

# CARTOGRAPHY IN CREATIVE CLOUD

KAREN ZEEB

CAPSTONE • MSGT 2019

## ADDING DATA

### IN THE ARCGIS PRO ONLINE PORTAL

From the catalogue pane, select Portal

There are two online portals - the all portal



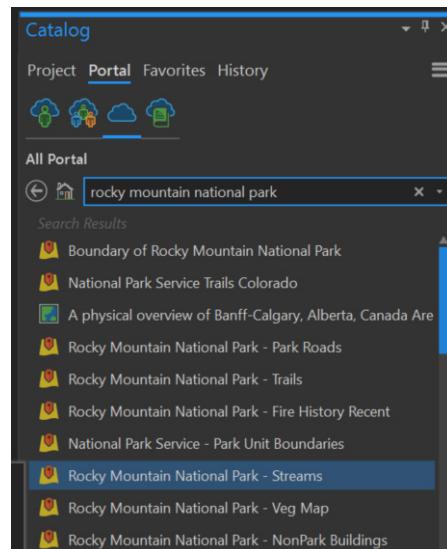
- the living atlas



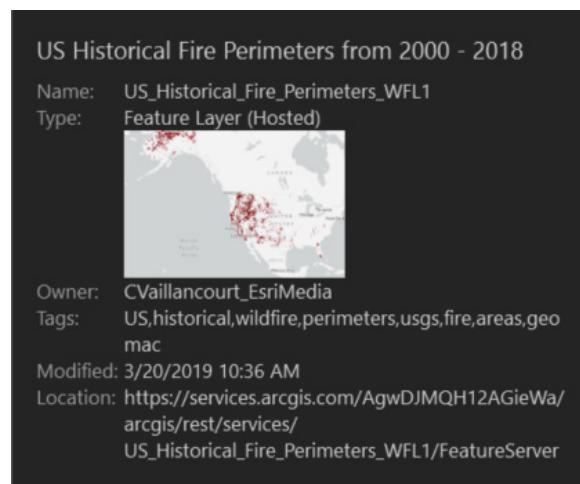
Type in search parameters  
only layers with this icon



can be added to your map  
(right click>add to map)



See a preview of the data  
and metadata



#### PROJECT DATA

Adding other types  
of project data is also  
done from the  
catalogue pane

#### PROJECT

This is data located  
local on your  
computer. In your  
project database,  
right click and add  
folder connection

#### PORTAL

You can also add data  
from your personal  
online account, or  
your organization's  
account

#### FAVORITES

Project favorites is  
a collection of fre-  
quently-used folder,  
database, and server  
connections

#### HISTORY

Choose from recently  
used database items

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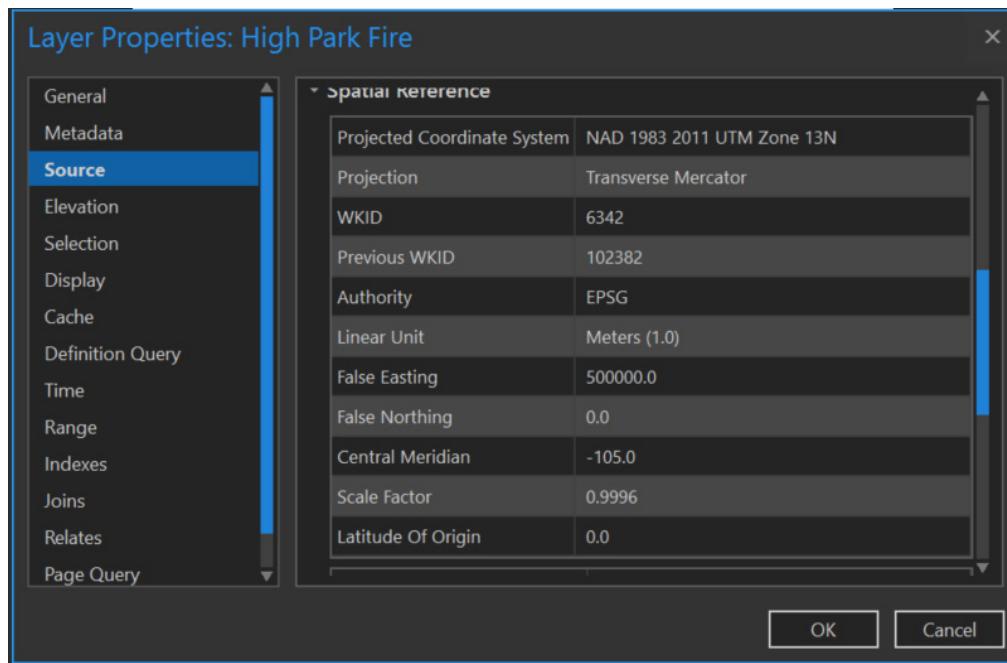
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## SET YOUR PROJECTION

### IN ARCGIS PRO

Right-click the data frame name and choose Properties to bring up the Data Frame Properties dialog box.

Click the Coordinate System tab and navigate to the desired coordinate system for your map display



### TO CONSIDER

For web maps, Mercator is the popular choice but be aware that this projection is widely considered inappropriate for many kinds of thematic mapping or anything larger than local areas. If you are making choropleth or dot density maps, look for an equal-area projection.

- DISTORTION
  - What specific map property do you need to preserve?
- AREA
  - Maps of density
  - demand equal area
  - projections
- FORM
  - Conformal projections are often good for general-purpose reference mapping, where we want to keep places looking recognizable and familiar
- DISTANCE
  - If you'd like to show, visually, how far one thing is from another, you're going to need to preserve distance
- DIRECTION
  - Also helpful for navigation

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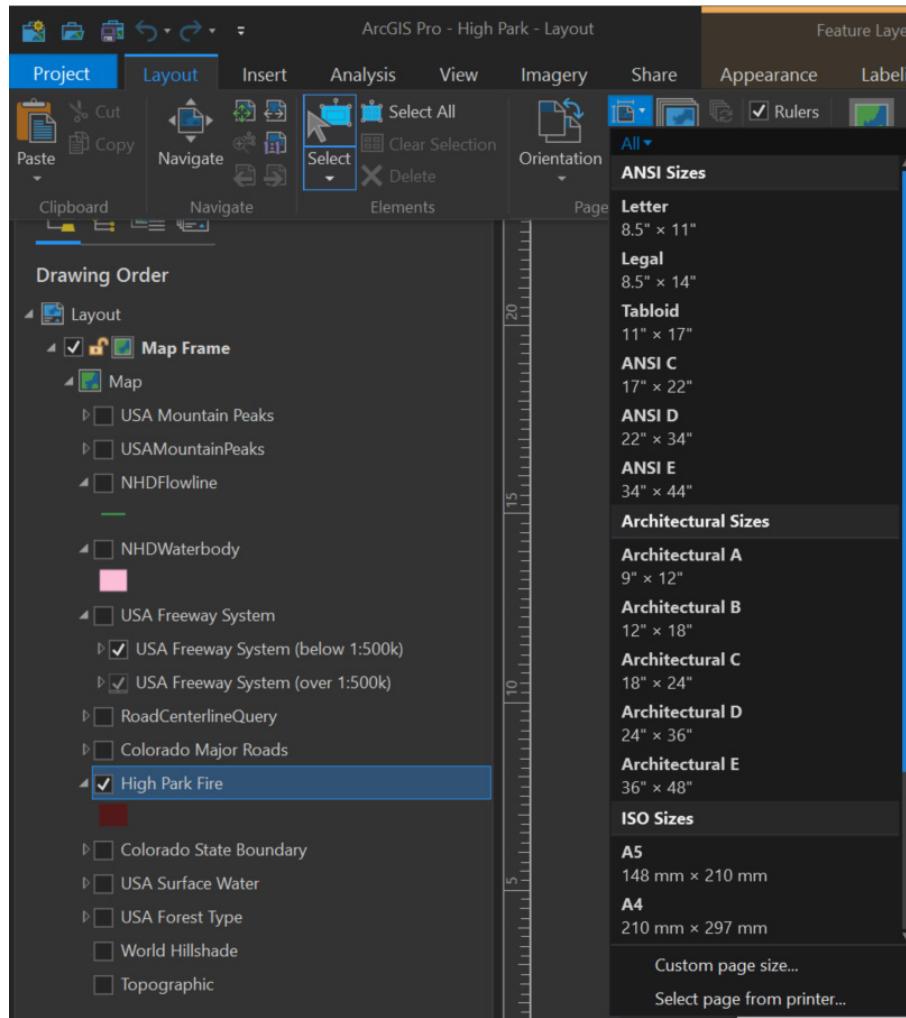
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## LAYOUT

### IN ARCGIS PRO

To create a layout, select insert from the map ribbon and click layout

Choose a default size or input your own



Select New Map Frame and choose your map from the pop-up

A cross-hair cursor will appear on your blank layout and you must draw the area where your map is to appear.

#### TO CONSIDER

- Make sure your map is set to the exact size of your final map.
- This assures proper resolution for your final product.

#### A WORD ABOUT RESOLUTION

- Resolution is the pixel dimensions of a graphic, the dots-per -inch (dpi).

- Higher resolution equals larger file size, so use only what you need.

#### FOR PRINT

- High quality printing requires at least 300 dpi

#### FOR WEB

- Web graphics require a resolution of 72 dpi.

# CARTOGRAPHY IN CREATIVE CLOUD

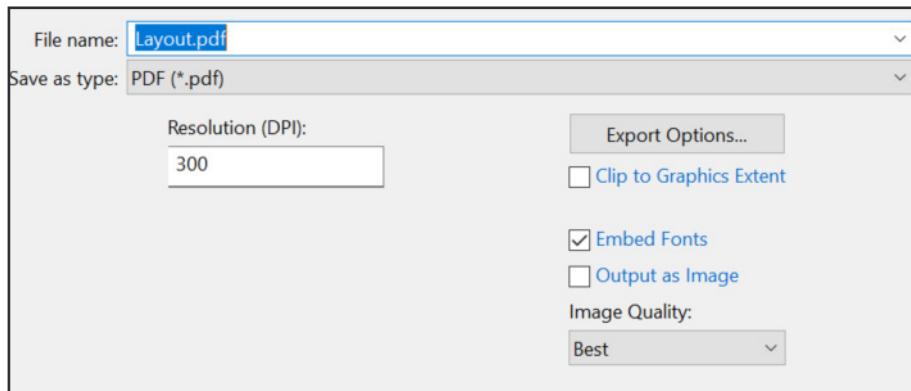
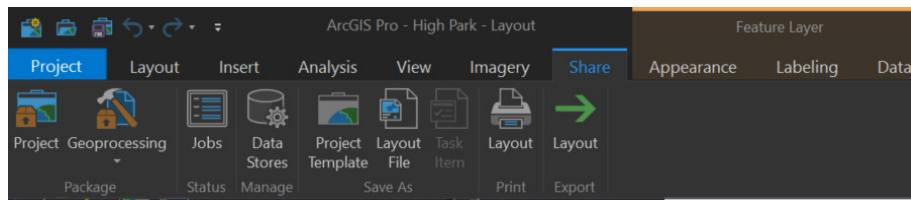
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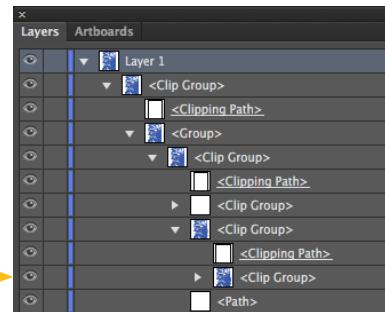
## EXPORT AND OPEN

### FROM ARCGIS TO ADOBE CREATIVE CLOUD

Export the map by selecting share from the layout view, name and set the resolution.



After opening the pdf in Adobe Illustrator, there are myriad clipping paths that need to be removed. The easiest way to do this is to open every group until the actualy graphics are located - drag only the graphic to a new layer and delete everything else. 



For the High Park Fire map, the layers were exported and opened separately, using the fire boundary for alignment. This proved faster for both the exporting process and cleaning up layers in Illustrator.

MAKE IT EASIER  
ON YOURSELF  
WITH:

LAYER STYLES  
Each feature type  
needs its own layer to  
uniformly style them  
as a group.

Use the appearance  
window to style your  
features, save it as a  
graphic style and apply  
it to the layer. Not  
just user-  
friendly, its the only  
way to connect any  
disconnected paths  
(i.e. roads)

GLOBAL COLOR  
When selecting color,  
check global color so  
that hue changes in  
every instance of its  
use.

NOTE ON COLOR  
CMYK for print  
RGB for web  
HEX for programmers

# CARTOGRAPHY IN CREATIVE CLOUD

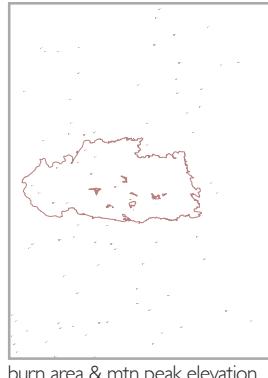
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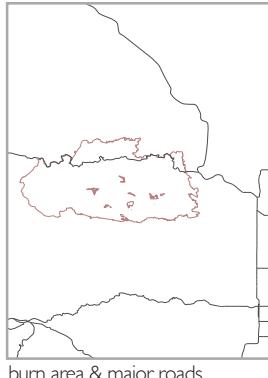
## VECTOR GRAPHICS

### ADobe ILLUSTRATOR

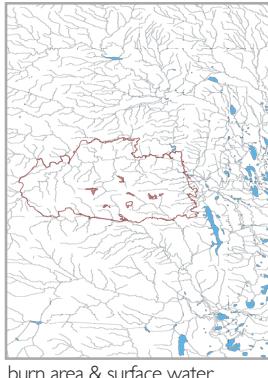
Vector graphics are the lines and polygons of GIS. These features maintain their sharpness when resized, and save as smaller files.



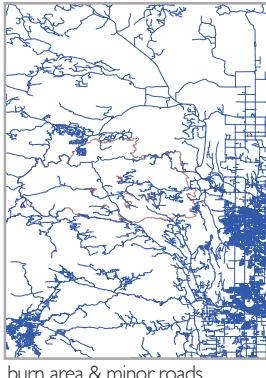
burn area & mtn peak elevation



burn area & major roads



burn area & surface water



burn area & minor roads

### TRANSPARENCIES

There are multiple options for applying transparencies that create visual hierarchy for the vector elements of your map.

### STROKE

In the appearance pane, select apply stroke - this adds an additional stroke that can differentiate feature types or enhance the look of a line. This effect is used most often on highways

### GLOW

The inner-glow effects is used on the water bodies of the High Park Fire map. The creates a gradient at the edge of a polygon and when used on water, gives an appearance of depth



### GET TO KNOW THESE TOOLS:

#### PEN TOOL

The pen tool is an invaluable asset in Illustrator. Used to draw lines, curves, connect the disconnected, and trace graphics.

It takes some practice to create vertices with desired arcs but once you master the pen tool, you can draw (and re-draw rasters) with ease.

#### IMAGE TRACE

This function is used to make vector graphics (usually from raster) more manageable.

#### COLOR DROPPER

This tool allows for color matching and saving color swatches of imported graphics. Great for color consistency

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## RASTER GRAPHICS

### ADOBE PHOTOSHOP

Raster graphics are the pixel graphics of GIS. Resolution dependent, these should only be used background layers.



forest type color adjust & blur



hillshade at full opacity



burn area w. hillshade



burn area w. burnt edge

### TRANSPARENCIES

Transparency adjustments can be applied to many layers, allowing elements levels of visibility that combine for visual hierarchy.

### COLOR ADJUSTMENT

For the High Park Fire map, color adjustment was done on the forest type layer. This function allows the entire layer to change together keeping the integrity of hue variations.

### DESIGN EFFECTS

The burnt edge effect on the burn area layer that was created with a layer mask, large round paint brush, blur and the distortion effect of adding noise.



forest type before color adjustment

### GET TO KNOW THESE TOOLS:

#### FILTER GALLERY

This gallery applies artistic filters to layers or elements of the map, including painting, drawing or poster effects.

#### MASKING

Masking is important when you need to apply an effect to specific elements or areas, not the entire layer. Important in the burnt edge effect.

#### STYLE GALLERY

Here you can add effects to layers or layer elements such as glow, drop shadow, distortions, blur or sharpen

#### PAINTBRUSH

Many effects are executed with the variety of paintbrush options of size and hardness.

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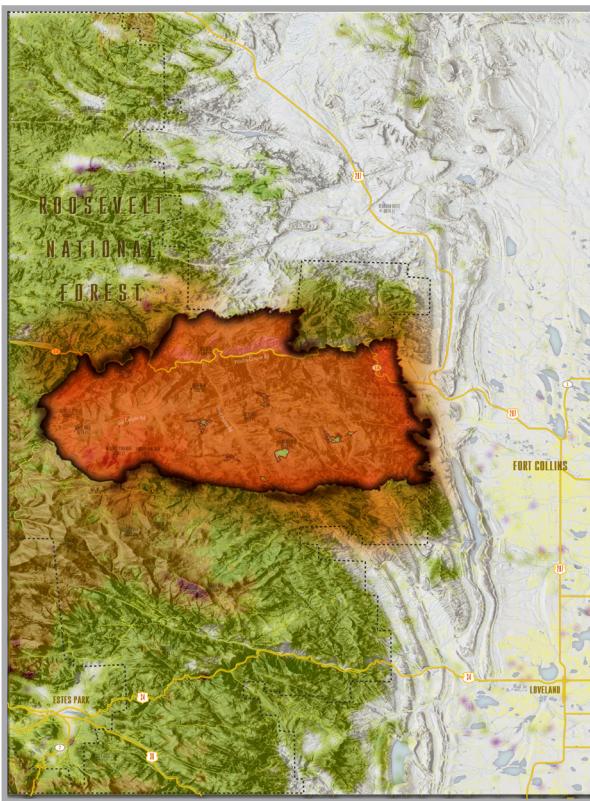
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## PUTTING IT TOGETHER

### ASSEMBLING LAYERS IN ILLUSTRATOR & PHOTOSHOP

Vector and raster layers put together in Adobe Photoshop.

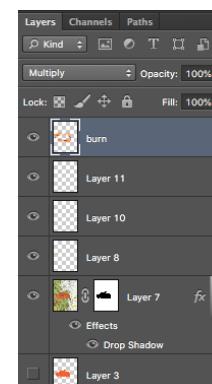


### PHOTOSHOP OR ILLUSTRATOR?

Putting together your adjusted layers can be done in either software, but Illustrator is usually preferred. This map was assembled in Photoshop simply because the raster layer effects are the main focus of the map.

### FILE FORMATS

Options to save or export to myriad file formats is a key function in Creative Cloud. See sidebar for tips on best use of popular formats.



### A WORD ON FILE FORMATS

- JPG
  - Useful for print or web,
  - important to remember the resolution for best use. (300 dpi for print; 72 dpi for web). Jpgs appear as a flattened file, showing the background in white.
- PNG
  - Portable network graphics are relatively new, and a great alternative to jpgs. Background appears as transparent.
- AI
  - Adobe Illustrator vector file, used for professionally printing, and excellent for import into final layout software.
- PDF
  - Portable document file is a good option for general use but can appear distorted when viewed on-screen

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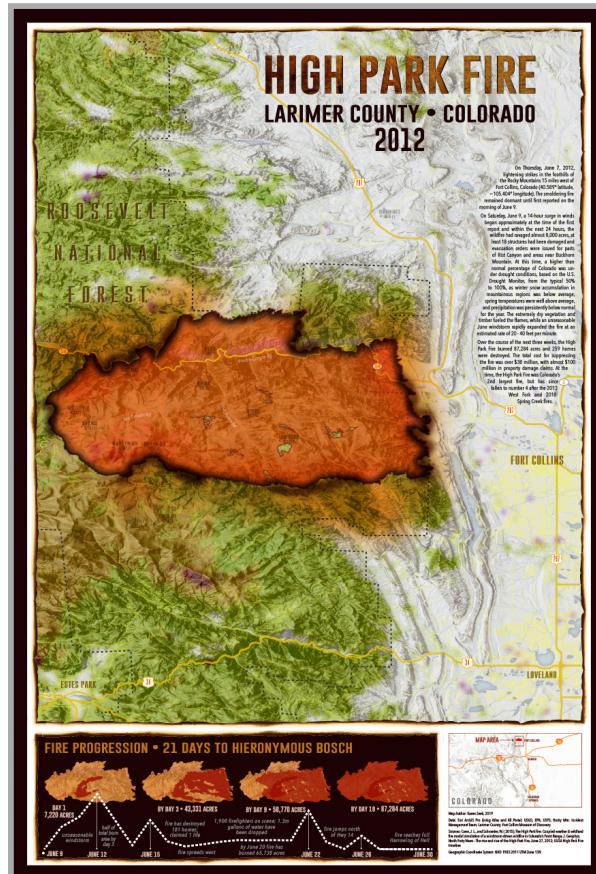
## THE FINAL PRODUCT

### CREATING A LAYOUT IN ADOBE INDESIGN

InDesign is the software used by professionals for design layout. The High Park Fire map was finalized by adding the text, title, and additional graphics.

### (10) TENETS FOR SUCCESS:

- Find Your Focus
- Direct the Eye
- Scale and Hierarchy
- Balance
- Use Complimentary Elements
- Contrast
- Repeat Elements of Your Design
- White Space
- Alignment



### POWER POINT

Many map layouts are prepared in Power Point, which has some similar basic operations - such as adding text boxes - but lacks advanced design functionality.

### PRE-FLIGHT

For projects headed to professional printers, or for sharing files, the pre-flight function gathers and packages all the elements of your project into one folder.

### VISUAL HIERARCHY

#### LAYOUT

The main focus of this map is the burn area, which is centered on the page, and its shape repeated in the fire progression graphic. The burn effect draws attention and the map's intent is immediately understood.

#### MAP ELEMENTS

Forest and hillshade provide a geographical reference to the map without distracting from the burn area.

#### COLOR

Standard cartographic choices of green for natural areas and blue for water make the map easy to understand. The orange hue used for the burn area, although muted, is naturally associated with fire.