Soil Survey Geographic Database (SSURGO) Portal Quick Start Guide – USDA CEC Computers

October 2023

Table of Contents

1. Overview

The following sections detail the instructions for downloading and installing Python and SSURGO Portal as well as using SSURGO Portal.
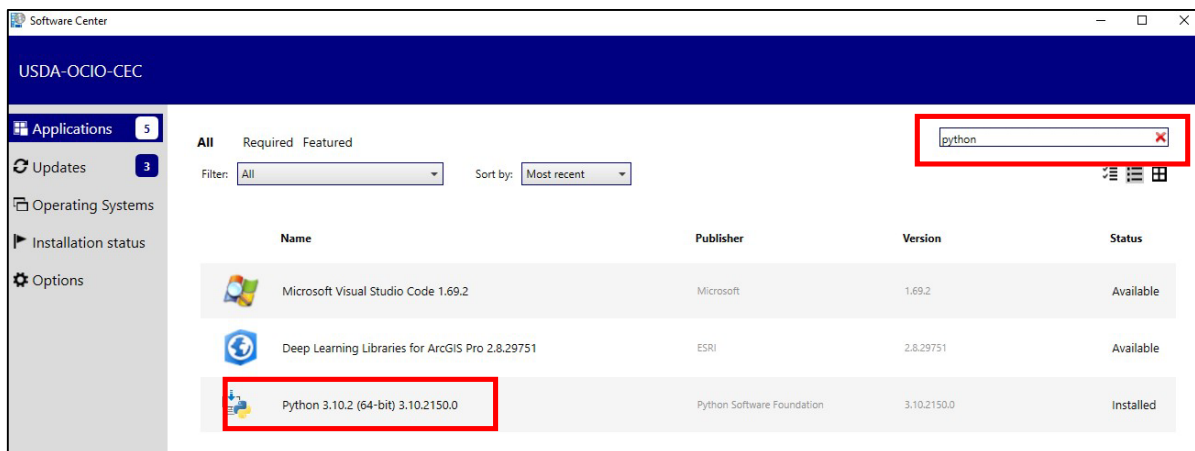
This guide assumes the following:

- You are installing software on a USDA CEC computer.
- Your operating system is Windows 10 or greater.[1]
- You have not already installed Python on your computer.[2]

2. Python Installation

To install Python, complete the following steps:

1. Open **Software Center** and search for **Python**.
2. Install **Python 3.10.2 (64-bit) 3.10.2150.0**. [3]

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[1]While SSURGO Portal is designed to work with Windows 10; it should also work with Windows 11 and Ubuntu.

[2] Python is included with ArcGIS, ArcGIS Pro, ArcGIS Desktop, and QGIS. SSURGO Portal should still function even if one or more of these versions of Python are already installed.
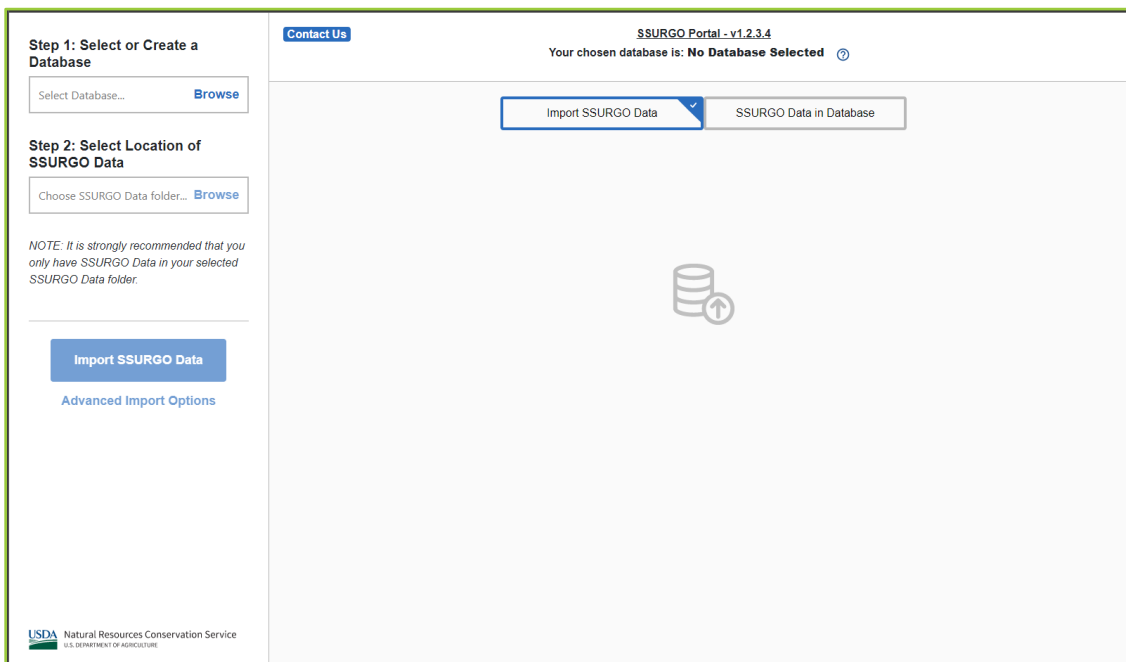
[3] SSURGO Portal was tested on Python 3.10 but should also work with Python 3.9 and 3.11.

3. SSURGO Portal Installation

To install SSURGO Portal, complete the following steps:

3. Create **a folder on your C drive** and name it **SSURGO Portal**.

4. **Click this link** and download the **SSURGO Portal.zip** file to the folder you just created.

5. Unzip the SSURGO Portal.zip file to the **SSURGO Portal** folder you created.

6. Double-click the **SSURGO_Portal.pyz file** to open.

7. Enter **p** in the CMD prompt.

8. When prompted, press **Enter** to complete initialization.

   *Note: You only need to enter **p** in CMD the first time you run SSURGO Portal.*

9. Double-click on the **SSURGO_Portal.pyz** a second time to open and begin using SSURGO Portal.

   You should see the following screen, which indicates a successful installation:
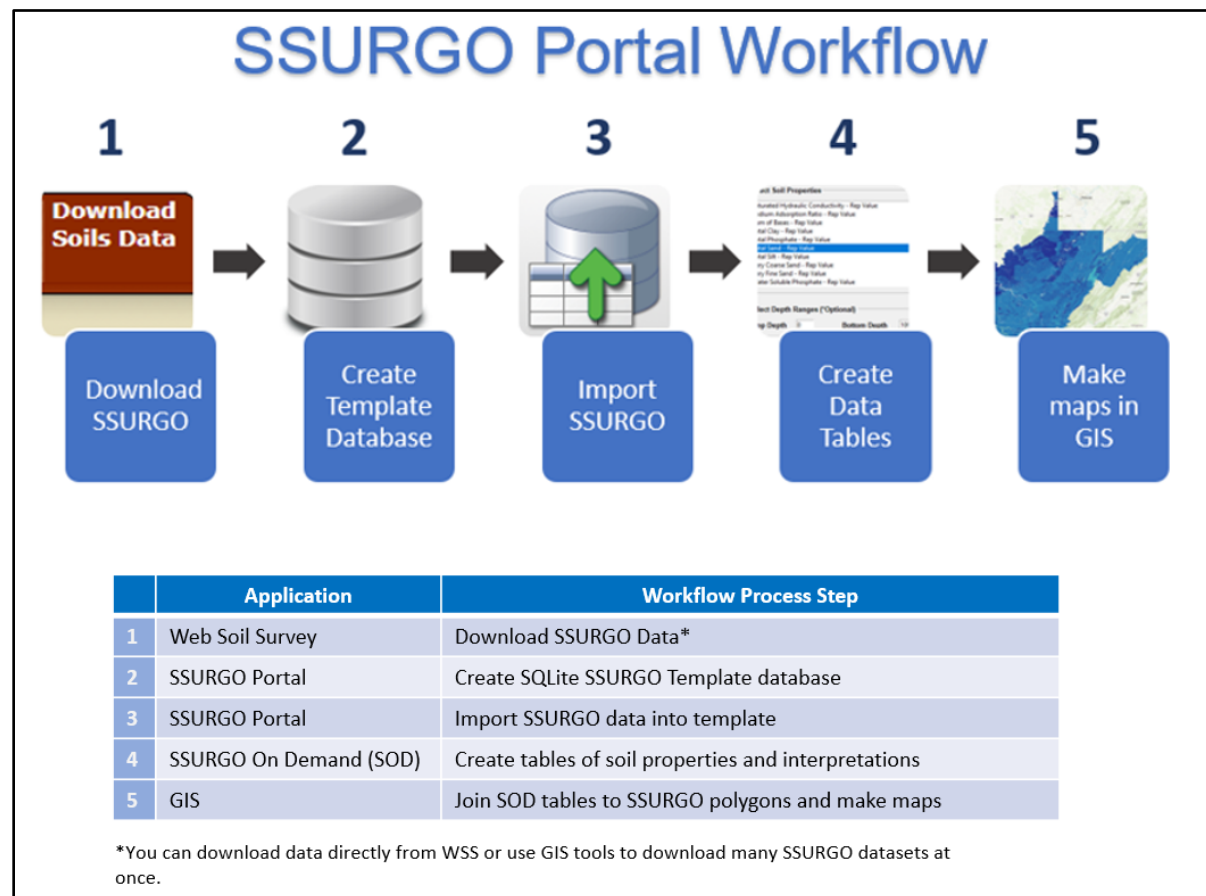
4. Using SSURGO Portal

Refer to the *SSURGO Portal User Guide* on the **SSURGO Portal webpage** for detailed user instructions.

You can also refer to the help menus within SSURGO Portal for additional information. Each window in SSURGO Portal has its own help page. You can access these by clicking the question mark icons.

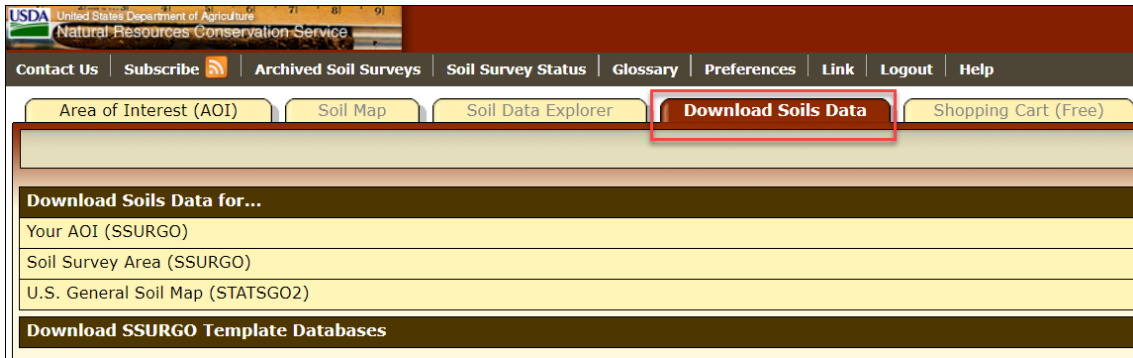The image below illustrates the general workflow for using SSURGO Portal.

	Application	Workflow Process Step
1	Web Soil Survey	Download SSURGO Data*
2	SSURGO Portal	Create SQLite SSURGO Template database
3	SSURGO Portal	Import SSURGO data into template
4	SSURGO On Demand (SOD)	Create tables of soil properties and interpretations
5	GIS	Join SOD tables to SSURGO polygons and make maps

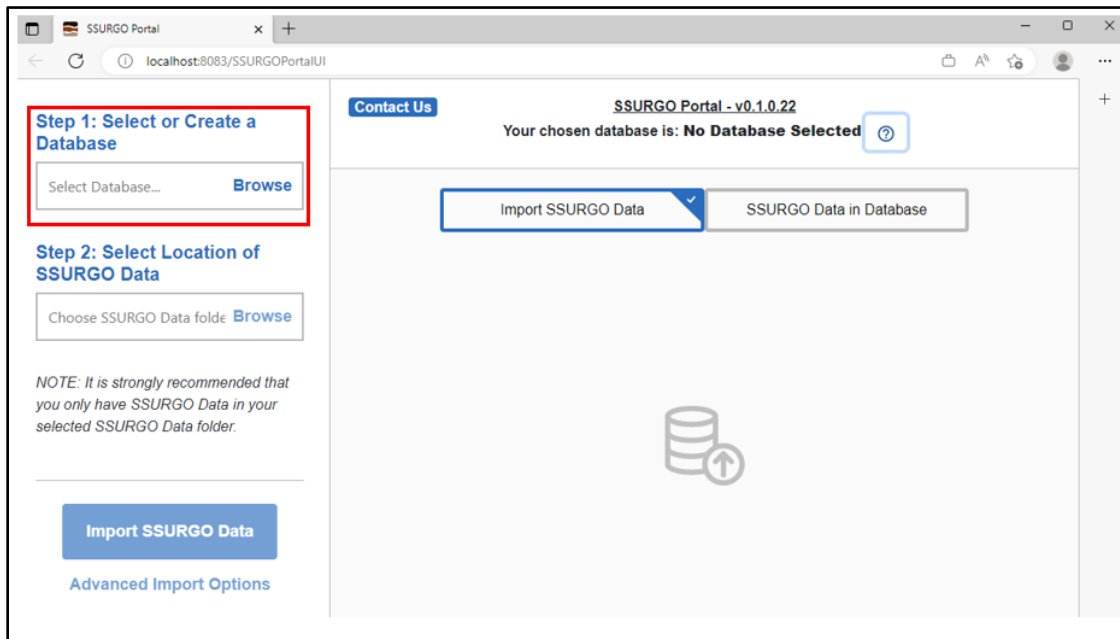*You can download data directly from WSS or use GIS tools to download many SSURGO datasets at once.

To begin using SSURGO Portal, complete the following steps:

1. Download **SSURGO data** from the **Web Soil Survey (WSS)** webpage under the Download Soils Data tab.
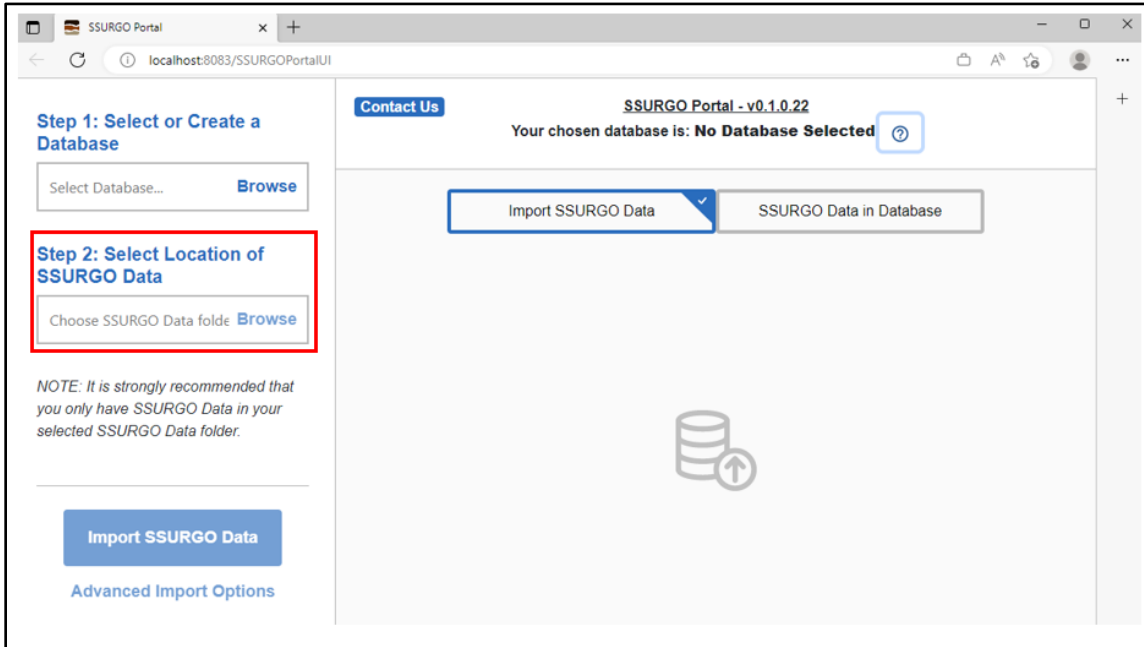

> **Note:** *You can also download data using the SSURGO Bulk Downloader GIS tool for ArcGIS Pro or QGIS. These tools rapidly batch download many SSURGO packages at one time. The tools and instructions are available on the SSURGO Portal webpage.*
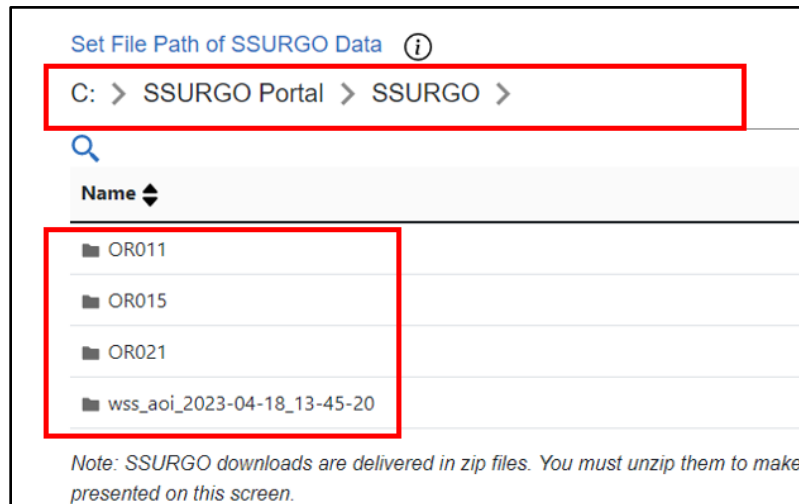
2. Open **SSURGO Portal**.

3. Click **Step 1: Select or Create a Database.**

4. Click **Step 2: Select Location of SSURGO Data.**

Note: *SSURGO data folders will either have a 5-character name, starting with two letters and followed by three numbers (e.g. OR021) or they will have names that start with wss_aoi. Below is an example of a correct file path. Note, the folder names have the typical format for SSURGO data packages.*

If you see folders named spatial and tabular in the table, you probably have gone too far in the file path and need to go back one folder.

5. **Import SSURGO Data**.

6. View and query contents of the populated SQLite SSURGO Template database by opening the database in any program that reads an SQLite file. GIS software and DB Browser are common choices.

   - **DB Browser is recommend** because it is essentially a license free version of the Microsoft Access application. It can be downloaded from the Software Center, and it allows you to view the contents of the database and submit SQL queries against the database. Refer to the *SSURGO Portal Installation Guide – USDA CEC Computers* and *SSURGO Portal User Guide* for more information about DB Browser. You can locate these guides on the **SSURGO Portal webpage**.

7. **Use SSURGO On Demand (SOD)** to aggregate soils data and create tables and maps of soil properties and interpretations. Subsequently, use these tables to make thematic maps in GIS. The SOD tool and user guide is available on the SSURGO Portal webpage.