

# Soil Survey Geographic Database (SSURGO) Portal Quick Start Guide

October 2023



## **Table of Contents**

| 1. | Overview                   | 3 |
|----|----------------------------|---|
| 2. | Python Installation        | 3 |
| 3. | SSURGO Portal Installation | 4 |
| 4. | Using SSURGO Portal        | 5 |

#### 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:

- Your operating system is Windows 10 or greater.<sup>1</sup>
- You have the correct permissions to install software.
- You have not already installed Python on your computer.<sup>2</sup>

## 2. Python Installation

To install Python, complete the following steps:

- 1. Go to the <u>Python.org website</u> and download **Python 3.10.2** to anywhere on your computer. <sup>3</sup>
- 2. From the webpage under the Files section, click Windows Installer (64 bit).

| Files                               |                  |                          |                                  |           |     |  |  |  |
|-------------------------------------|------------------|--------------------------|----------------------------------|-----------|-----|--|--|--|
| Version                             | Operating System | Description              | MD5 Sum                          | File Size | GPG |  |  |  |
| Gzipped source tarball              | Source release   |                          | 67c92270be6701f4a6fed57c4530139b | 25067363  | SIG |  |  |  |
| XZ compressed source tarball        | Source release   |                          | 14e8c22458ed7779a1957b26cde01db9 | 18780936  | SIG |  |  |  |
| macOS 64-bit universal2 installer   | macOS            | for macOS 10.9 and later | edced8c45edc72768f03f66cf4b4fa27 | 39805121  | SIG |  |  |  |
| Windows embeddable package (32-bit) | Windows          |                          | 44875e70945bf45f655f61bb82dba211 | 7541211   | SIG |  |  |  |
| Windows embeddable package (64-bit) | Windows          |                          | f98f8d7dfa952224fca313ed8e9923d8 | 8509629   | SIG |  |  |  |
| Windows help file                   | Windows          |                          | 342cabb615e5672e38c9906a3816d727 | 9575352   | SIG |  |  |  |
| Windows installer (32-bit)          | Windows          |                          | ef91f4e873280d37eb5bc26e7b18d3d1 | 27072760  | SIG |  |  |  |
| Windows installer (64-bit)          | Windows          | Recommended              | 2b4fd1ed6e736f0e65572da64c17e020 | 28239176  | SIG |  |  |  |

3. After the download is complete, navigate to where you downloaded Python and double-click on **Python-3.10.2-amd64**.

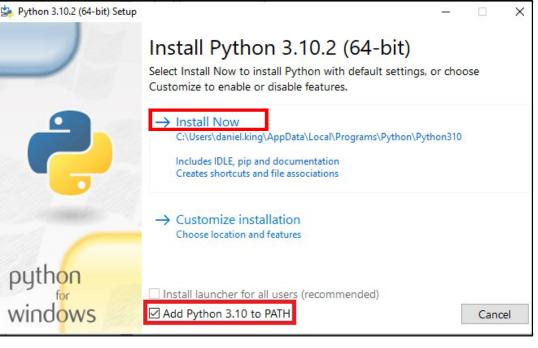
<sup>&</sup>lt;sup>1</sup> While SSURGO Portal is designed to work with Windows 10; it should work with Windows 11 and Ubuntu.

<sup>&</sup>lt;sup>2</sup> 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 is already installed.

<sup>&</sup>lt;sup>3</sup> SSURGO Portal was tested on Python 3.10 but should also work with Python 3.9 and 3.11.



4. Click the checkbox next to Add Python 3.10 to PATH and click Install Now.



**Note:** Advanced Python users can use **Customize installation**, but most people will want to select **Install Now**.

5. Once the installation is complete, the **Install** button should change to **Uninstall**, which indicates that the installation was successful. You can now close the window.

### 3. SSURGO Portal Installation

To install SSURGO Portal, complete the following steps:

- 1. Create a folder on your C drive and name it SSURGO Portal.
- Click this link and download the SSURGO Portal.zip file to the folder you just created.
- 3. Unzip the SSURGO Portal.zip file to the SSURGO Portal folder you created.
- 4. Double-click the **SSURGO\_Portal.pyz** file to open.
- 5. Enter **p** in the CMD prompt.
- 6. When prompted, press Enter to complete initialization.
  Note: You only need to enter p in CMD the first time you run SSURGO Portal.



7. Double-click on the **SSURGO\_Portal.pyz** a second time to open and begin using SSURGO Portal.

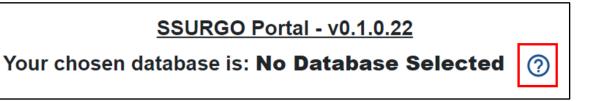
| Step 1: Select or Create a<br>Database   | SSURGO Portal - v1.2.3.4        Your chosen database is: No Database Selected      ?? |
|--|---|
| Select Database Browse   | Import SSURGO Data SSURGO Data in Database  |
| Step 2: Select Location of<br>SSURGO Data  |   |
| Choose SSURGO Data folder Browse   |   |
| NOTE: It is strongly recommended that you<br>only have SSURGO Data in your selected<br>SSURGO Data folder. |   |
| Import SSURGO Data   |   |
| Advanced Import Options  |   |
|  |   |
|  |   |
|  |   |
| USDA Natural Resources Conservation Service  |   |

You should see the following screen, which indicates a successful installation:

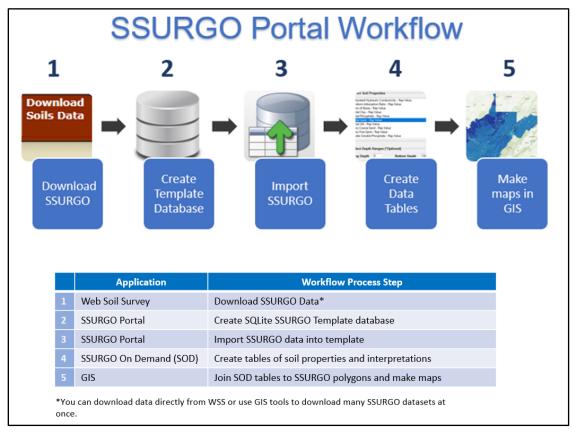
## 4. Using SSURGO Portal

Refer to the SSURGO Portal User Guide on the <u>SSURGO Portal webpage</u> 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 the help pages by clicking the question mark icons.



The general workflow for using SSURGO Portal is illustrated in the image below.



To begin using SSURGO Portal, complete the following steps:

 Download SSURGO data from the <u>Web Soil Survey</u> webpage under the Download Soils Data tab.

| ontact Us  | Subscribe <u> </u> | Archived Soil Survey | s Soil Survey Status | Glossary Preferen | ces Link Logo | ut Help              |
|------------|--------------------|----------------------|----------------------|-------------------|---------------|----------------------|
| Area o     | of Interest (AOI)  | Soil Map             | Soil Data Explore    | er Download       | Soils Data    | Shopping Cart (Free) |
|            |                    |                      |                      |                   |               |                      |
|            |                    |                      |                      |                   |               |                      |
| Downloa    | d Soils Data for   |                      |                      |                   |               |                      |
|            | (SSURGO)           |                      |                      |                   |               |                      |
| Your AOI ( |                    |                      |                      |                   |               |                      |
|            | y Area (SSURGO     | )                    |                      |                   |               |                      |

**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 <u>SSURGO Portal webpage</u>.



- 2. Open SSURGO Portal.
- 3. Click Step 1: Select or Create a Database.

| SSURGO Portal × +   |   |   |                   | - | D | × |
|---|---|---|-------------------|---|---|---|
| C 🛈 localhost:8083/SSURGOPortal                                   |   | Ô | $A_{\mathcal{Y}}$ | ŵ | ۲ |   |
| Step 1: Select or Create a Database                               | Contact Us SSURGO Portal - v0.1.0.22<br>Your chosen database is: No Database Selected ③ |   |                   |   |   | + |
| Select Database Browse  | Import SSURGO Data SSURGO Data in Database  |   |                   |   |   |   |
| Step 2: Select Location of SSURGO Data                            |   |   |                   |   |   |   |
| Choose SSURGO Data folde Browse                                   |   |   |                   |   |   |   |
| NOTE: It is strongly recommended that                             |   |   |                   |   |   |   |
| you only have SSURGO Data in your<br>selected SSURGO Data folder. |   |   |                   |   |   |   |
| Import SSURGO Data  |   |   |                   |   |   |   |
| Advanced Import Options   |   |   |                   |   |   |   |
|   |   |   |                   |   |   |   |

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

| C I localhost:8083/SSURGOPortalU   | I          |   |                         | ⊖ A <sup>N</sup> | ŵ |   |
|--|------------|---|-------------------------|------------------|---|---|
| Step 1: Select or Create a<br>Database                                     | Contact Us | <u>SSURGO Porta</u><br>Your chosen database is: <b>No E</b> |                         |                  |   | + |
| Select Database Browse   |            | Import SSURGO Data  | SSURGO Data in Database |                  |   |   |
| Step 2: Select Location of<br>SSURGO Data                                  |            |   |                         |                  |   |   |
| Choose SSURGO Data folde Browse  |            |   |                         |                  |   |   |
| NOTE: It is strongly recommended that<br>you only have SSURGO Data in your |            |   |                         |                  |   |   |
| selected SSURGO Data folder.   |            | Ę   | $\widehat{\mathbf{D}}$  |                  |   |   |
| Import SSURGO Data   |            |   |                         |                  |   |   |
|  |            |   |                         |                  |   |   |

**Note:** SSURGO data folders will typically 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.



| Set File Path of SSURGO Data ()  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| C: > SSURGO Portal > SSURGO >  |  |  |  |  |  |  |  |
| Q  |  |  |  |  |  |  |  |
| Name 🖨   |  |  |  |  |  |  |  |
| CR011  |  |  |  |  |  |  |  |
| DR015  |  |  |  |  |  |  |  |
| DR021  |  |  |  |  |  |  |  |
| wss_aoi_2023-04-18_13-45-20  |  |  |  |  |  |  |  |
| Note: SSURGO downloads are delivered in zip files. You must unzip them to mak<br>presented on this screen. |  |  |  |  |  |  |  |

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

5. Click Import SSURGO Data.

| Change or Create a Database  | Conta |               | SSURGO Portal - v0.1.0.22<br>Your chosen database is: SQLite SSURGO Template.gpkg ③ |   |                                 |                         |                                   |
|--|-------|---------------|---|---|---------------------------------|-------------------------|-----------------------------------|
| Change Location of SSURGO<br>Data  |       | Button        | ୍ର  | Import SSURGO Data  | SSURGO Data in Dat              | abase                   |                                   |
| SSURGO Browse  |       | Folder Name 🖨 | Area<br>Symbol <b>\$</b>  | Area Name 🖨   | Folder SSURGO<br>Version Date 🖨 | Exists in<br>Database 🖨 | Database SSURGO<br>Version Date 🖨 |
| NOTE: It is strongly recommended that<br>you only have SSURGO Data in your |       | AK622         | AK622   | Skagway-Klondike Gold Rush National<br>Historical Park, Alaska              | 8/30/2022                       |                         |                                   |
| selected SSURGO Data folder.   |       | AK630         | AK630   | Nulato Hills Area, Alaska   | 8/30/2022                       |                         |                                   |
|  |       | AK636         | AK636   | Bristol Bay-Northern Alaska Peninsula,<br>North and Bordering Areas, Alaska | 8/30/2022                       |                         |                                   |
| Import SSURGO Data   |       | AK638         | AK638   | Cantwell Area, Alaska   | 9/1/2022                        |                         |                                   |
| Advanced Import Options  |       | DR015         | OR015   | Curry County, Oregon  | 9/8/2022                        |                         |                                   |
| Automote import options  |       | DR021         | OR021   | Gilliam County, Oregon  | 9/8/2022                        |                         |                                   |
|  |       |               |   |   |                                 |                         | *                                 |

- 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 <u>DB Browser</u> are common choices.
  - <u>DB Browser is recommend</u> because it is essentially a license free version of the Microsoft Access application. It allows you to view the contents of the database and submit SQL queries against the database. Refer to the SSURGO Portal Installation Guide and SSURGO Portal User Guide for more information about DB Browser. You can locate these guides on the <u>SSURGO</u> <u>Portal webpage</u>.
- 7. Use SSURGO On Demand (SOD) to aggregate soils data and create tables of soil properties and interpretations. Subsequently, use these tables to make

SSURGO Portal Quick Start Guide | August 2023



thematic maps in GIS. The SOD tool and user guide are available on the SSURGO Portal webpage.