



## Goodbye FactFinder, Hello data.census.gov

The Census Bureau has settled on a redesign for their data distribution products. While the underlying structure of the Census data (the tables and table identifying numbers) won't change, the presentation of them to the public will. The intent is to simplify the use of Census data but LMI offices tend to be specialty users – they have expertise in the data and very specific needs and often use the same data year after year. Changing the download formats will have an impact on LMI offices – not only will state employees have to learn the new system, there may be structural changes to the access or output that will require processes to be reworked. The Census Bureau has a [Release Notes](#) document that is maintained with the most current information and describes the features and status of changes in detail.

### Why the change?

The Census Bureau has decided to build their applications off their APIs so that their many products can be searched together and so that the underlying source data is maintained in a single point. For many organizations, APIs started as a side project but have become much more central in recent years – the Census Bureau is reacting to a change in how websites are designed and built and is both trying to support those users and probably streamline their own internal processes. That structural change requires an overhaul of their website, and they're taking the opportunity to modernize some features and address the concerns users have brought up in recent years and probably from FactFinder's inception.

### What has changed?

The Census and American Community Survey (ACS) are structured according to survey methodology and aggregated into publication tables based on an established logic. That logic and data structure have not changed. While other surveys are being brought into the interface, they are also not changing in conception or structure. This is largely a back-end change in how the website accesses that data, but with a glossy new selection process laid over the top that hopes to eventually allow richer mapping and visualization functions.

<b>Tools that will be Removed</b>	<b>Future additions to data.census.gov</b>	<b>No Change</b>
Factfinder	Population Estimates	OnTheMap
DataFerrett	Small Area Income and Poverty Estimates (SAIPE)	My Congressional District
	EEO Tabulation	FTP site

## Common LMI Uses of Census Data

### CES – Non-Covered Employment

The Current Employment Statistics (CES) program relies on County Business Patterns (CBP) for identifying non-covered employment. Since Unemployment Insurance (UI) programs differ from state to state in terms of what's covered, the exact industries used will vary. However, since that information is gathered annually at the start of Annual Processing, CES analysts may have established processes for gathering and reformatting those inputs. They may already be trying to adapt new download formats into their processes, or they will be forced to for next year when FactFinder is slated to be offline. This should be something LMI offices are looking to accommodate in the near future.

### Projections – Local Methodology

The State Projections program also uses some Census inputs, though how they're applied is left up to analyst expertise. Data that may be used would include counts of the self-employed (Class of Worker for Occupations and Industries) and estimates of agricultural employment (or other non-covered employment industries).

In some states national ratios can be used rather than Census data, so this won't apply in all cases.

Again, the process varies significantly from state to state, which means that Projections program analysts will have to explore options during their next round but how it impacts them depends heavily on how they've arranged their procedures.

### Research and Publications

Most states also publish analysis or research on economic topics. While some create dashboards of recurring variables and may need to revise those processes, in many cases publications are articles that won't recur. The problem then is less that processes need to be changed and more that the state may need to seek out training options for analysts learning the new system.

There are tutorials available to users on the Census site: <https://www.census.gov/data/academy/data-gems.html>

### Tableau

Most states now have Tableau and use it for data visualization either internally or on a website. Because Tableau is very user-friendly and allows many connection options it makes it very easy for management of visualizations to be decentralized and in the hands of a subject matter expert rather than someone with an IT focus. There may be a lot of different strategies in place for how these are created and maintained – some may use a database connection, others an Excel connection to the original format download file from FactFinder, and still others may be built off a completely custom Excel workbook, all within the same office. How they've been structured will make a big difference in how they have to be updated, but just identifying the different visualizations that rely on Census data and assigning responsibility for investigating may be the largest share of that effort.

## Practical Implications and Concerns

Processes dependent on these inputs will have to be revised, though it's unlikely that they'll need to be seriously overhauled. Because the underlying concepts of the products have not changed, it's possible to get all the same information in very similar formats. This is compared with more detail below, but the effort is in learning to find the best way to source the data and tweaking field and file names rather than a structural change to the content which requires quite a bit more staff time. In some cases the new interface may make it easier to download data – it allows download of multiple years and tables and seems to improve the functions for saved queries, in which case it may be an opportunity to review and improve processes beyond simple tweaks.

Staff will need training. One problem, though, is that according to the [release notes](#) the changes are in flux and certain features are not yet working. Occasionally existing functions work sporadically and the recommendation from the release notes is to try again if the results are unexpected – while that’s fine in a testing phase and the Census Bureau’s track record suggests that they’ll get to a point where it’s more stable before discontinuing other products, it does make it difficult for people attempting to simultaneously learn and test the system as it’s difficult to tell if you’re querying incorrectly or if it’s the site that has a problem. Given the availability of alternatives for this round of CES benchmarking and projections, it may make more sense to wait a few months before pushing analysts to learn the new site.

The change here is also a good opportunity to consider shifting website dependencies to using the API directly – the site is built off the Census API but you can bypass the table display and searches to fully integrate the source data in your own pages. That requires the work of a developer, but this shift is a chance to look into that option to see how feasible it is. Developer specific content is available here: <https://www.census.gov/data/developers/guidance/api-user-guide.html>

## Comparing the interface and outputs

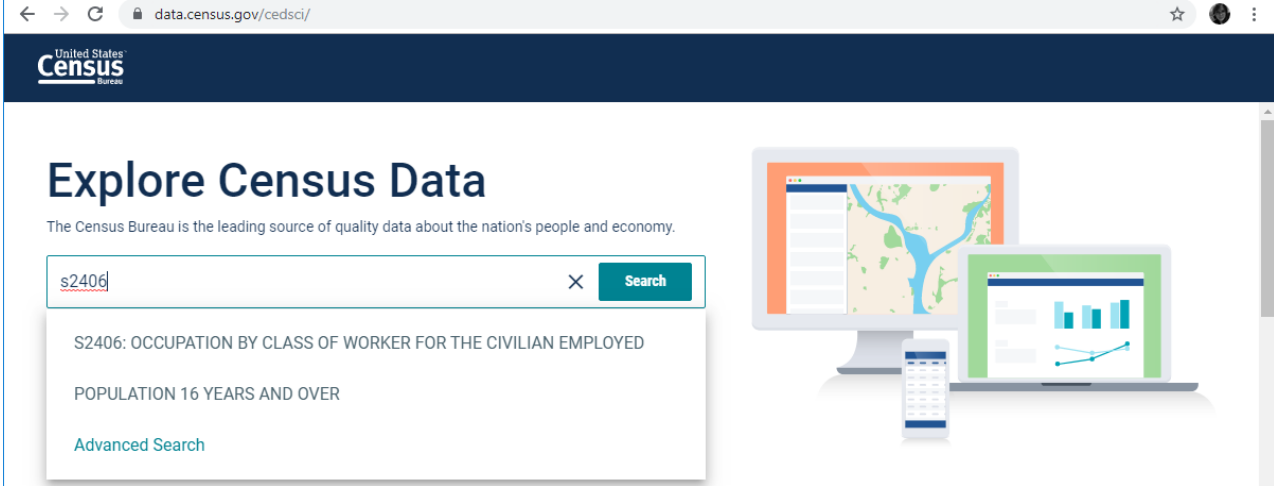
### Single Search Bar

If you know what table you’re looking for (often the case when you use it on a regular basis), the easiest way to get a file is to use the Single Search Bar to search the table number. As an example, Class of Worker information is used by the Projections program. The Occupation by Class of Worker for the Civilian Employed Population 16 years and over table is S2406. Inputting that in the “topic or table name” search box in the advanced search of Factfinder gets you to a list of years and data products with that table.

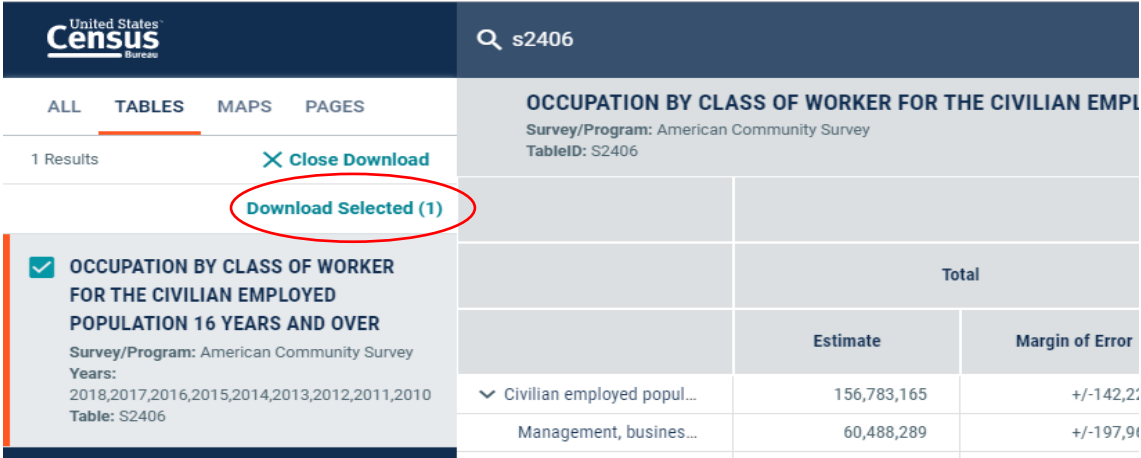
The screenshot shows the Factfinder search interface. At the top, a search bar contains 's2406'. Below the search bar, there are filters for 'topics', 'race/ancestry', 'industries', and 'occupations'. The search results are displayed in a table with columns for ID, Table, File or Document Title, Dataset, and About. The first result is selected, showing the table title 'OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER' and the dataset '2017 ACS 5-year estimates'.

ID	Table, File or Document Title	Dataset	About
<input checked="" type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2017 ACS 5-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2017 ACS 1-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2016 ACS 5-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2016 ACS 1-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2015 ACS 5-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2015 ACS 1-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2014 ACS 5-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2014 ACS 1-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2013 ACS 5-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2013 ACS 3-year estimates	<a href="#">i</a>
<input type="checkbox"/>	S2406 OCCUPATION BY CLASS OF WORKER FOR THE CIVILIAN EMPLOYED POPULATION 16 YEARS AND OVER	2013 ACS 1-year estimates	<a href="#">i</a>

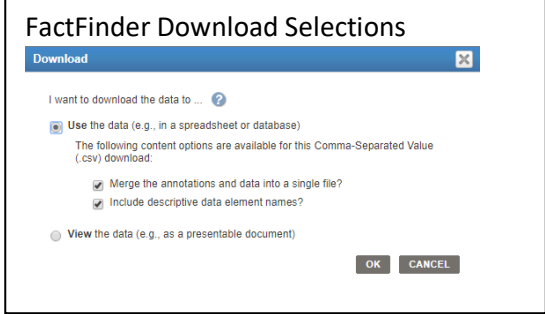
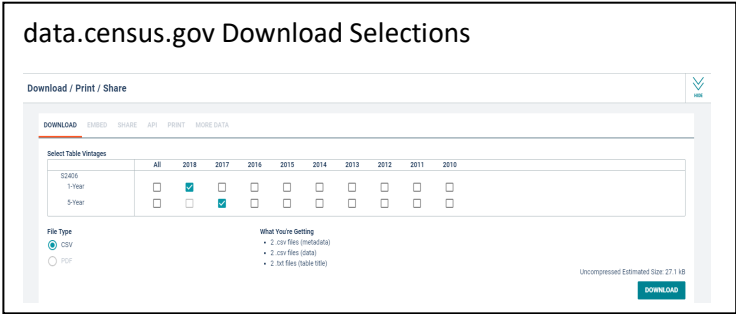
Inputting the same table number in the search box on the main page of data.census.gov takes you directly with the table, populated with the most recent available data.



Clicking anywhere on the table brings up a left sidebar with selection options related to downloads, tables, maps, and pages. To download the file, check the box on the title of the table in the left sidebar, then click “Download Selected” above.



From the download screen you’ll be prompted to select the years and programs you want to download, with the most recent data for all programs selected. Change or accept those selections and click download.



From here the process is the same as in FactFinder. A notification appears that the download file is generating, then you click download when it finishes. Navigate to its download location and extract the

CSV file. This is very similar in structure to the “Use the data” selection in Factfinder with both “Merge the annotations” and “Include descriptive data element names” checked.

The output is similar but not identical, with new file and field names. If the way it’s used in the state is in an Excel pivot table or by copying a column to another spreadsheet there should be no major problems. If, however, the download file is used in automation in Microsoft Access or another database management system or connected to directly in Tableau there will need to be changes to the process to accommodate the new names. Structurally it’s not that different, but if there needs to be IT involvement to change file imports it would be better to start sooner rather than later. Below is a summary of the differences spotted in the download of the S2406 table – there may be more or other changes for other programs.

<b>Differences between download files</b>			
<i>Element</i>	<i>data.census.gov</i>	<i>factfinder.census.gov</i>	
Download zip file naming convention	ACSST5Y2017.S2406_2019-11-05T130437.zip	ACS_17_5YR_S2406.zip	
	The file download has the program, the aggregation, the data year, the table name, the date of download and some kind of job number or timestamp so that users won’t be prompted to overwrite an existing file.	The file download has the program, the data year, the aggregation, and the table number.	
Data file naming convention	ACSST5Y2017.S2406_data_with_overlays_2019-11-05T130431.csv	ACS_17_5YR_S2406_with_ann.csv	
	In both cases the identifying part of the zip file name is preserved, the type of download file is described either as “_data_with_overlays” or as “_with_ann”, depending on the website. In the data.census.gov version, the date and time stamp is preserved, but the detailed time or job number is different from the zip file.		
GEO.id2	In the new download file, the second GEO.id2 field is absent.	In the factfinder download there are two GEO.id fields with similar content but in different lengths.	
Field names	In the new download file the naming convention for fields has changed.		
	Estimate!!Total!!Civilian employed population 16 years and over S2406_C01_001E	=	Total; Estimate; Civilian employed population 16 years and over HC01_EST_VC01
	Margin of Error!!Total MOE!!Civilian employed population 16 years and over S2406_C01_001M	=	Total; Margin of Error; Civilian employed population 16 years and over HC01_MOE_VC01
	In the new format the table number is in the variable name. Estimate is indicated with an E at the end instead of est in the middle, and margin of error with an m. The delimiter is now a !! for the titles, as it is in the API. The variable number information is in the second and third parts of the name instead of the first and third now.		

There’s also an Advanced Search function that mirrors a lot of the features of the FactFinder Advanced Search.

### Geographic formats

In FactFinder it was possible to create a map view and then download the data. Shapefiles were separate from the data download – the two had to be related in GIS software to display it outside the website. That automatic download of the shapefile isn’t currently present in the new interface and the release notes direct users to a separate shapefile [download page](#) (this isn’t a new page – it has been available for people looking just for the geographic definitions for a long time). Users should download a

csv and relate data to the corresponding shapefile, downloaded elsewhere. While the functions can still be accessed, this change may be disorienting for some users.

FactFinder also has a function on its geographies selection in the Advanced Search that allows a user to input an address and get all related geographies. That function hasn't been brought forward and now the release notes direct users to go to the separate [Geocoder](#) tool for an address search.

**Select Geographies**

List | Name | Address | Map | *Grow your search results*

Enter a street address, city and state, or a street address and ZIP code. Click 'Go'. ?

Note: address search will use the latest available address data beginning with 2018 and working backwards, based on the contents of Your Selections.

street address: 332 minnesota st | city: Saint Paul | state: Minnesota | zip: 55101 | GO

Geographies containing 332 N Minnesota St, SAINT PAUL, MN, 55101:  
Select geographies to add to Your Selections

**Geography Results:**

Geography Name	Geography Type	Geography Code	About
Midwest Region	Region	020	?
West North Central Division	Division	030	?
Minnesota	State	040	?
Ramsey County, Minnesota	County	050	?
St. Paul city, Ramsey County, Minnesota	County Subdivision	060	?
Block 1026, Block Group 1, Census Tract 342.01, Ramsey County, Minnesota	Block	100	?
Census Tract 342.01, Ramsey County, Minnesota	Census Tract	140	?
Block Group 1, Census Tract 342.01, Ramsey County, Minnesota	Block Group within Census Tract	150	?
St. Paul city, Minnesota	Place within State	160	?
Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	Metro/Micro Statistical Area	310	?

Creating a map in the website is still possible and looks like it will eventually be an improvement over FactFinder. In initial review in early November 2019 there were some frustrations with default geographies – if US was selected, opening the map view would default to states but it would be empty because no states were selected. To change that, you have to click “Customize Table” which loses the left sidebar navigation. The geographies customization screen was displaying no available geographies even for table DP03, 2017 5-year data until the toggle for “Show Summary Levels” was switched. There’s no obvious way to get from the customize table screen to the map, though – you have to follow the breadcrumbs backwards to tables to restore the left sidebar navigation where you can select the “Map” tab.

United States Census Bureau | Search: dp03

// Search: Tables DP03

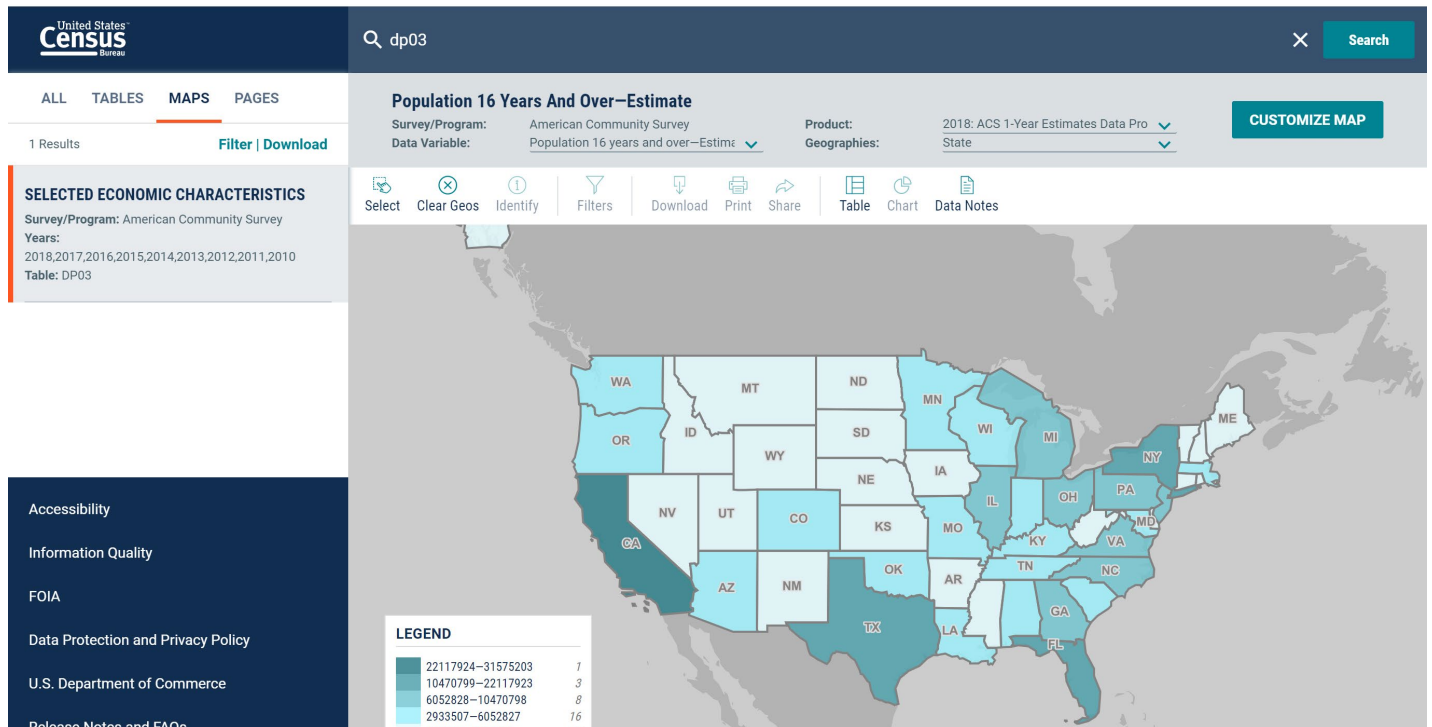
**SELECTED ECONOMIC CHARACTERISTICS**  
Survey/Program: American Community Survey | TableID: DP03 | Product: 2018: ACS 1-Year Estimates Data Profiles

Data Notes | Selections | Geographies | Years | Topic | Survey | Code | Hide | Filter | Sort | Transpose Table | **Margin of Error** | Restore Layout | Download | Print | Share | More Data | More

United States				
	Estimate	Margin of Error	Percent	Percent Margin of Error
EMPLOYMENT STATUS				
Population 16 years and over	262,185,951	+/-45,377	262,185,951	(X)



In theory, you should be able to start with maps and add the geographies to the default display by clicking on the “Customize Map” button, but doing that got to a different geography selection screen that again, wasn’t finding any data.



### Direct to table links in the website

Rather than integrating Census data into their tools or content, some states refer users to the Census site and may use a direct link to a particular table in FactFinder. In Factfinder, that can be done by clicking the “Bookmark/Save” link above a table, which will give you a direct link.

[https://factfinder.census.gov/bkmk/table/1.0/en/ACS/17\\_5YR/S2406](https://factfinder.census.gov/bkmk/table/1.0/en/ACS/17_5YR/S2406)

In data.census.gov you can use the link copied directly from the address bar.

<https://data.census.gov/cedsci/table?q=s2406&hidePreview=false&table=S2406&tid=ACSST1Y2018.S2406&lastDisplayedRow=7>

Or you can use a cleaner link with the search term.

<https://data.census.gov/cedsci/table?q=s2406&g=0400000US01>

The options for linking to the data are laid out in the [Release Notes](#) document, starting on page 11 in the October 18 version of the document.

One frustration is that if you’re linking to a specific geography the wider table structure may push the geographic label off the initial view of the screen. Users have to scroll over or click on the “Filter” link in the left sidebar navigation to see or change existing filters. This makes it more difficult to test and can be disorienting to users who are uncertain if they’re on a national or statewide landing page or have been directed to a county or other geography of interest. It may be necessary to label links in state websites to reflect that use case.

## Takeaways

- 1.) The Census Bureau's FactFinder application is being replaced and is currently scheduled to be taken offline in March of 2020.
- 2.) The replacement, data.census.gov is following an Agile development process and more features are being added and fixed all the time
- 3.) Now is the time to submit user feedback to the Census Bureau so that it can be incorporated sooner rather than later
- 4.) The underlying data and definitions are not changing
- 5.) Processes and publications dependent on Census data need to be reviewed to ensure that they are unaffected by naming conventions and file formats
- 6.) The front-end is different enough that research staff will need training options and time to adapt
- 7.) Read the [Release Notes](#) for detail and recent changes