



What's new in ArcGIS Enterprise

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2019 ESRI DEVELOPER SUMMIT
Palm Springs, CA

What do you do with ArcGIS Enterprise?



Mapping &
analysis



Coding and
development



Content and
user
administration



IT administration
and system
architecture

What's new in:



Mapping and analysis



Administrative



Data and publishing



New apps and products

Release timeline

2016

10.5

December

2017

10.5.1

June

2018

10.6

January

10.6.1

June

2019

10.7


March

10.7.1



Quick introduction to ArcGIS Enterprise

ArcGIS Enterprise is a complete system for data management, spatial analysis and application building that is **installed on infrastructure you control**, whether in the cloud or on-premises.

An abstract graphic in the bottom right corner consisting of various overlapping, tilted rectangular and polygonal shapes in shades of blue, teal, and purple, creating a sense of depth and movement.

What can I do with ArcGIS Enterprise?



Publish, host and serve web services



Share and collaborate



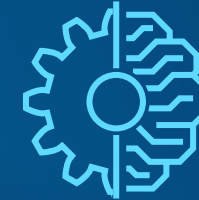
Work with imagery and raster data



Build and use applications



Customize the look & feel of your GIS



Data science and machine learning



Web mapping and analysis



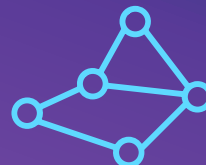
Fuel field operations



Monitor real-time data and your IoT



Access all kinds of data



Analyze big data

Mapping & analysis

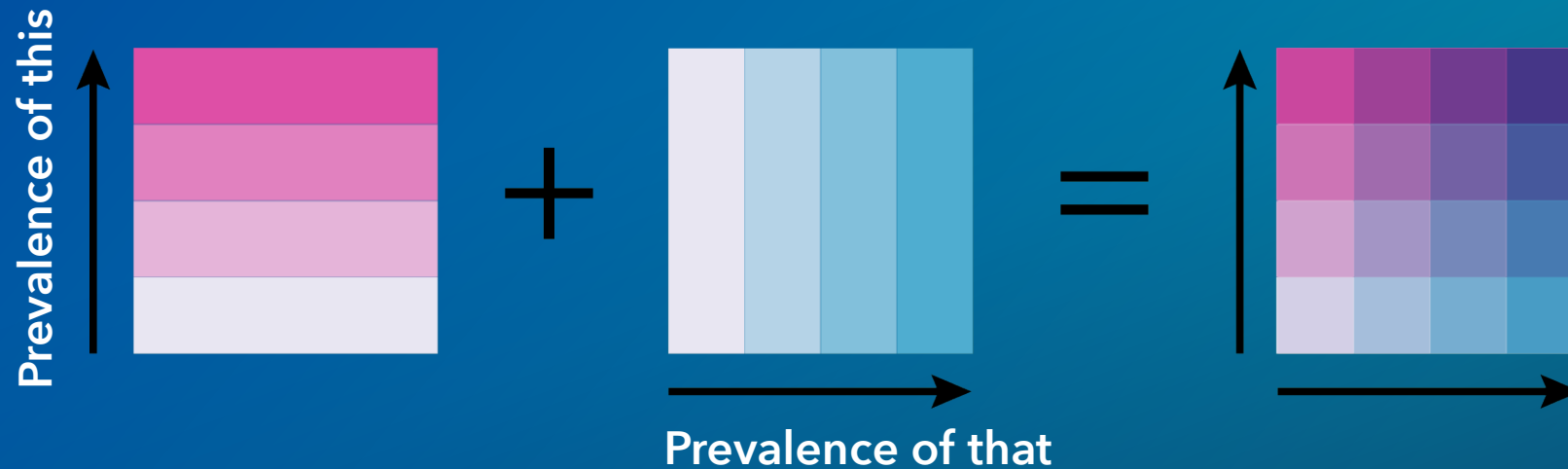


Relationship style

New smart mapping style

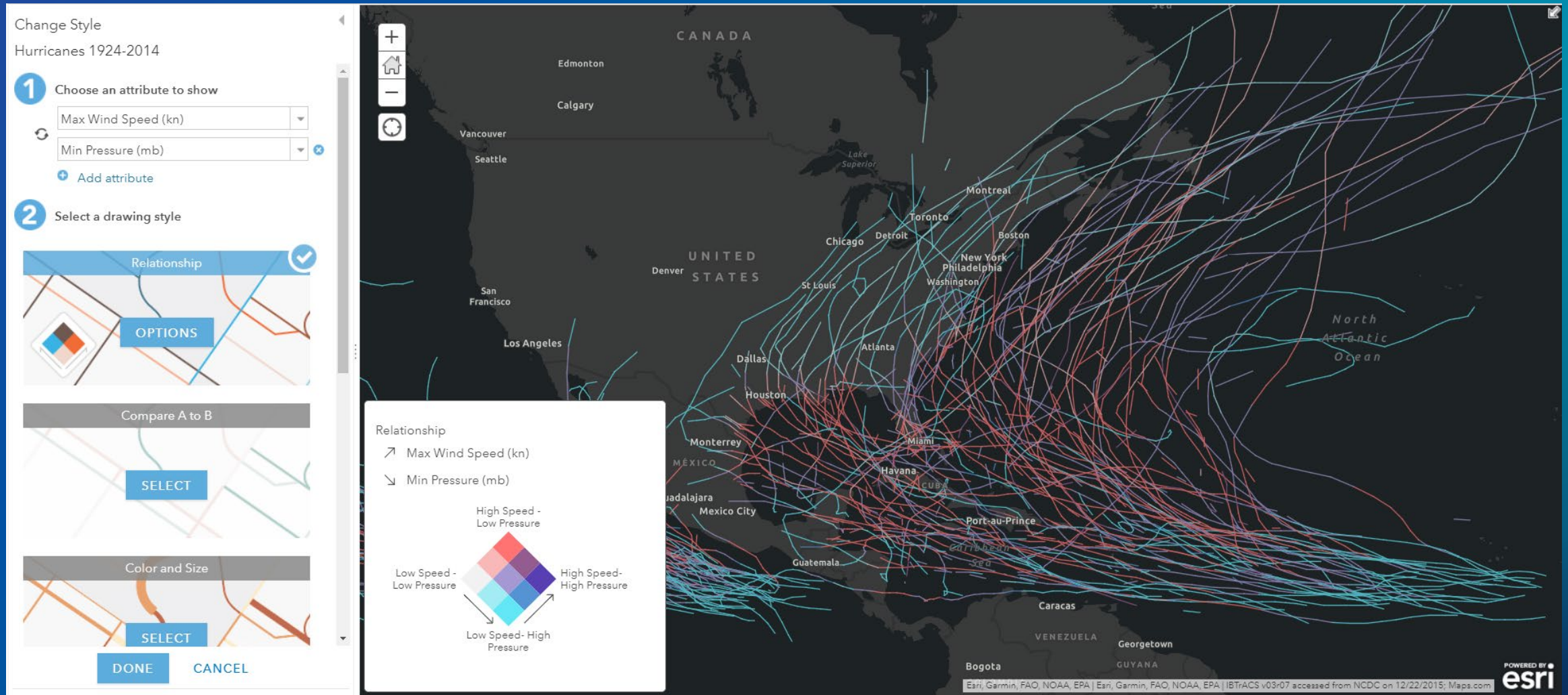
Compares two attributes on a map using color variation

- Which commercial buildings have high occupancy rates and high energy use?
- Which streets had high rates of accidents and low speed limits?

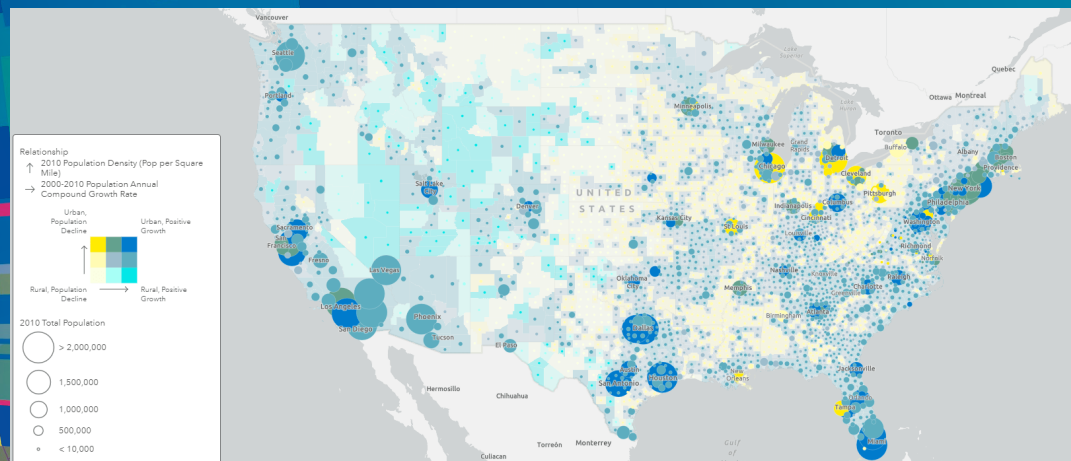


Relationship style

New smart mapping style



Wind speed and pressure. Credit: Lisa Barry, Esri



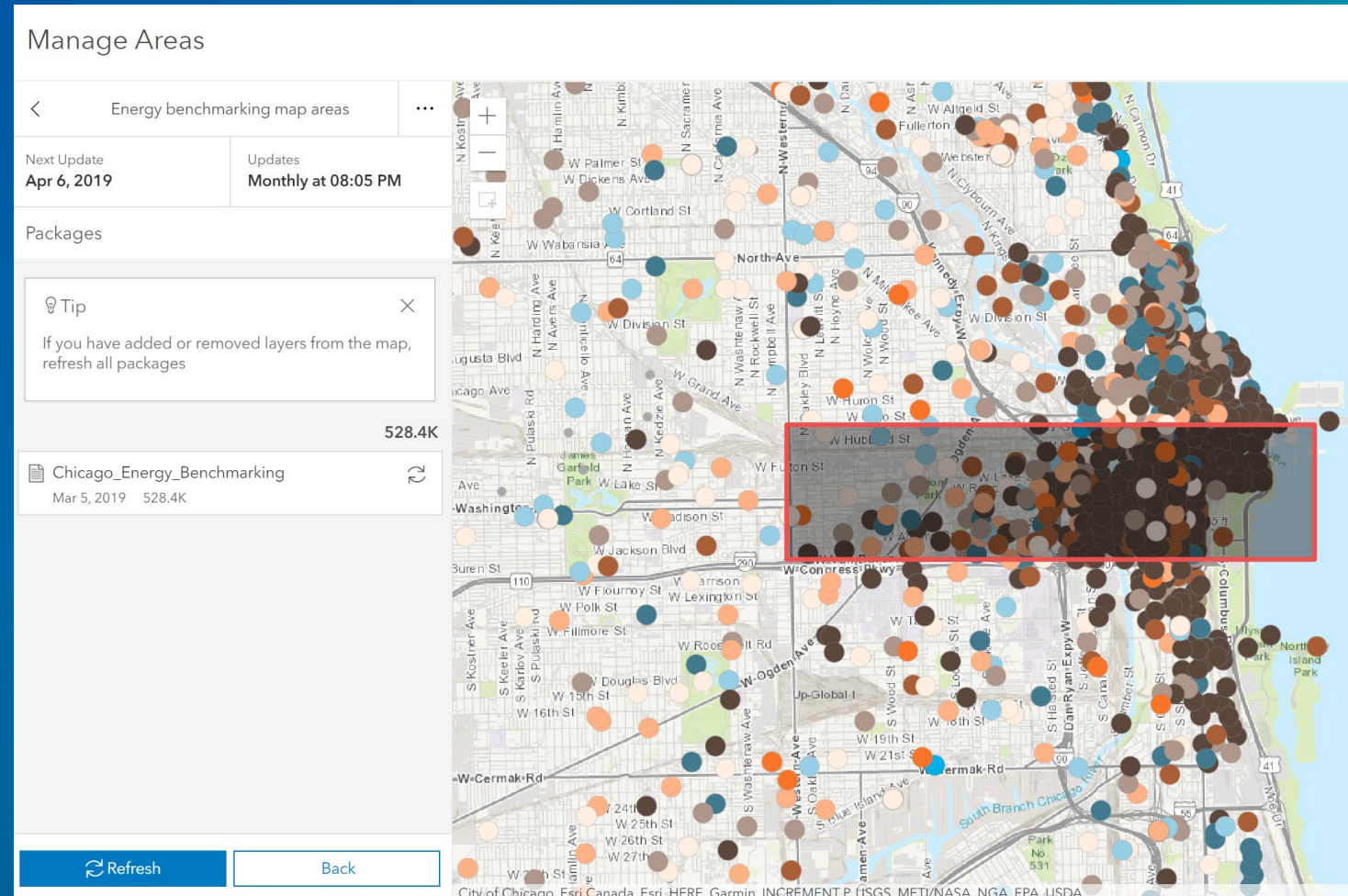
How to use this relationship style

Create offline map areas

Support offline field workflows

Create pre-determined map areas to take offline:

- Makes it easier and faster to package up and take maps offline
- Update offline areas on a schedule to reflect changes in your web map
- Use in apps built using the Runtime SDK or Collector for ArcGIS



GeoAnalytics Server

Big data processing and analysis

New tools:

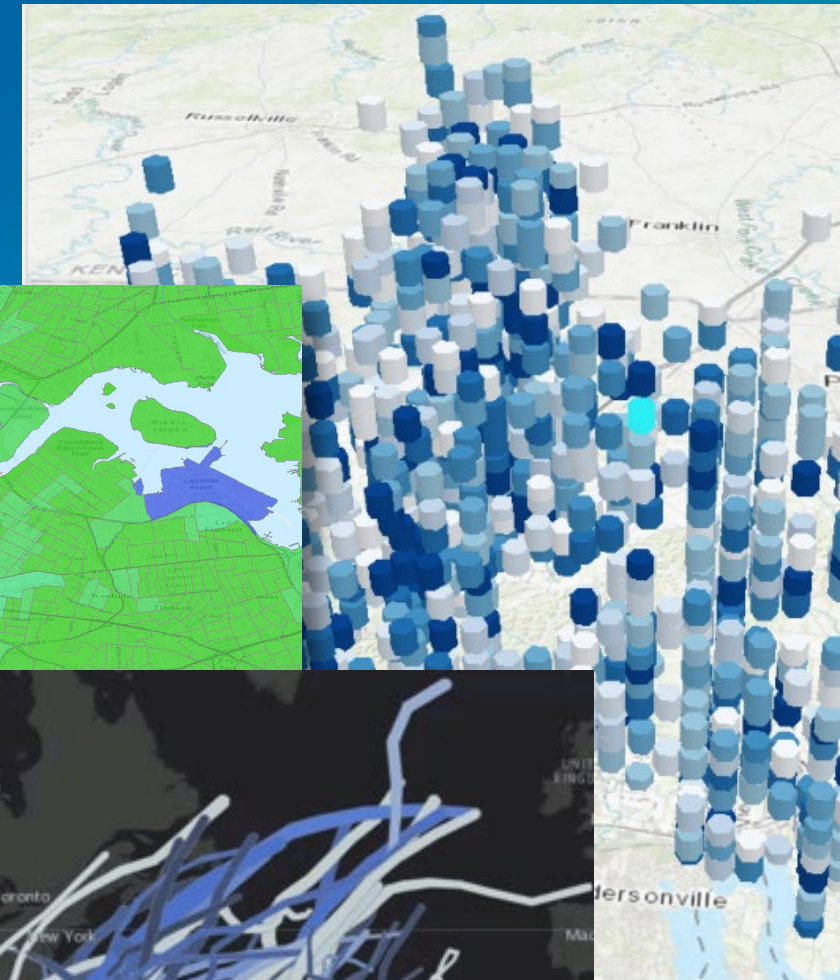
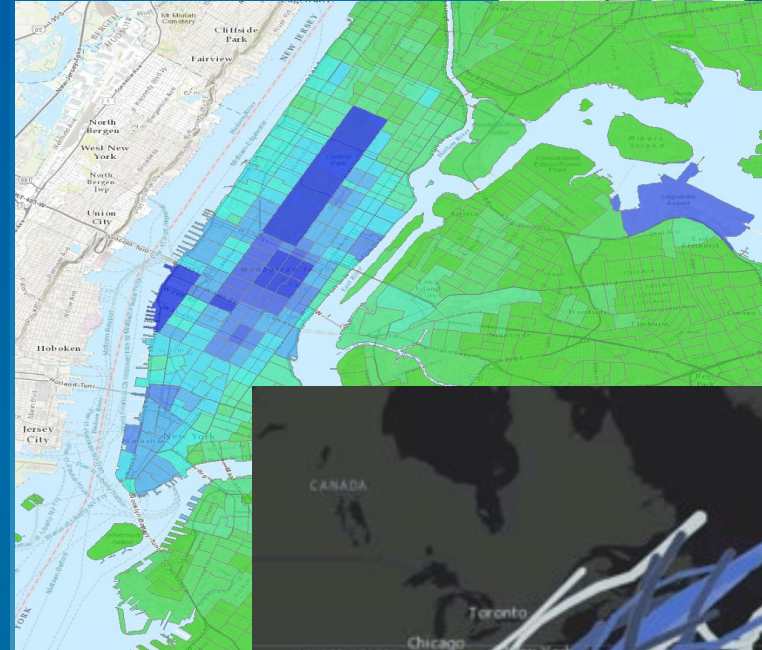
- Clip, Dissolve, Merge
- Forest-Based Classification and Regression
- Generalized Linear Regression

New extensibility:

Run Python Script

- Leverage pyspark & all subpackages
- Run SQL queries
- Chain tools together

+ *write analysis results back to your own data stores*



Host Python notebooks in your infrastructure

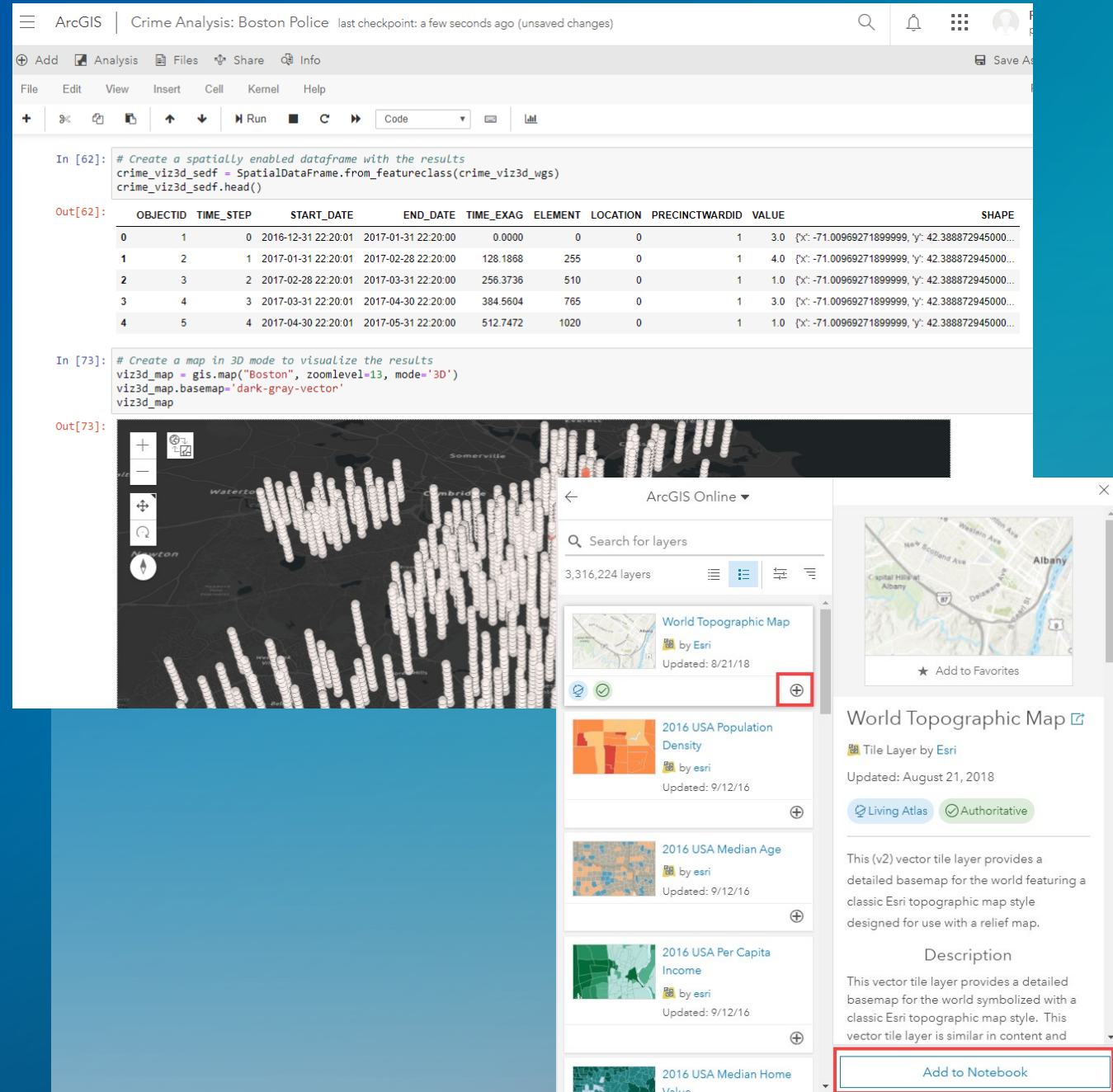
A powerful data science platform

- Uses Docker containers to isolate each notebook author's workspace
- Code with the Python API and ArcPy
- Dynamic mapping and visualization

Integrated with your portal

- Users are granted notebook privileges via portal user roles
- Add and reference portal items
- Share notebooks in the portal

Comes with a rich gallery of sample notebooks to illustrate workflows



Administrative



Introducing webhooks

Automate notifications based on portal actions

An action occurs.

- Something is published
- A user creates a new account
- An item is deleted

The webhook is triggered.

- Delivers JSON description of event
- Relevant info fields

```
{
  "info": {
    "webhookName": "Group monitoring",
    "webhookId": "72fed926aeb74c9ca8a22aacddc6725a",
    "portalURL": "https://machineURL/portal/",
    "when": 1543192196521
  },
  "events": [{
    "username": "administrator",
    "userId": "173dd04b69134bdf99c5000aad0b6298",
    "when": 1543192196521,
    "operation": "update",
    "source": "group",
    "id": "173dd04b69134bdf99c5000aad0b6298",
    "properties": {}
  }]
}
```

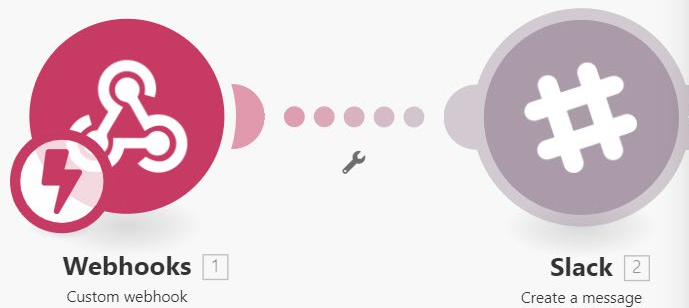
Your platform of choice kicks in.

- IFTTT
- Zapier
- Microsoft Flow

It performs an action.

- Emails you
- Posts in Slack
- Alexa announces it
- Turns on your lights





Run once
Schedule setting

ON

SCHEDULING

CONTROLS

TOOLS

FAVORITES

Slack

Connection

ArcGIS Enterprise (smmacdonald) Add

For more information on how to create a connection to Slack, see the online Help.

Where to send the message

to a selected channel

Channel

devsummit-2019

Text

Hi!

The following user action occurred at

1. info: when :

The user 1. events[1]: username took the action to delete the user 1. events[1]: id .

If this should not have occurred, please log in to 1. info: portalURL .

For detailed information about text formatting, see the Slack documentation.

Show advanced settings Cancel OK

A webhook in action

ArcGIS Enterprise v Scott MacDonald

All Threads

Channels

devsummit-2019

general

random

+ Add a channel

Direct Messages

#devsummit-2019

☆ | 👤 1 | 🗑️ 0 | ✎ Add a topic

Yesterday

Scott MacDonald 10:02 AM

Post

Portal user action occurred
Last edited 24 hours ago

Hi!

The following user action occurred at 2019-03-05T18:02:23.253Z:

The user qaptladmin took the action to delete the user jdoe82.

If this should not have occurred, please log in to <https://portalhostds.ags.esri.com/gis/>.

Webhooks

3 example use cases



- **/groups:** When someone shares an item to a collaboration group, notify group members through Slack.
- **/items:** If the sharing settings are changed for a layer that contains confidential information, email administrators.
- **/users:** Once a user is deleted, notify your admin via text.

New for administration of ArcGIS Server

1

Request ID

- Each request gets a unique ID
- Query logs using ID for a comprehensive timeline

2

Inactivity properties

- Suspend and then unregister inactive machines after a set duration
- Particularly useful for large cloud deployments

Query Logs

Log Filter

Start Time:

End Time:

Level:

Filter:

- ☒ Log Codes
- ☐ Process IDs
- ☐ Request IDs

Component:

Service:

Machines:

☐

```
{
  "codes": [],
  "processIds": [],
  "requestIds": ["60af6c96-8bff-4f94-ac7e-f29700e2e961"],
  "server": "*",
  "services": "*",
  "machines": "*"
}
```

Messages Per Page:

Format:

Request ID

Server Administrator Directory

New for administration of ArcGIS Server

3

Jobs page

- Query the status of geoprocessing jobs in Server Manager
- Select by service, status, age, machine to see the status, start & end time, duration and machine

ArcGIS Server Manager

Services Site Security Logs

GIS Server Web Adaptor Software Authorization Settings

Directories
Configuration Store
Machines
Data Stores
Jobs
Extensions

Jobs [Help](#) [Settings](#)

Jobs are tasks submitted to geoprocessing services. Select a Service and click Query to view jobs. Use the Status, Age, and Machine choices to refine your query.

Manage jobs with the Cancel, Delete, and Information buttons.

Service: Status: Age: Machine:

System/CachingTools
System/CachingToolsEx
System/DistributedWorker
System/GeoAnalyticsManagement
System/GeoAnalyticsTools
System/LocationReferencingSystemTools
System/OrthomappingTools
System/PublishingTools
System/PublishingToolsEx
System/RasterAnalysisTools
System/SceneCachingControllers
System/SceneCachingTools
System/SpatialAnalysisTools
System/SyncTools
System/SyncToolsEx
System/UtilityNetworkTools
System/ValidationTools
Utilities/GeocodingTools
Utilities/OfflinePackaging
Utilities/RasterUtilities

Status	Start Time	End Time	Duration	Machine			
Succeeded	Feb 27, 2019, 11:10:08 AM	Feb 27, 2019, 11:11:21 AM	00:01:12	GPportal	i	■	✕

Jobs page
Server Manager

Shared instance pool





C L I E N T A P P S

ArcSOC.exe

Service

ArcSOC.exe

Service

A R C G I S S E R V E R S I T E



   CLIENT ? APPS ?



Service



Service

ARCGIS SERVER SITE



CLIENT APPS

Performance delay



Service



Service

ARCGIS SERVER SITE





C L I E N T A P P S

**Dedicated
instance pools**



Service



Service

A R C G I S

S E R V E R

S I T E





CLIENT APPS

Goal: Optimize instances
so you're only using as
many as you need.



Service



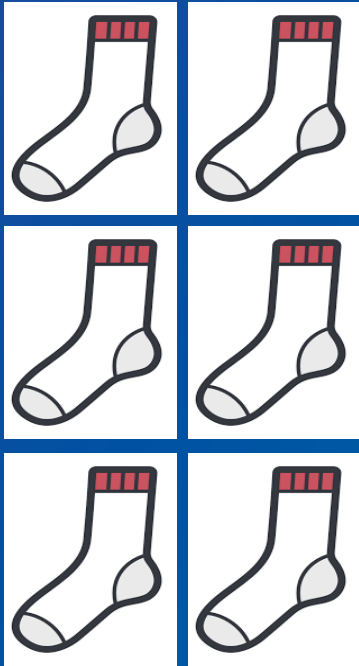
Service

ARCGIS SERVER SITE





GPService



MapService1

Frequent
traffic

Less
frequent
traffic



MapService2



FeatService2



MapService3



MapService4



FeatService1



FeatService3

A R C G I S S E R V E R S I T E



- Conserve memory and power usage from unused instances... **without** performance impact
- Isolate high-volume services in dedicated pools
- Reduce administrative overhead of maintaining separate pools for all services

Shared instance pool

New at 10.7



6 ArcSOCs

Participants:
MapService2
MapService3
MapService4
FeatService1
FeatService2
FeatService3

A R C G I S S E R V E R S I T E



Data & publishing



New in publishing



1

Publish map services from Pro 2.3 to a standalone (unfederated) ArcGIS Server

- Arcpy.sharing module
- Create draft, then share to server
- GUI planned for Pro 2.4

```
import arcpy
import os

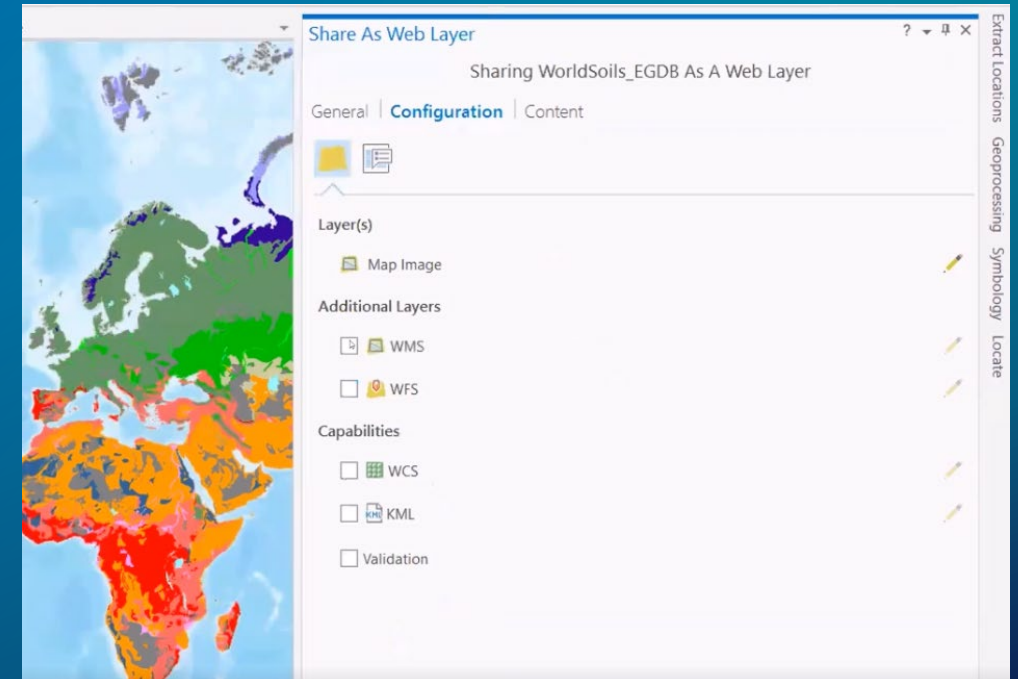
# Set output file names
outdir = r"C:\Project\Output"
service = "MapServiceDraftExample"
sddraft_filename = service + ".sddraft"
sddraft_output_filename = os.path.join(outdir, sddraft_filename)

# Reference map to publish
aprx = arcpy.mp.ArcGISProject(r"C:\Project\World.aprx")
m = aprx.listMaps("World")[0]
```

2

Publish OGC services from ArcGIS Pro

- WMS, WFS, WCS, KML

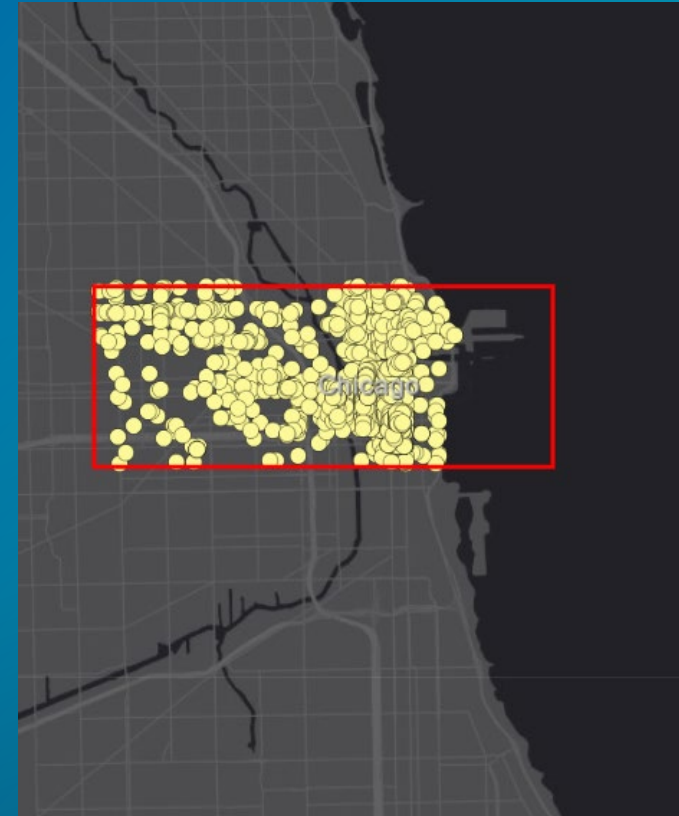
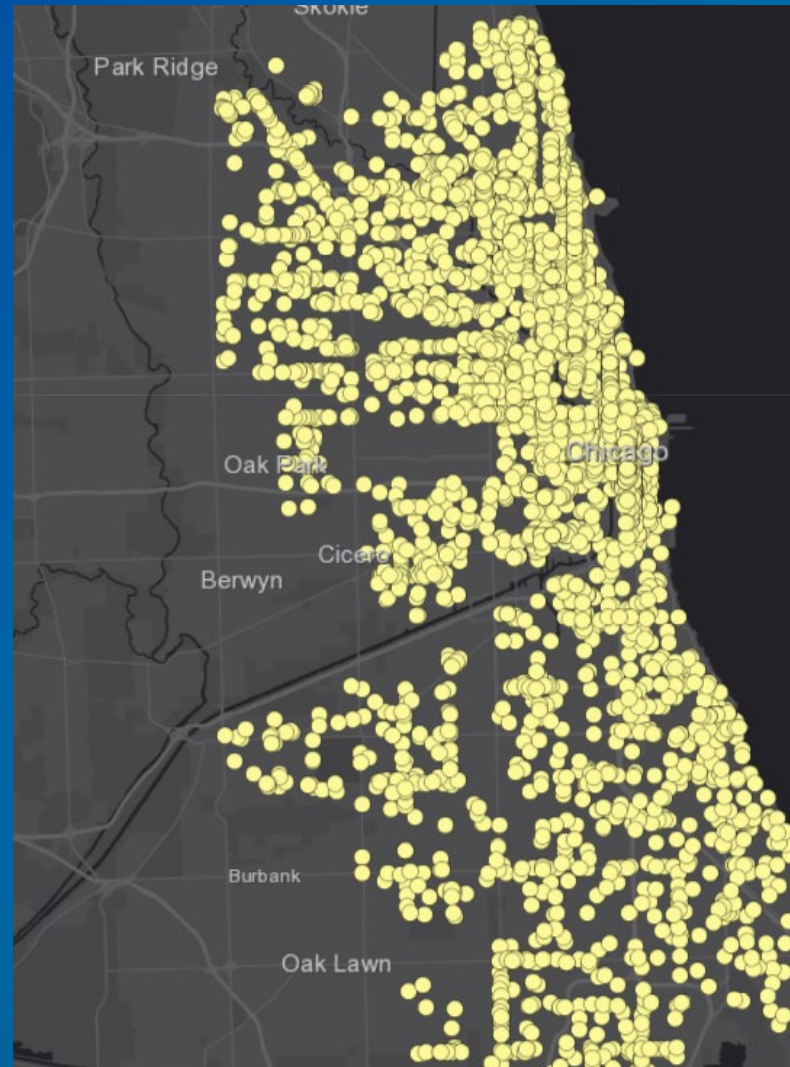


Area of interest

New option for hosted feature layer views

1. Feature definition
2. Field definition
3. **New: Area of interest**

Keeps the connection to the source data while displaying only what you want to show



Why? I want some users to have access to data only in their geographic area.

Domains

New for hosted feature layers

- Constrain attribute values
- Long-time feature of geodatabases
- Can use permitted values in field applications like Collector for ArcGIS
- Enforces data integrity and consistency

(1 of 3)

bikeracks

RackID	
Address	
Ward	1
Community Area	24
Community Name	West Town
TotlInstall	2
Latitude	41.911031
Longitude	-87.697199
Historical	1
F12	41.911031
F13	-87.697199
LOCATION	(41.911031, -87.697199)

Edited by admin 2 hours ago

Examples: true/false, certain cities, statuses/conditions, names, etc

List of Values (Domain)

1

2

3

4

5

Example:
domains

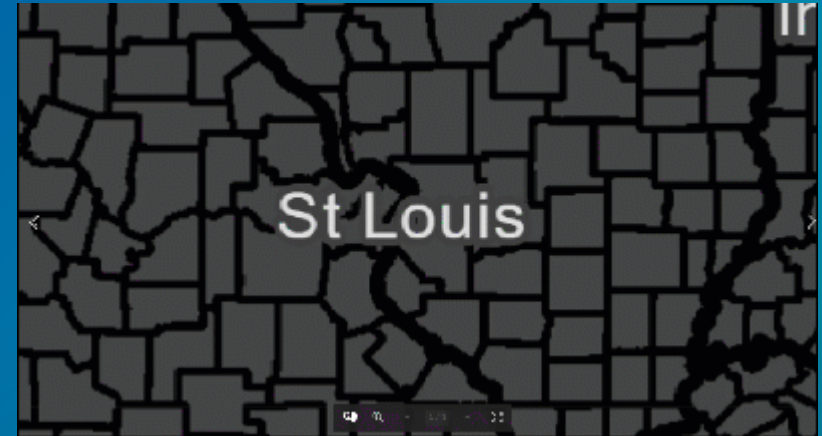


Print service enhancements

Print service enhancements

New at 10.6.x

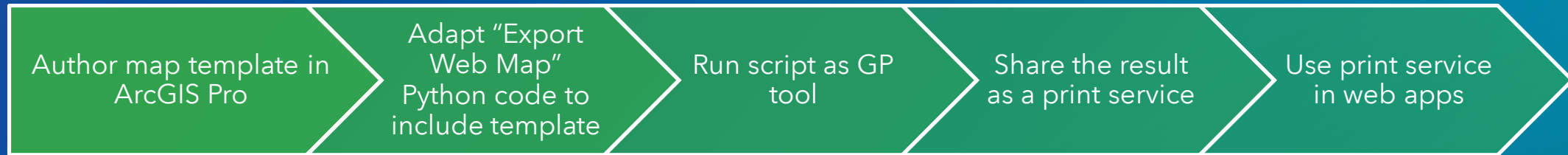
- New engine for print services
- Optimized for ArcGIS Pro and Web GIS
- Layers preserved as geometries
- Vector tile layers can be printed
- Support for all Unicode characters



High quality printed map

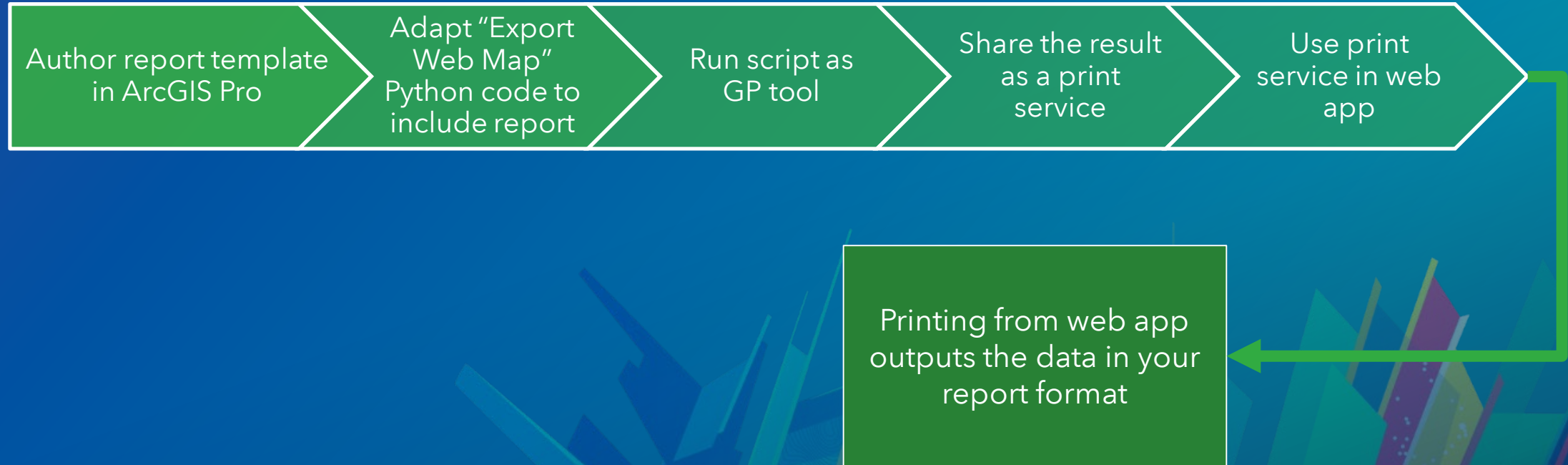
Share a custom print service using Python

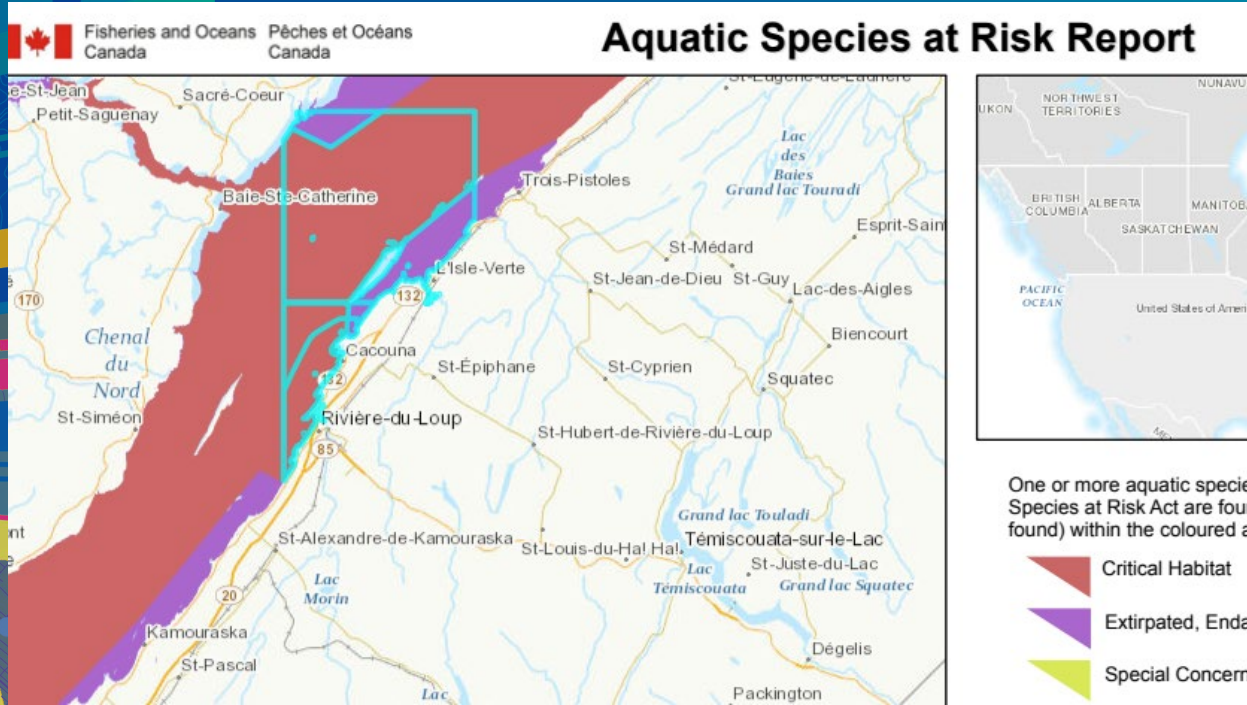
New at 10.6



Include ArcGIS Pro reports in a print service

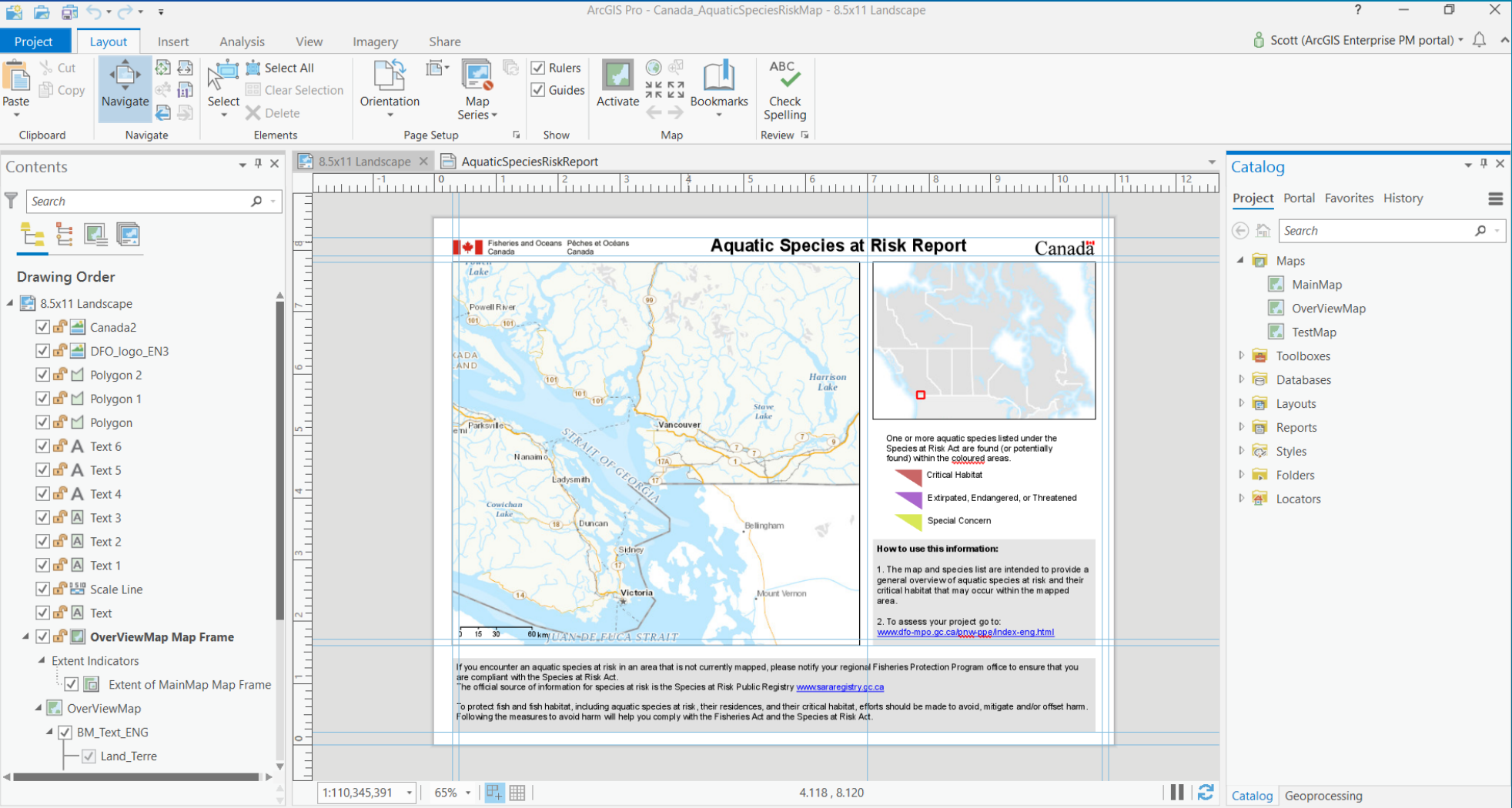
New at 10.7







Make a custom
Python print service
with a report

Author report template in ArcGIS Pro, including dynamic elements



- ☒ Page Header Line 1
- ☒ Page Header Box
- ☒ Details
 - ☒ Details Field Value Text
 - ☒ Details Field Value Text 4
 - ☒ Details Field Value Text 3
 - ☐ Page Header Line 2
- ☒ Page Footer

Species found (or potentially found) within the outlined area		
Name	Where Found	Species Status
{COMMON_E}	{WATERBODY}	{SARASTAT_E}
<div><div> Fisheries and Oceans Canada</div><div> Pêches et Océans Canada</div><div>1/24/2019</div><div>Page {Current Page} of {Total Pages}</div></div>		

- Layouts
- Reports
- Styles
- Folders
- Locators


```
ExportReport.py - C:\Users\Administrator\Downloads\PrintingService\PrintingService\Export...
File Edit Format Run Options Window Help

# Esri start of added imports
import sys, os, arcpy
# Esri end of added imports

import arcpy
import os
import uuid
import json
import requests

import sys
import os
import arcpy
import uuid

# constants
#
SERVER_PROD_NAME = 'Server'
PRO_PROD_NAME = 'ArcGISPro'
PAGX_FILE_EXT = "pagx"
RPTX_FILE_EXT = "rptx"
MAP_ONLY = 'map_only'

# default location and current product name
#
_defTmplFolder = os.path.join(arcpy.GetInstallInfo()['InstallPath'], 'Templates')
_myTmplFolder = r'D:\Projects\Pro 2.3\Tech Transfer\PrintAndReport\Templates'
_prodName = arcpy.GetInstallInfo()['ProductName']
_isMapOnly = False

# export only map without any layout elements
#
def exportMap(result, outfile, outFormat):
    mapView = result.ArcGISProject.listMaps()[0].defaultView

    w = result.outputSizeWidth
    h = result.outputSizeHeight
    dpi = int(result.DPI) #a workaround for now for a bug

    try:
```

Author ArcPy
tool script

Run tool in
ArcGIS Pro

Tool Properties: PrintAndReport

Define the script tool parameters

	Label	Name	Data Type	Type	Direction	Category	Filter	Default Value
0	Web_Map...	Web_Map_as_JSON	String	Required	Input			
1	Output_File	Output_File	File	Required	Output			
2	Format	Format	String	Optional	Input		Value List	
3	Layout_Te...	Layout_Template	String	Optional	Input		Value List	
4	Report_Te...	Report_Template	String	Optional	Input		Value List	
*			String	Required	Input			

Learn more about script tools

OK Cancel

Search

- Maps
 - MainMap
 - OverViewMap
 - TestMap
- Toolboxes
 - Default.tbx
 - PrintAndReport.tbx
 - PrintAndReport
- Databases
- Layouts
- Reports
- Styles
- Folders
- Locators

Distributed collaboration



What is distributed collaboration?

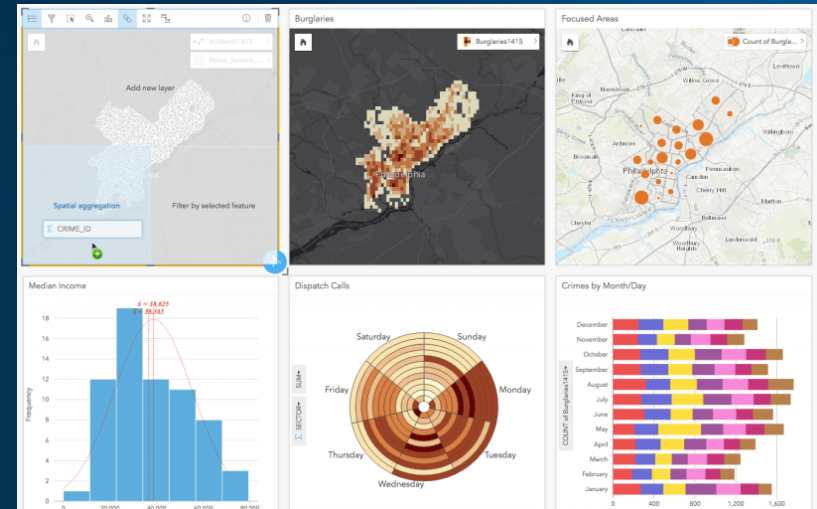
- Systematically share your data with other ArcGIS organizations
- Collaborate between multiple Enterprise deployments and with ArcGIS Online
- Updates to items are routinely synchronized for everyone
- Uses the familiar group to group sharing model making integration easy



What items can I share using collaborations at 10.7?

- Hosted feature layers
- New: Hosted feature layer views (as copies)
- Referenced feature layers
- CSVs, Word documents, Excel files
- Shapefiles
- Tile packages, vector tile packages
- Web maps
- Web scenes
- Map and feature services (via URLs)
- Web AppBuilder apps
- Apps created from configurable app templates
- New: Insights items (workbooks, pages, models, themes)

Need to share other item types? Let us know!



New for collaborations

Pause and resume syncs

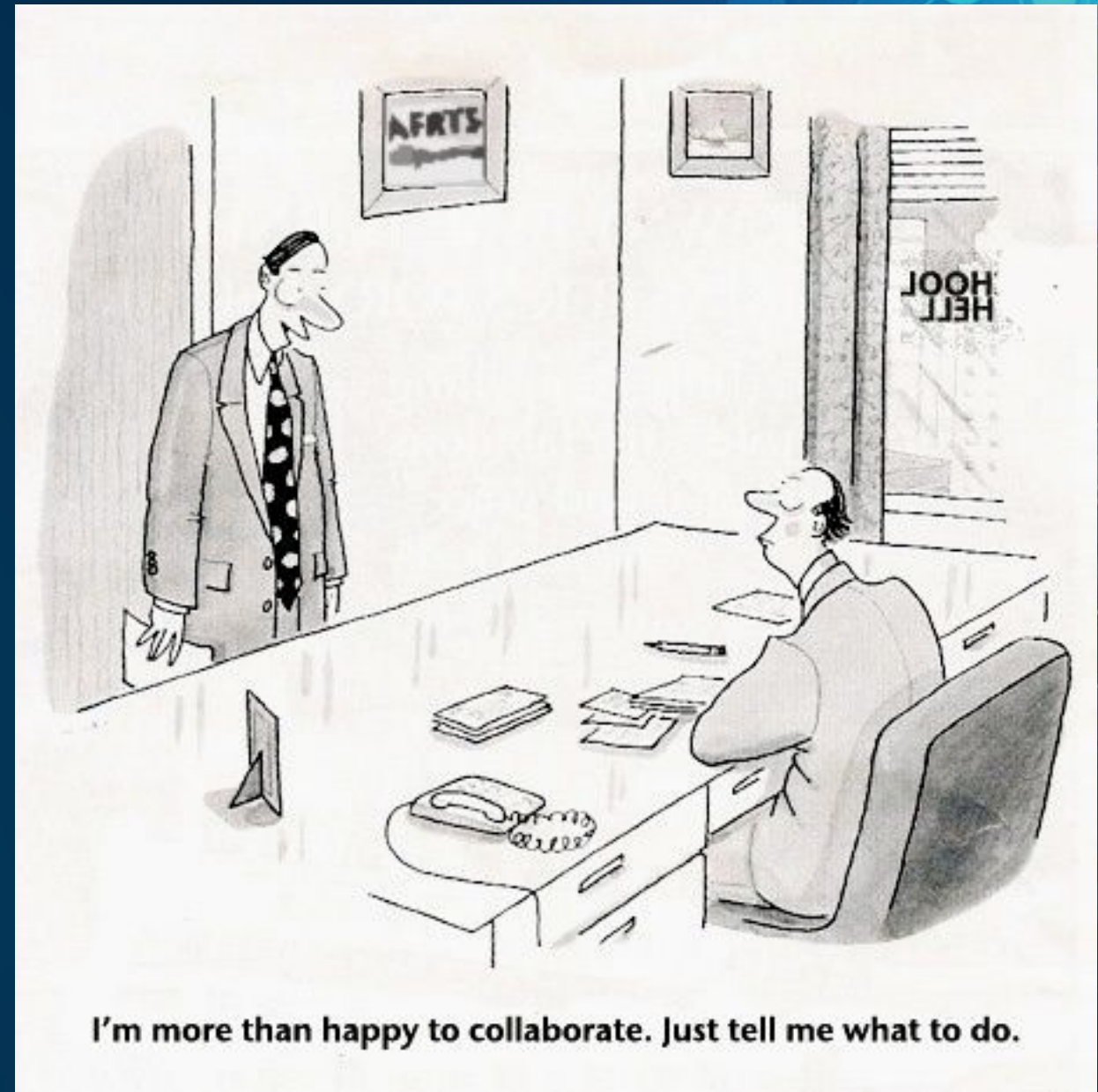
Pause and resume scheduled data syncs at your own pace

- When you are making ongoing, regular edits
- When you are upgrading your system or performing maintenance
- Whenever you want to wait to share data

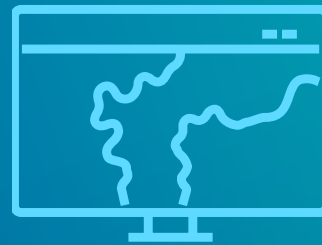


Distributed Collaboration: Sharing Data Across ArcGIS

Demo Theater 2
11:00 – 11:30 tomorrow



ArcGIS Enterprise Sites

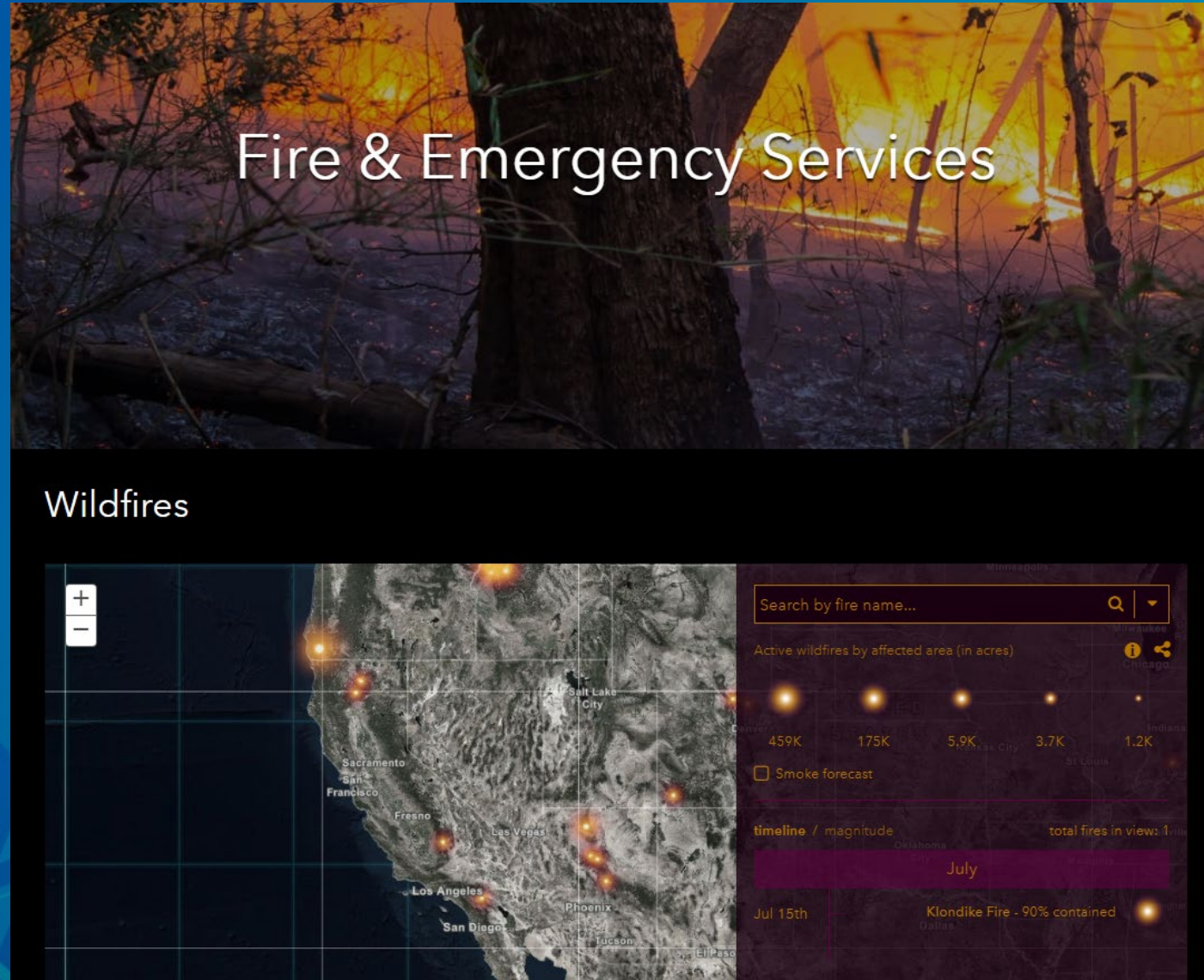


Sites and pages

- Tailor the entryway into your GIS
- Display the data that matters most to the users looking for it
- Drag-and-drop builder
- HTML and CSS options

New at 10.7:

- Rich text editing
- Direct upload of images
- Choose an image focal point
- Streamlined UI for adding widgets



Designing ArcGIS Enterprise Sites

Demo Theater 2

10:30 – 11:00 tomorrow



New applications & products



ArcGIS Excalibur



- Imagery exploitation and management web application

ArcGIS Indoors



- Complete system for indoor mapping used to create a connected workplace

Tracker for ArcGIS



- New mobile and web app for tracking your workforce, improving situational awareness



Last but not least...

User Types



- New licensing model for users beginning at 10.7
- Provides the much requested 'intermediate level' user
- Each user type has an identity, capabilities and included applications
- Match your licensing to your workflows

HTTPS and TLS

- 10.7 will enforce the use of HTTPS and TLS (Transport Layer Security) version 1.2
- On April 16, ArcGIS Online will switch to only supporting TLS 1.2
- Validate your system's support for TLS v1.2 as soon as possible

Esri Support has a page for information, patches, and instructions for updating software:
support.esri.com/en/tls

Updated product lifecycle

- Starting with 10.7, ArcGIS Enterprise releases will be either:
 - Short term support: 3 years of support including 1.5 years of patches [10.7]
 - Long term support: 6 of support including 4 years of patches [10.7.1]
- All previous versions will remain long term support
- When planning your upgrades, take these into consideration
 - Are you updating frequently (every year or two?)
 - Or do you need to choose a version and stay there for a longer time period?



What's new resources

ArcGIS Blog

ArcGIS Enterprise

What's new in ArcGIS Enterprise 10.6.1

Announcements
July 16, 2018


Scott MacDonald, Hilary Curtis

We're excited to announce the release of ArcGIS Enterprise 10.6.1, an exciting update to the product that brings in brand new capabilities for collaboration and sharing, innovative analysis tools, and, of course, faster performance. 10.6.1 will be available to the general public tomorrow, July 17. We'll be diving in to the release all month here on the ArcGIS Blog - today, we'll start with details about six of the most prominent new features!

Videos

YouTube Search

ArcGIS Enterprise 10.6.1

What's New Part 1

ITEM MANAGEMENT

CONTENT MANAGEMENT

SEARCHING & BROWSING

FEATURE ANALYSIS

SYMBOLS AND STYLES

Pause (k)

esri

✓ Introducing ArcGIS Enterprise

What is ArcGIS Enterprise?

What's new in ArcGIS Enterprise 10.7

Upgrade ArcGIS Enterprise

Base ArcGIS Enterprise deployment

What's new in ArcGIS Enterprise 10.7

ArcGIS 10.6 (Windows) | Other versions ▾

ArcGIS Enterprise 10.7 introduces new features, stability enhancements, and improved functionality throughout the product. For a list of issues that were fixed at 10.7, see the [10.7 Issues Addressed List](#).

In this topic

Documentation

ArcGIS Enterprise Builder

Introducing ArcGIS Notebook Server

New tile package format

ArcGIS Server

Documentation

What we covered:

- Relationship style smart mapping
- Offline map areas for field workflows
- GeoAnalytics Server tools and extensibility
- Notebook Server for administration and data science
- Webhooks for automatic notifications
- Request ID for server requests
- Inactivity properties for server
- Status of geoprocessing jobs page
- Publish to standalone server from ArcGIS Pro
- Publish OGC services from ArcGIS Pro
- Hosted views area of interest
- Coded value domains
- Print service enhancements
- Collaboration enhancements
- Updates to Sites
- New products:
 - Indoors
 - Excalibur
 - Tracker
- Announcements



Thank you!

Visit us at the showcase for a list of related sessions and to meet with development!



esri

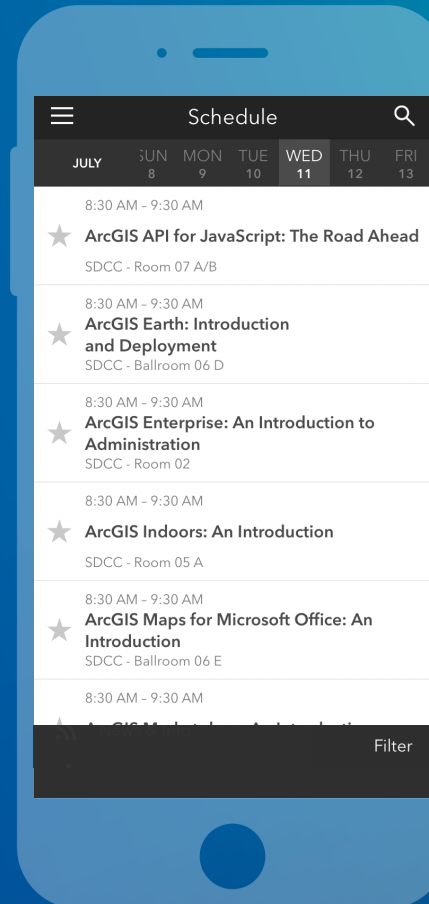
THE
SCIENCE
OF
WHERE

Please take our survey on the app

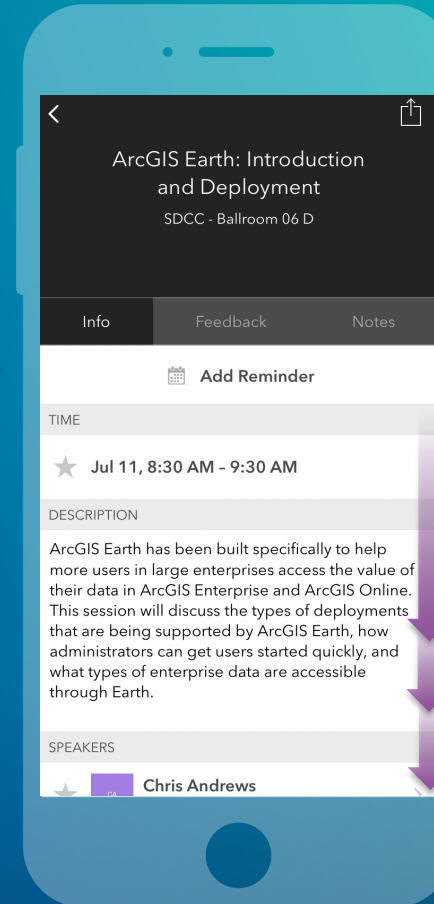
Download the Esri Events app and find your event



Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"

