

Setting up Python

Introduction

This course provides an overview of scripting concepts and an introduction Python. The training introduces users to how these languages can be applied to geospatial analysis. To complete the exercises in this training, users must choose either Python 2 or Python 3. Please complete before the course.

Objectives

- Choose a language to use for the course
- Set up either Python 2 (via ArcMap) **or** Python 3 (via ArcPro)



USDA Non-Discrimination Statement

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotope, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.



Table of Contents

Part 1: Which Python?	4
Part 2: Python	4

Part 1: Which Python?

Python is an open-source coding language which integrates with ESRI Arc Products. Python 2 works with ArcMap where Python 3 works with ArcPro.

Things to think about:

- **What program do you currently use?** You might want to stick with Python 2 because you are used to using ArcMap
- **The Forest Service and ESRI are moving towards ArcPro and Python 3**
- **The shift from Python 2 to Python 3 isn't very hard** However, you would need to re-do any scripts you have created and learn a new python interface

I recommend learning with Python 3 via ArcPro. The interface is easier to use compared to ArcMap. Additionally, Python 3 is the future as ArcMap and Python 2 are starting to be phased out. Learning Python 3 will keep your knowledge current, and up to date so you don't have to make the transition later.

Part 2: Python

You can choose to use Python2 or Python3, while either will be fine for this course, I recommend learning Python3 as more programs shift towards Python3 it is starting to become the standard.

A. Python 2 from ArcGIS

1. We will use Python 2 which was installed with your installation of ArcMap version 10.x with Python version 2.x and Spatial Analyst extension. If you have ArcGIS 10.0 or newer installed on your machine, you shouldn't need to take any further steps. If you do not, you can install ArcMap via the software center.

B. Python 3 from [ArcPro](#)

1. Python 3 was installed with your installation of ArcPro. Ensure you have version 2.8 with and the Spatial Analyst extension. To check out the Spatial Analyst check out the [ArcPro License Guide](#) If you do not, you can install ArcPro via the software center.

Congratulations! You are ready to start coding in Python!