

ASSOCIATION OF CANADIAN MAP LIBRARIES AND ARCHIVES
BULLETIN

Geospatial Data and Software Reviews

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ArcGIS Online Office Add-in: An Effective Entry-level Tool

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Abstract

The ArcGIS Online Office desktop software add-in is a tool that can be easily used by those who have limited, to no experience with GIS software. Although installation and initial setup of the software can be convoluted, once installed it can be a quick and easy way to create simple visualizations from data stored in Excel spreadsheets.

Introduction

ArcGIS for Office is a desktop software add-in that can be grouped with a suite of easy-to-use tools designed for end users with limited GIS knowledge or experience (included in this group I would add StoryMaps). It integrates into the Office interface allows users to visualize their Excel data, perform basic analysis, and make use of various base data. Maps can then be exported or embedded into other Office applications.

Audience:

As science librarian, I have used the ArcGIS Online Office add-in as a tool for teaching basic geographic visualization in workshops in an academic library with success. The workshops offered were open to faculty and students and were typically attended by graduate students and faculty members working in disciplines that would not typically be known for representing their data or research findings geographically. These individuals, who were often completely new to creating geographic visualizations, might have found the steep learning curve of other GIS software programs overwhelming and beyond their needs. Not being required to understand jargon terms like shape files and polygons, ArcGIS Online's Office add-in can take data from a table in Excel and express it geographically. Excel is much more widely known and therefore potentially less intimidating to novice users. To demonstrate the abilities of the add-in in my workshops, I provide the participants with a spreadsheet containing data points with longitude and latitude columns. From that Excel spreadsheet, I can walk participants through the process of using the add-in to plot those points on a map in ArcGIS Online. It can also plot ESRI JSON Geometry from an Excel spreadsheet. As previously mentioned, just as Excel is more familiar to novice users, I believe that

coordinates are a more widely recognized than other types of data which makes them a good starting point. The fact that any data containing those two reference points can just be so easily plotted after two clicks illustrates the strength of this add-in for beginners and those who seek only to simply visualize their data and do not intend to spend any time conducting geographic analysis of their data.

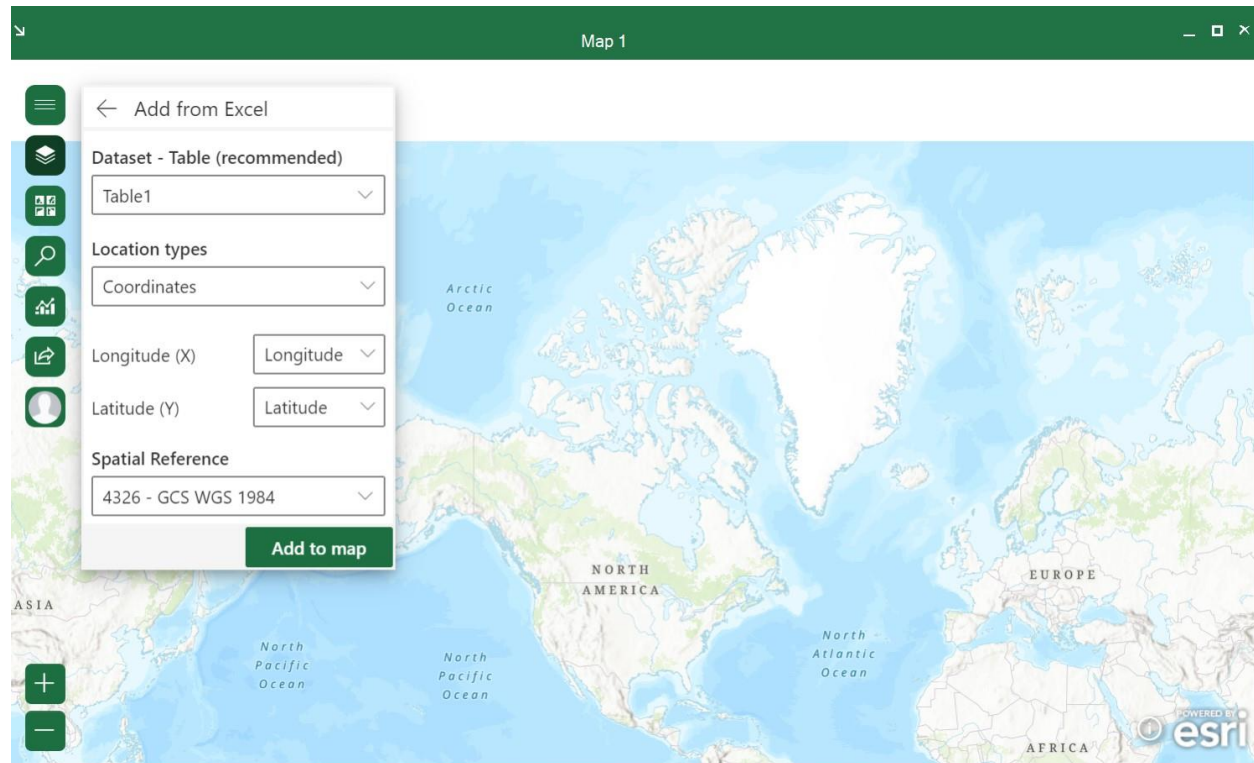


Figure 1: Adding data to map from Excel

Like with all geographic software, the “wow” factor of the way that the software can depict data is what I attempt to show in my training sessions to promote its use. I demonstrate how ArcGIS Online Office add-in can aesthetically depict changing data points over time. Again, this functionality does not take much in the way of professional expertise or background in GIS software to be able to demonstrate data changes over using animations as long as there is date and time data in the Excel spreadsheet. All these Excel spreadsheet data points need to be uniform and readable by the add-in. Clean and functional data is something that beleaguers researchers no matter what type of software they use and will most likely not be foreign to those trying to display their data geographically for the first time. Other ways to create more interest in the visualizations easily can be to add the wealth of maps available openly through ArcGIS Online as additional layers to a visualization. Adding maps from ArcGIS online is as easy if not easier than adding a layer from data points in an Excel spreadsheet. In addition, there are four base map options to choose from. Only four base map options may seem limiting to those with greater GIS experience, but for those who are new to creating visualizations this will provide some choice without the chance of overwhelming the user with options.

The add-in's options for sharing your visualization hinge on the use of ArcGIS Online. This requirement is potentially advantageous in most cases but could be a major issue for those who might consider using the ArcGIS Online Office add-in to visualize sensitive data. If the data you would like to visualize has privacy considerations of any sort that need to be accommodated, this add-in is probably not a viable software solution to recommend to those new to GIS visualization. However, if privacy is not an issue, uploading your visualization to your ArcGIS Online account can be a useful way to share the data. Using the ArcGIS Online Office add-in functionality in PowerPoint, you can add any visualization you have uploaded to your ArcGIS online account directly into a PowerPoint presentation. The visualization will maintain basic interactive elements such as Zoom in and out for greater functionality and versatility.

Tool:

As someone who provides support or training to novice users developing their GIS technology skills, you may have access to a computer lab where you conduct your training. If this is the case, ensure that all the required software you need to run your training sessions are available and activated on the devices in the lab. Assistance from IT might be required for this step. If users are using their own machines they will need to download the required add-in and (or) create accounts for the products on their own devices.

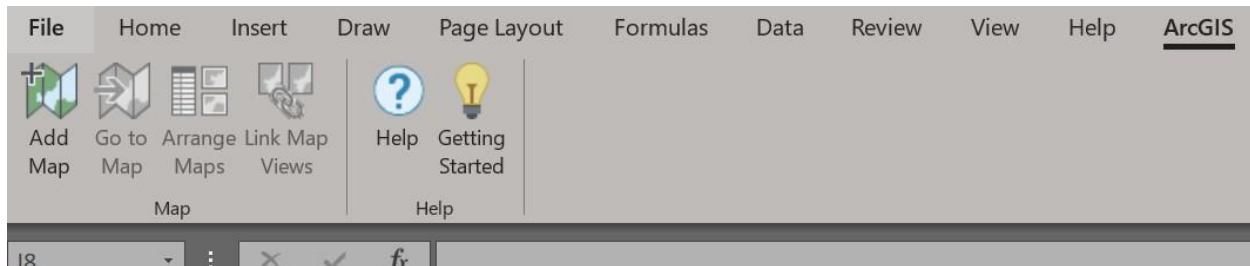


Figure 2: ArcGIS for Office ribbon

Despite being known for robust support documentation for their products, the information related to how to download the ArcGIS for Office Add-in is not clear. If you search for ArcGIS for Office in an online search engine you will most likely find your way to a page that describes how you need to purchase an ArcGIS online account (and directs you to a page about pricing of the product). It is not imminently evident that this is also where those who may have access to ArcGIS online products through institutional or site licenses also can download the add-in by filling out a fillable online contact form. Immediately upon filling out the form, you are redirected to a webpage with a download link of the most recent version of the add-in. A direct download link for this tool can also be activated within your ArcGIS Online organization so users can download directly from their profile.

Once the software is downloaded onto your computer you are be ready to begin exploring the tool. The ArcGIS Online Office add-in will appear along the ribbon in your Microsoft Office application (PowerPoint or Excel) after the download is complete, but you will not be able to use any of the functions of the add-in until you sign into your ArcGIS online account. If you do not have an ArcGIS Online account, you would need to create one first before proceeding. All of this to say

that the setup process for using ArcGIS Online's Office add-in is arguably the most tedious and complicated part of its use.

After installing the add-in and creating an ArcGIS Online account, the add-in can be used with relative ease by even those who would struggle to learn other GIS software programs to create visualizations to support the communication of their research or topic they would like to visually depict geographically in some way. Other desktop applications would potentially hold greater possibilities for the sophistication of the visualizations created and could equally be employed to conduct geographic data analysis in a way that I believe is not feasible with the ArcGIS Online add-in for Office.

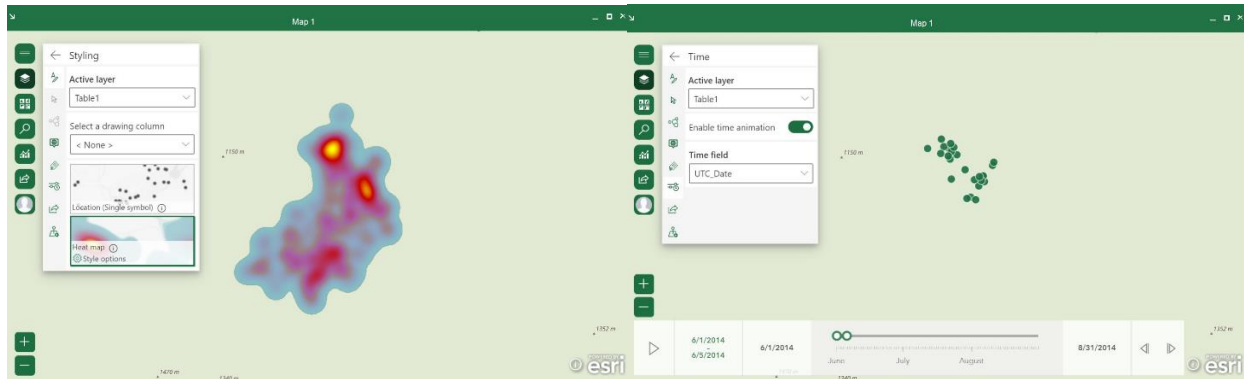


Figure 3: Simple visualization of heat map (left) and time series (right) from Excel data

Conclusion:

Ultimately, compared to GIS desktop software programs the ArcGIS Online Office add-in cannot even begin to measure up to its competition; however, for those that will most likely never venture into the use of those other programs the add-in can be a perfectly sufficient entry-level tool for creating data-driven geographic visualizations to enhance knowledge sharing activities. Insofar as teaching its use, the most challenging part will be the setup: getting the add-in installed and an ArcGIS Online account created for the user. After that, the use of the add-in is intuitive and straightforward requiring little instruction before a user can feel that they will be able to produce a visualization that is professional and appealing in appearance. While it will not be the GIS solution for all, it is a user-friendly ESRI product that serves a particular demographic.