

# National Basemap

The [National Basemap](#) was created to provide a seamless, and fully symbolized set of vector datasets whose data coverage include the contiguous United States, Alaska, Puerto Rico, and Hawaii. This basemap incorporates features of transportation, communication, fire history, hydrography, land ownership, boundaries, infrastructure, and others. These datasets have been published as a series of feature services, and are accessible to members of the NIFC ArcGIS Online Organization.

The process of obtaining this basemap with appropriate symbology consists of:

1. Downloading the vector datasets for an area of interest (AOI)
2. Installing special fonts
3. Applying layer files to the downloaded vector datasets

## 1) Downloading Vector Datasets

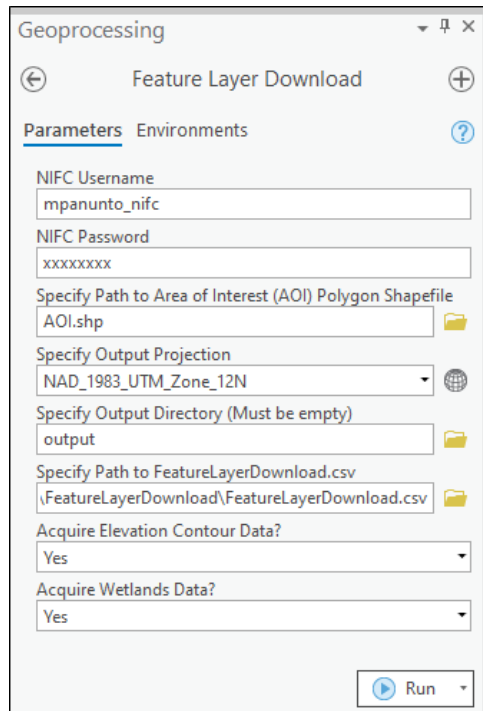
To simplify the data download process, the [Feature Layer Download Tool](#) was created, and can be obtained directly from [this link](#). For a user-specified list of feature services, the tool downloads vector datasets published as feature layers, and stores them as a series of feature classes in an output file geodatabase. This tool consists of 3 components:

- **Toolbox** (FeatureLayerDownload.tbx)
  - The toolbox itself, contains the Feature Layer Download script tool
  - To use the tool import the toolbox into your ArcPro Project. Open ArcGIS Pro and in the Catalog Pane right-click the toolbox folder and select “Add Toolbox”.
  - To run the tool double click on the script inside the tool box. If it does not automatically open check your “Geoprocessing Window”. It might open there depending on how you have your default pro project set up.
- **Python Script** (FeatureLayerDownload.py)
  - The script that the script tool must reference. Place this in the same directory as the toolbox, and ensure that the script path is properly set in the script tool properties
- **CSV File** (FeatureLayerDownload.csv)
  - Contains a list of feature services and corresponding Item IDs. The tool iterates through these services looking for feature layers. If found, feature layers will be downloaded for the user specified AOI.
  - By default, this CSV file consists of all services needed to produce the National Basemap. However, it can be modified to download feature layers from any published feature service.

**The download package of the FeatureLayerDownload tool also includes the special fonts, and layer files needed to generate the National Basemap.**

### User Inputs:

1. NIFC AGOL Username
2. NIFC AGOL Password
3. Path to AOI Polygon Shapefile (must be a Shapefile)
4. Output Projection
5. Path to FeatureLayerDownload.csv
6. Toggle for downloading Elevation Contour data from the USGS
7. Toggle for downloading Wetlands data from the USFWS



The screenshot shows the 'Geoprocessing' window with the 'Feature Layer Download' tool selected. The 'Parameters' tab is active, displaying the following fields and options:

- NIFC Username:** mpanunto\_nifc
- NIFC Password:** xxxxxxxx
- Specify Path to Area of Interest (AOI) Polygon Shapefile:** AOI.shp
- Specify Output Projection:** NAD\_1983\_UTM\_Zone\_12N
- Specify Output Directory (Must be empty):** output
- Specify Path to FeatureLayerDownload.csv:** \\FeatureLayerDownload\\FeatureLayerDownload.csv
- Acquire Elevation Contour Data?:** Yes
- Acquire Wetlands Data?:** Yes

A 'Run' button is located at the bottom right of the tool interface.

**\*NOTE:** The elevation contours and wetlands datasets were too large to publish as feature layers. The option to acquire these datasets directly from the USGS and USFWS is simply a workaround for this issue.

**\*NOTE:** Initial testing has shown that the tool may have difficulty downloading data for massive AOIs (multi-state or GACC sized). An incident sized AOI is the intended target for this tool.

## 2) Installing special fonts

Some of the National Basemap symbologies use special fonts. These fonts must first be installed on the user's computer in order for these symbologies to display correctly. (Note – There are current efforts to eliminate the fonts in future releases.) The fonts are included in the download package of the FeatureLayerDownload tool.

### 3) Applying layer files

After the data download has completed, the National Basemap layer file of interest should be added to a map in order to apply proper symbology. Two layer files are included in the download package of the FeatureLayerDownload tool:

1. Topo.lyrx
  - Provides symbology for a “Topo” style basemap, with standard topographic features.
2. SBS.lyrx
  - Provides symbology for a “Secondary Base Series” style basemap. The intent of this style is to provide a basemap with a look and feel similar to that of the USFS Visitor/Travel Maps.

Once added, the individual layers must be resourced to the downloaded data. After resourcing one of the layers (NHDPoint for example), all other layers should automatically resource to their corresponding feature class in the output geodatabase. If red exclamation points still exist after the resourcing has completed, this indicates that there is no data availability for the layer in the user’s AOI.