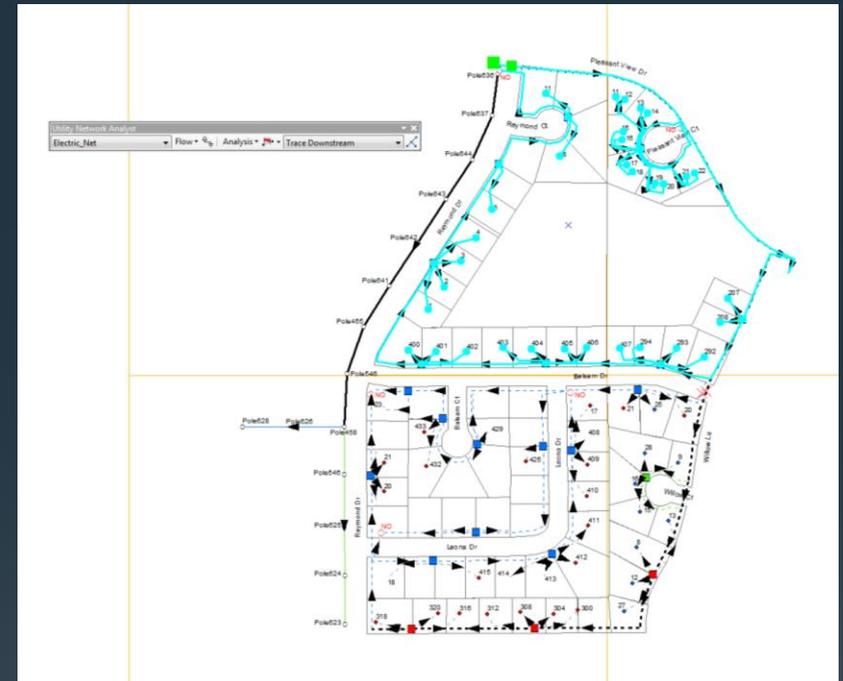




Simple Analytics

Downstream Trace

- Electric data in a Geometric Network can be analyzed
 - Perform a downstream trace to:
 - Select a number of devices attached
 - Calculate mileage
 - Find the number of customers





Outputs

Building a Map Layout

- When building a layout consider:
 - Page size
 - Reference scale
 - Title
 - Legend
 - Additional map text
 - Disclaimer
 - Document path info



Outputs

Building a Map Layout

- Layout Toolbar

- Page zoom in/out
- Pan page, Zoom whole page, Zoom 1:1
- Fix zoom in/out
- Previous zoom, Zoom percent
- Data driven pages toolbar





Outputs

Building a Map Layout

- Draw Toolbar



- Create simple shapes

- Ex. Outline boxes

- Text

- Map title
- Supplemental text

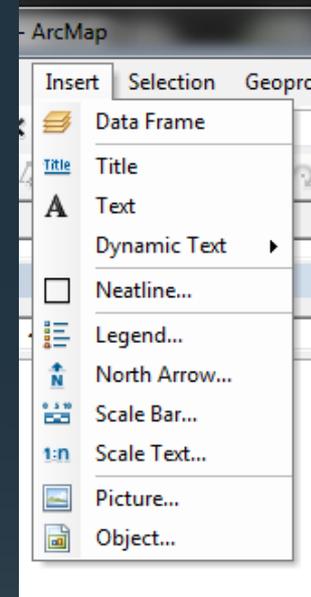
- Insert Menu

- North Arrow

- Scale Bar/Text

- Picture

- Another Data Frame (map within a map)



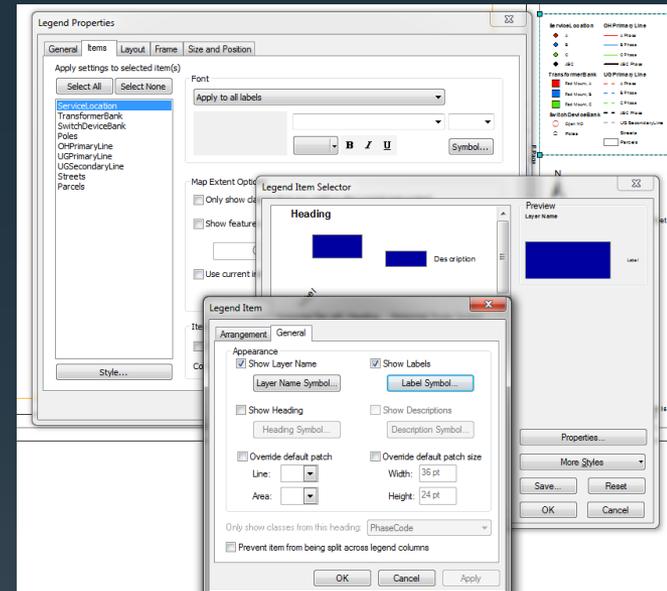
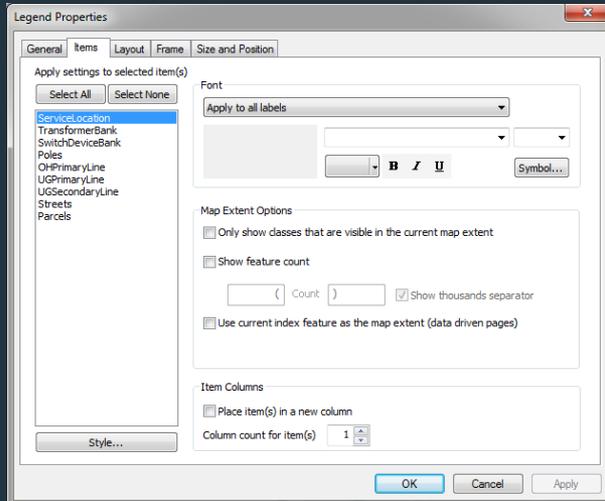


Outputs

Building a Map Layout

- Legend

- Insert Menu – Legend – Legend Wizard
- Choose which features participate in legend
- After initial creation, best to go back to the properties of the legend and features in the legend to fix feature labels

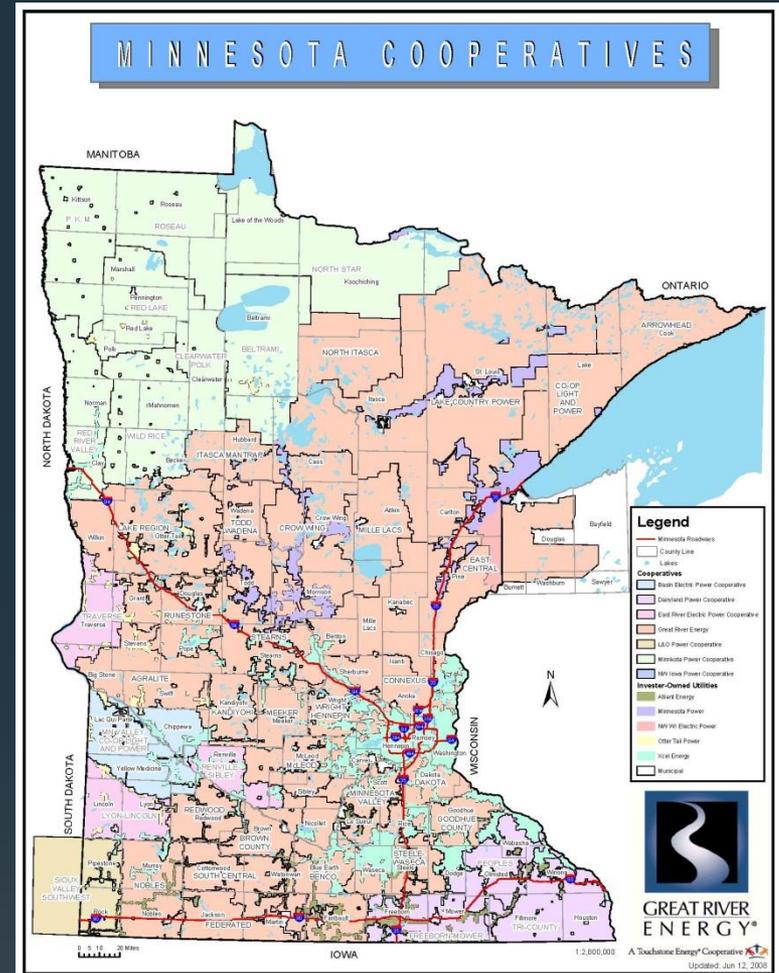
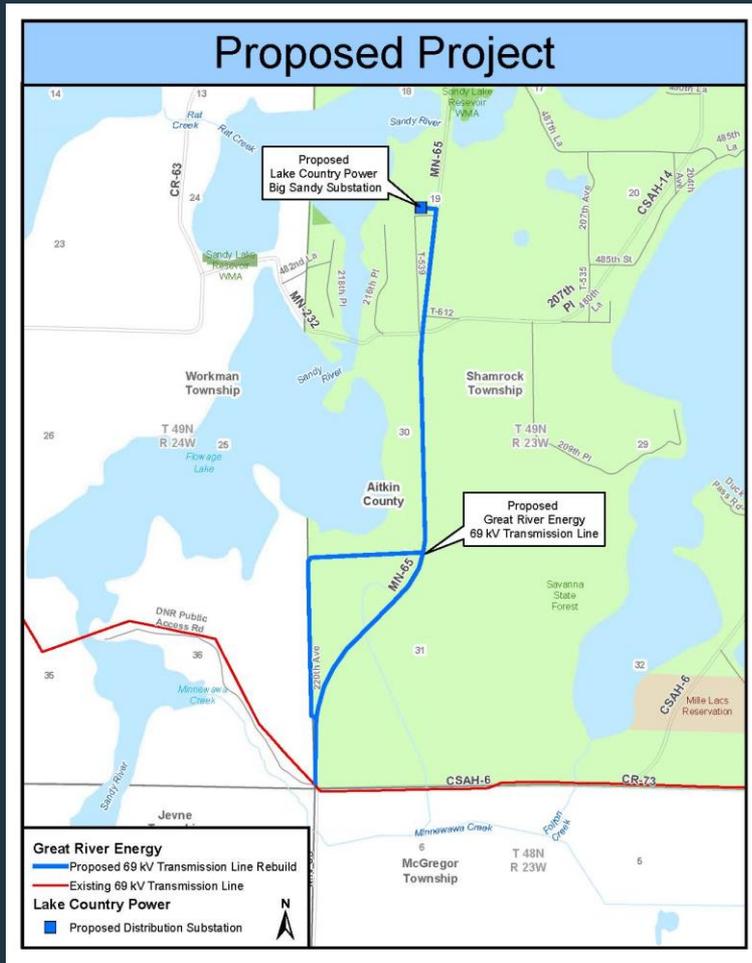




Outputs

Single Maps

- Consider the message of the map



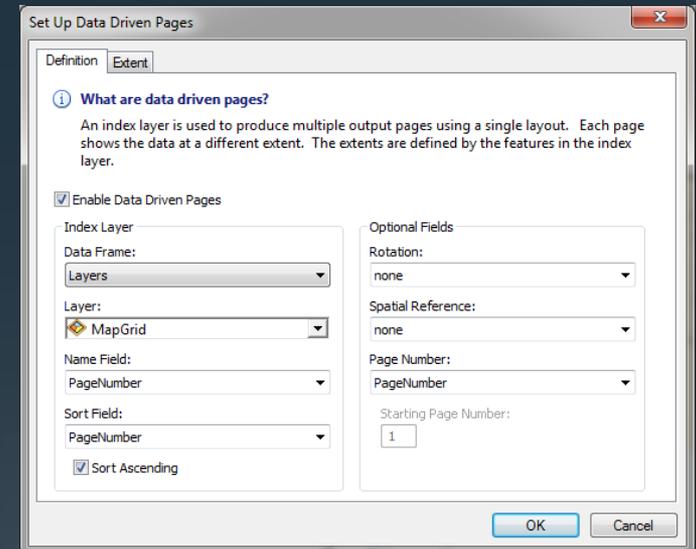
G
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Outputs

Mapbooks

- Utilize a Map Grid feature and the Data Driven Pages toolbar to create a map book
- Map Grid feature:
 - Helpful attributes: Page #, adjacent page #'s, scale, document path
- Data Driven Pages toolbar:
 - Define:
 - Layer, Name, Sort, Extent - Scale





Outputs

Exports

- Ability to export data from your maps/database to give to others
 - Shapefiles
 - Attribute Tables
 - Database Features



Outputs

Reports

- Simple reports can be generated from your map document
 - View menu – Reports – Create Report
 - Select Layer/Table for report
 - Choose your fields
 - Select grouping/sorting

Report Viewer - Untitled [ServiceLocation]

Location	Label	Name	servAddr1
28DBB10-012	12	North Mankato Resident	11 North Mankato Road
28DBB10-021	21	North Mankato Resident	12 North Mankato Road
28DBB10-407	407	Not in service	13 North Mankato Road
28DBB10-009	9	North Mankato Resident	14 North Mankato Road
28DBB10-027	27	North Mankato Resident	15 North Mankato Road
28DBB10-025	25	North Mankato Resident	16 North Mankato Road
28DBB10-028	28	North Mankato Resident	17 North Mankato Road
28DBB10-300	300	North Mankato Resident	18 North Mankato Road
28QCC03-207	207	North Mankato Resident	19 North Mankato Road
28DBB10-316	316	North Mankato Resident	20 North Mankato Road
28DBB10-008	8	North Mankato Resident	21 North Mankato Road
28DBB10-294	294	North Mankato Resident	22 North Mankato Road
28DBB10-015	15	North Mankato Resident	23 North Mankato Road
28DBB10-312	312	North Mankato Resident	24 North Mankato Road
28DBB10-308	308	North Mankato Resident	25 North Mankato Road
28DBB10-304	304	North Mankato Resident	26 North Mankato Road
28DBB10-016	16	North Mankato Resident	27 North Mankato Road
28DBB10-293	293	North Mankato Resident	28 North Mankato Road

Report Wizard

Which fields do you want on your report?

Layer/Table: ServiceLocation

Report View Contents Eject: (None)

Available Fields:

- OBJECTID
- Location
- Label
- Name
- servAddr1
- Substation
- Feeder
- PhaseCode

Report Fields:

Dataset Options...

Cancel < Back Next > Finish



Outputs

Web Services

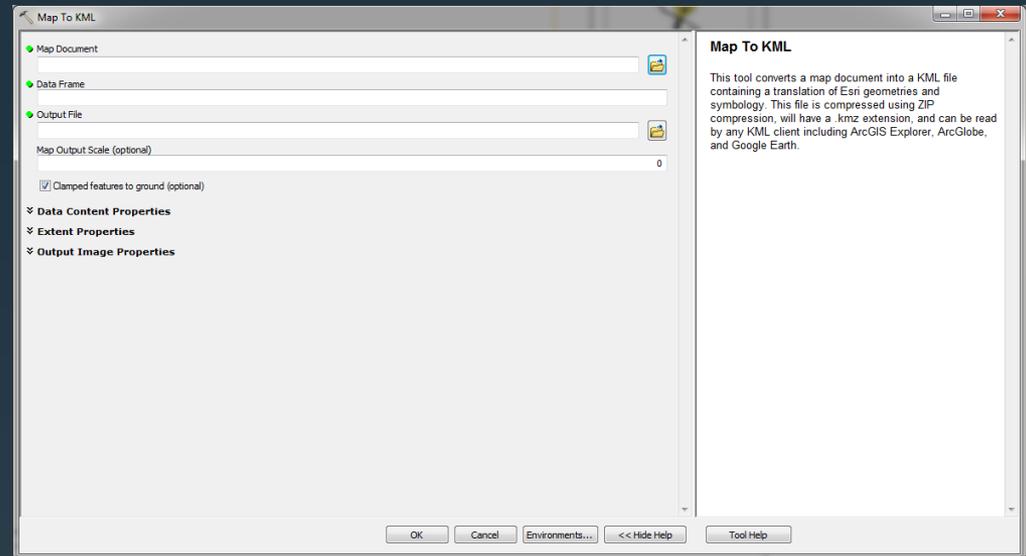
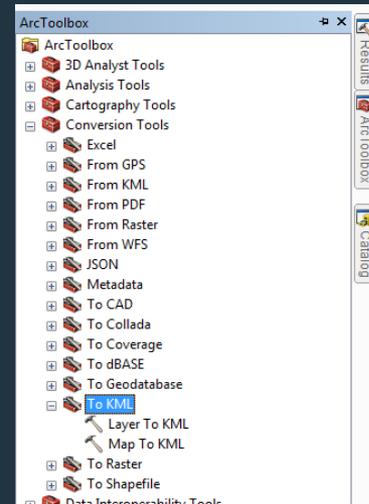
- The creation of web services allows for your data to be utilized on ArcGIS Online and seen over web maps and apps



Outputs

KML

- If you want to export a particular feature, or all feature in an mxd, you can use ArcToolbox to export a KML that can be utilized in Google Earth and other applications.





Questions?

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