



An Introduction to ArcGIS Pro 2D to 3D visualisation

The Power of ArcGIS Pro | Basic Tools | Cheat Sheet | Walkthrough Exercise

August 2024







What is ArcGIS Pro

- ArcGIS is a **Geographic Information System (GIS)** for working with maps and geographic information, created by Esri.
- ArcGIS Pro is the latest professional desktop GIS application from Esri.
- It is the new version of ArcMap.
- With ArcGIS Pro, you can:

explore, visualize, and analyze data;

create 2D maps and 3D scenes; and

share your work to your ArcGIS Online or ArcGIS Enterprise portal.





Tool Demonstrations



Visit geoprocessing tools for more information.





Industry Application



Transport networks

Water catchments and natural hazards

3D visualization





Basic Navigation and Tips









Launch ArcGIS Pro & Create a New Project





ArcGIS Pro User Interface



A self-test for ArcGIS Proficiency:

- 1. How do you change the **base map**?
- What is the difference between Explore and Select?
- How can you access the symbology panel?
- 4. What does **Ctrl + T** open when a layer is selected?
- 5. Do you remember how to **bring in** items from online sources?
- How do you make a new layout or a new map?





Did you know: ArcGIS Pro has a ton of default keyboard shortcuts?! Visit this link for more information.





Exercise: Porirua, small-medium scale area

Learning Outcomes:

- Change a 2D map into a local scene
- Make bookmarks
- Understand shade relative to light position
- Create elevated buildings





Uploading data to ArcGIS Pro

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> ··· ArcGIS > Projects > Porirua

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- Copy the relevant folders to the ArcGIS Project file [Documents > ArcGIS > Projects > Project name]
- Under Catalog > Folder name, ٠ *right click* and *refresh* and you should see the files appear

Note: when wanting to open this ArcGIS project in another computer, make sure to copy your whole project folder.





Adding data onto the map

 Expand the folders and drag the .shp file onto the map OR right click and "Add to current map"



Datasets used:

https://koordinates.com/layer/6612-porirua-building-footprints/ - The dataset for this tutorial has been modified and reorganised, this link is to the original file. https://koordinates.com/layer/6073-porirua-suburbs/

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Symbology overview

- Double Click the icon
 OR right click the layer and
 open "Symbology"
- Go to Properties and adjust outline colour and outline width to 1.5pts
- Remember to click "Apply"

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Make a bookmark

- Adjust the view to as needed
- Map > Bookmarks > New Bookmark
- Name the bookmark and click
 OK

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This tool is particularly useful when you have to navigate multiple locations



Converting to a 3D Scene

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- View > Convert > To Local Scene
- Right click the *Map 3D layer* > ٠ **Properties**
- *Illumination* > Change the ٠ altitude to 60.00 then click OK. (This is the position of the sun, the higher it is the brighter the lighting will be)

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Extruding the buildings

- Click on the building footprints layer and view attribute table (Ctrl+T). This dataset contains height data.
- With the layer selected >
 Feature Layer > Type > Max
 Height
- Field: HEIGHT



Type

Unit Meters

Extrusion

Display Filters

Drawing

🏷 Import

Symbology









Change background colour

- To mimic the colour of the sky
- Right click *Map_3D* > ٠ Properties > General > Background colour.
- Click OK when finished

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Adding other layers of data

- Accessing ArcGIS Online datasets
- Catalog > ArcGIS Online > Search: Porirua
- Find the layer: Porirua Environmental
 Offsets and drag onto the map
- Feature layer adjustments







Final Result



For more practice or revision of this tutorial's content, visit: ESRI Course convert a map into a scene

Video Walkthrough



Helpdesk Architecture Building Level 4, Room 423 (421-423). drh022@aucklanduni.ac.nz

Opening Hours:

Mon-Fri: 9:30am-4:30pm

We do not open during public holiday

App ointments only during school breaks





