HEALTH GEO LAB COLLABORATIVE

Supporting countries to use geospatial data and technologies to achieve SDG 3

Starter kit -
ArcMap 10.5 and Associated Extensions
(Single use with authorization code)

Version 1.2 (04.09.2018)

In collaboration with and with the support of:

ADB esri

Revision History

Revision	Revision Date	Comment	By
1.0	05 February 2017	Document created	Izay Pantanilla Steeve Ebener
1.1	26 January 2018	Conversion to HGLC document	Steeve Ebener
1.2	04 September 2018	Corrections in the text	Izay Pantanilla

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Acknowledgements

Table of Contents

Purpose and audience

The purpose of this document is to guide new users to install ArcMap and associated extension and start using them for their work.

The audience for this document is any institution needing to install ArcGIS Desktop 10.5 a computer though the use of a single use license with authorization code.

Please refer to the Resources page on the HGLC website for more information in this regard.[1]

Abbreviations

ADB	Asian Development Bank
AeHIN	Asia eHealth Information Network
Esri	Environmental Systems Research Institute
GIS	Geographic Information System
HGLC	Health GeoLab Collaborative
SDGs	Sustainable Development Goals
WHO	World Health Organization

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[1] https://healthgeolab.net/resources/access-to-proprietary-geospatial-technology/

1. Background

The Health GeoLab Collaborative (HGLC)[2] is a collective of institutions and individuals sharing the same vision - for low- and middle-income countries in Asia and the Pacific to fully benefit from the power of geospatial data and technologies to reach the health related SDG 3 - and ready to engage their respective skills, experience, and resources to achieve it.

The HGLC has been established and builds on the work done as well as the network and documents developed through the activities of the AeHIN GIS Lab over the 2016-2017 period.

The HGLC uses the 4Ts (Training, Tooling, Testing and Teaming) approach to strengthen in-country capacity. The present starter kit has been developed as part of this approach and with the objective to be used by the largest number of users possible.

This starter kit is a living document made to evolve based on the inputs received from the users. Please don't hesitate to contact us at info@healthgeolab.net if you have any suggestions for improvement.

Should you use this document as part of your activities and would like to have your organization recognized as one of document's users, please contact us at the email address provided above.

2. Introduction

Through the partnership established with Esri, the HGLC not only has the capacity to lend licenses to eligible institutions for a period of up to 6 months[3] but can also provide access to highly discounted software bundles to Ministries of Health in countries.

While Esri provides access to a large number of GIS solutions, the present kit focuses on one of its desktop product: ArcMap together with its associated extensions.

3. What is ArcGIS Desktop and ArcMap?

ArcGIS Desktop is a suite of GIS software developed by Esri. It includes the two main applications, ArcMap and ArcGIS Pro, which allow users to perform various GIS tasks. It is available at different license level —basic, standard, and advanced— with more functionalities being available as the license progresses.

ArcMap is the central application of ArcGIS Desktop. It is where users can visualize GIS datasets as map layers and perform tasks such as creating and editing geographic data, map analysis, and creating and printing map layouts.

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[2] http://healthgeolab.net
[3] https://healthgeolab.net/resources/access-to-proprietary-geospatial-technology/

ArcGIS Pro is a new professional desktop application for ArcGIS Desktop. It can be used side by side with ArcMap although it does not have all the capabilities of that application. Meanwhile, some of the unique capabilities of ArcGIS Pro that are not available with ArcMap are project-based workflows, combined 2D/3D visualization, task-based work automation, vector-tile creation, 64-bit support, and multiple display and map layout support.

Both applications can publish map documents as map services to ArcGIS Online.

ArcMap can gain more advanced capabilities through the addition of extensions. These specialized tools can perform sophisticated tasks such as analyze data in realistic/3D perspective, conduct geostatistical analysis, and easily work with different data formats.

Among these extensions, there are few that are of particular interest when looking at the geographic dimension of UHC:
- Spatial Analyst to derive answers from your data using advanced spatial analysis;
- Network Analyst to perform sophisticated routing, closest facility, and service area analysis along a transportation network;
- Geostatistical analyst that uses advanced statistical tools to investigate your data.

4. Downloading and installing ArcMap 10.5

The following sections describe how to download and install ArcMap 10.5 on your computer.

Before downloading the installation file for ArcMap:
1. Check if your computer has the necessary specifications to run the software. This can be done by looking at the system requirements posted on Esri's web site[4]. Make sure to select 10.5 in the "Other versions" dropdown list below the page title.
2. If you have version 9.3 or 10.0 installed on your computer, uninstall it as these versions will prevent the new one from being installed. Users having 10.1 or higher already on their computer will not have to uninstall them and can just upgrade them using the installation file.

4.1 Downloading the ArcMap installation file

1. Download the latest version of the installation file from the following link: www.healthgeolab.net/DOWNLOADS/ArcGIS_Desktop_10_5.zip. This might take some time depending on the speed of your internet connection as the file is quite big (1.02 GB). Take note of the downloaded file location.
2. Unzip the file in the selected folder.

4.2 Installing ArcMap and associated extensions

1. Double-click on the *ArcGIS_Desktop_105_154030.exe* file to launch the installation.

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[4] http://desktop.arcgis.com/en/arcmap/latest/get-started/setup/arcgis-desktop-system-requirements.htm

2. In the window that opens (Figure 1), select the destination folder for the program (or accept the default folder - recommended) and click *Next*.
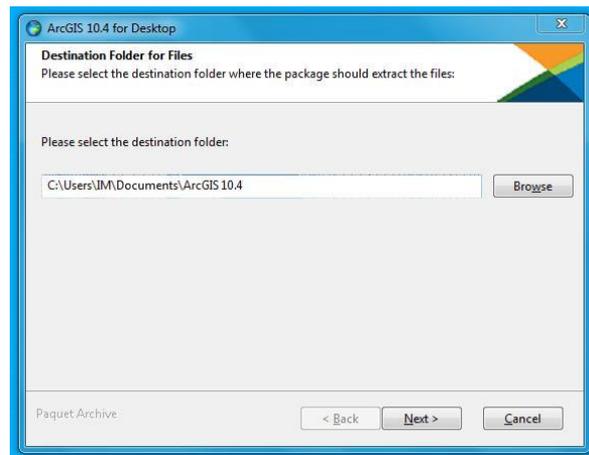

Figure 1

3. Once all the files extracted to your computer new window opens (Figure 2). Make sure that the box to launch the setup program is checked and then click *Close*.
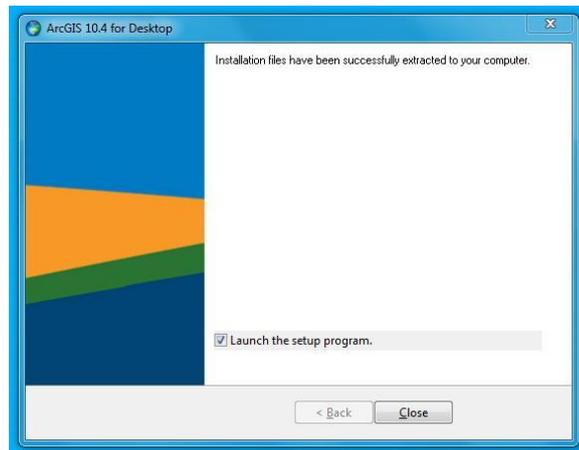

Figure 2

4. The installation will then automatically start. Click *Yes* when prompted to allow ArcGIS for Desktop to make changes on your computer.

5. The ArcGIS 10.5 for Desktop Setup window will appear. Click *Next*.

6. Read the license agreement carefully. Select the corresponding radio button to accept the terms and conditions. Click *Next*.

7. In the *Select Installation Type* window that opens (Figure 3) you can choose either the complete or custom installation. Select Complete and click *Next*.
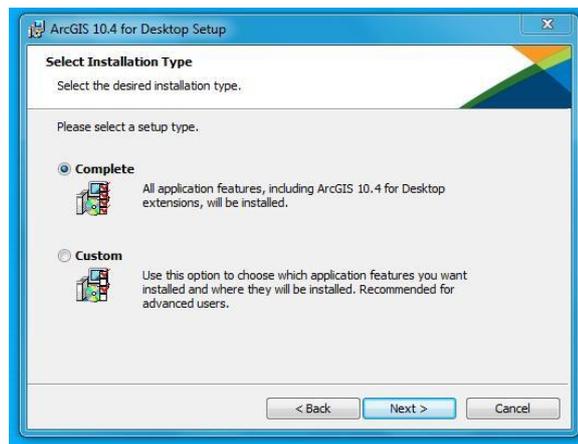
Figure 3

8. In the *Destination Folder* window (Figure 4), select a folder where the application will be installed (or accept the default folder - recommended). Click *Next*.
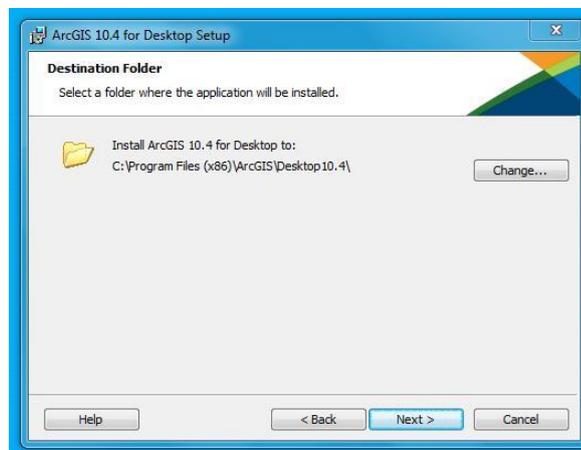
Figure 4

9. In the *Python Destination Folder* window (Figure 5), select a folder where Python will be installed (or accept the default folder - recommended). Click *Next*.
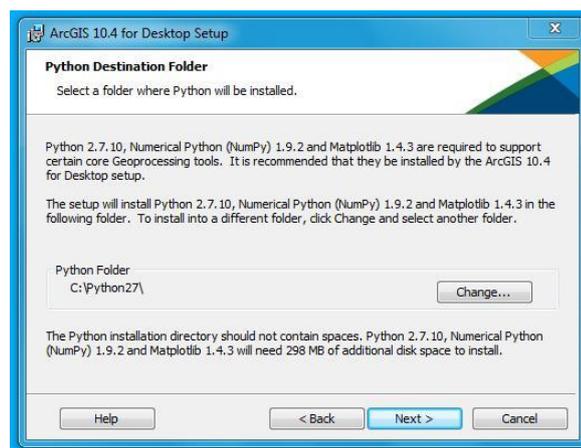

Figure 5

10. The program is now ready to be installed (Figure 6). If you want to make any changes to the previous settings, click *Back*. If no further changes are to be made, click *Install*.
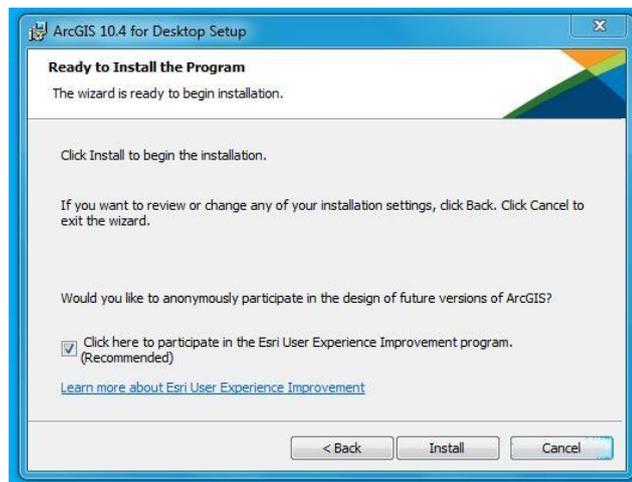
Figure 6

11. The installation will begin. This may take several minutes. A last window appears once ArcGIS 10.5 for Desktop has been successfully installed (Figure 7). Click *Finish* when this is the case.
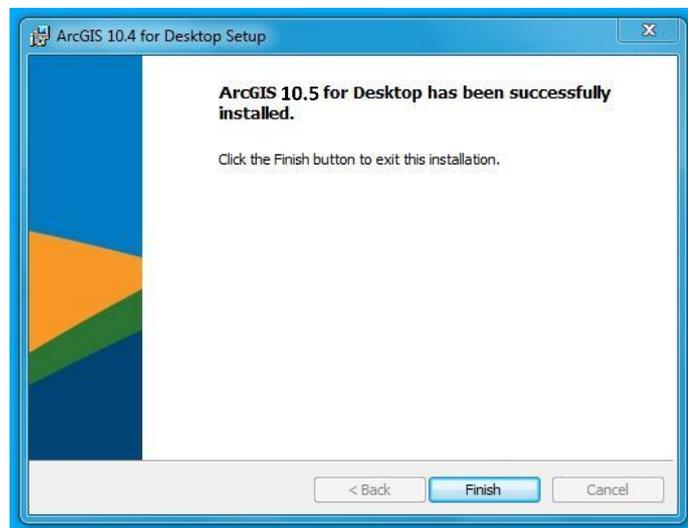

Figure 7

4.3 Authorizing ArcMap and associated extensions using the authorization code

You need to authorize the installed software before you are able to use it. There are two ways to authorize the software based on the type of license you have: Using an authorization code you would have received or borrowing a license from the HGLC license manager. This guide explains how to proceed with the former.

The ArcGIS Administrator Wizard should have appeared once you have clicked *Finish* in the last window of the previous step.

If this is not the case, use the search function of your operating system, look for *ArcGIS Administrator* and launch the application.
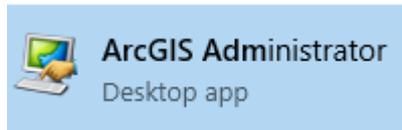
When launching it for the first time, ArcGIS Administrator will take you through a wizard. Follow the succeeding steps to authorize your software:

1. In the *ArcGIS Administrator Wizard* window (Figure 8):
    a. Select the applicable ArcGIS for Desktop Single Use product that needs to be authorized: Advanced (ArcInfo), Standard (ArcEditor), or Basic (ArcView).
   b. Below *Launch the Authentication Wizard for Single Use products*, click *Authorize Now*.
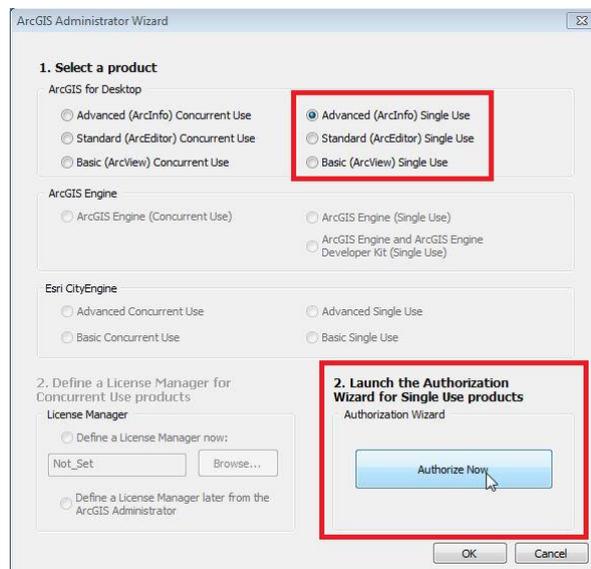
Figure 8

2. In the *Software Authorization Wizard* window (Figure 9), select *I have installed my software and need to authorize it* and click *Next*.
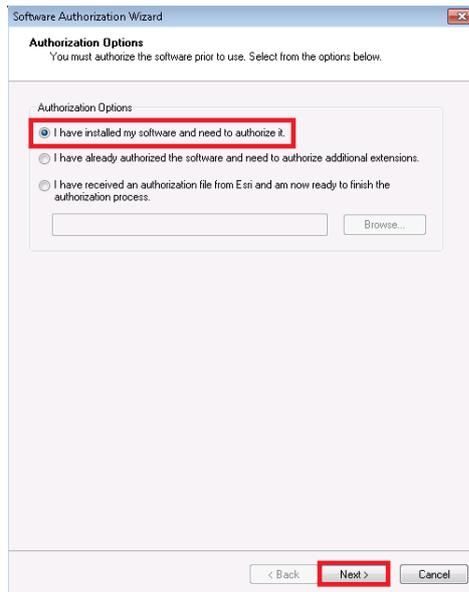
Figure 9

3. If you have internet connection, select *Authorize with Esri now using the Internet* and click *Next* (Figure 10).
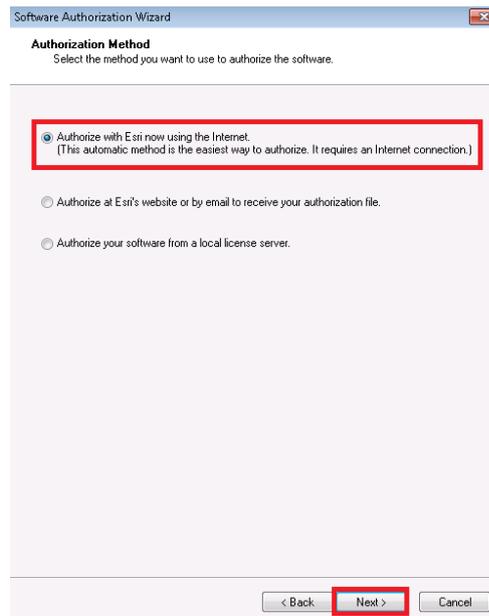

Figure 10

4. Enter your personal information in the *Authorization Information* window (Figures 11 & 12) and click *Next*.

Figure 11

Figure 12

5. Enter the authorization code for ArcGIS Desktop provided to you by Esri in the *Software Authorization Number* window (e.g., ESUxxxxxxxxx) (Figure 13). Click *Next*.
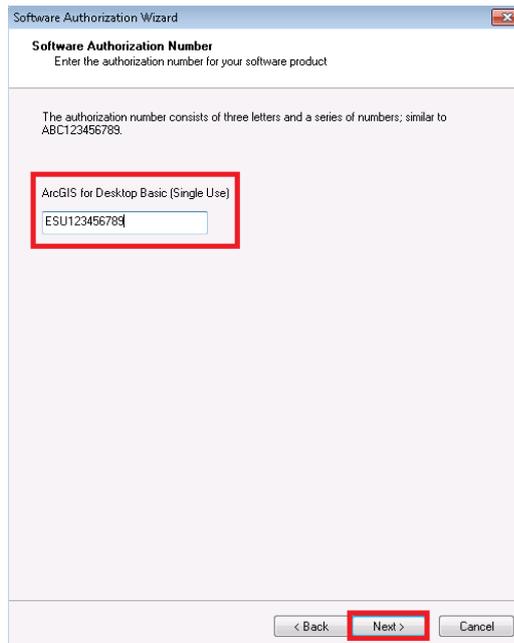
Figure 13

6. Select *I have authorization number(s) to authorize one or more extensions* if you have authorization codes for ArcGIS extensions (Figure 14). Enter the authorization code for the extension(s).
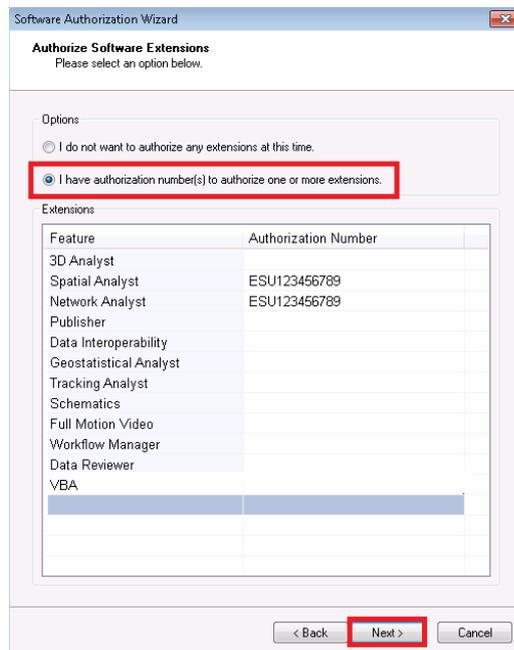

Figure 14

If you do not have authorization code for ArcGIS extension, select *I do not want to authorize any extensions at this time*.

7. The next window that opens allows you to choose to evaluate for a period of 60 days ArcGIS extensions for which you do not have authorization codes. Just click *Next* if this is not the case. If this is the case, choose the extensions you want to evaluate from the *Available Extensions* list and click the arrow (-->) to move them to the *Evaluation Extensions* list (Figure 15). Click *Next* once done.
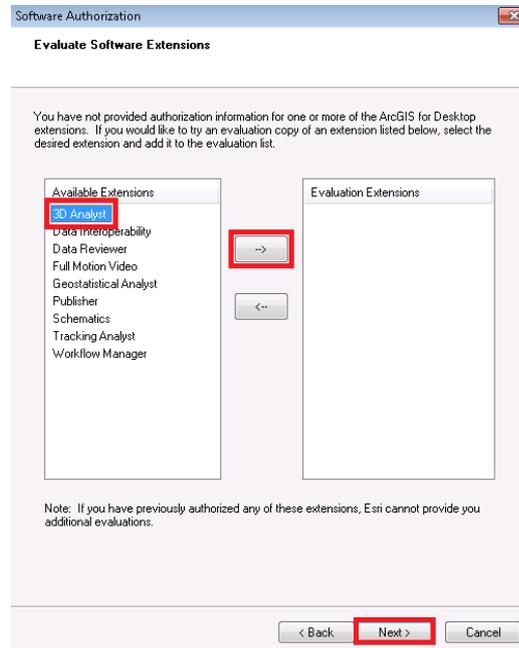

Figure 15

8. Click *Finish* after the authorization process is complete. You should get a message indicating that your ArcGIS Desktop (and extensions) is (are) now ready to use.

5. Getting started with ArcMap

There are several ways for you to get started with ArcMap or improve on what you already know. The sections below provide a first set of free and paying resources you can use in this regard.

5.1 Free resources

Here are some of the free resources you can use to learn about ArcMap or improve your knowledge and skills about it:

- The GIS encyclopaedia wiki[5] is the most comprehensive and collaborative dictionary source of information and reference on GIS.
- Esri's GIS dictionary[6] is the most comprehensive glossary of GIS terms you can find online and therefore a great resource to learn the language.

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[5] http://wiki.gis.com/wiki/index.php/New_to_GIS#Related_links
[6] http://support.esri.com/other-resources/gis-dictionary

- The Learn ArcGIS page on Esri's web site[7] is a great starting point to get familiar with the software with its overview and lessons. Two specific pages to look at from this resource:
  - The Get Started with ArcMap page[8]
  - The Lessons Gallery page[9]
- The ArcMap page on the ArcGIS for Desktop web site[10]
- Esri's online training catalogue also gives access to 126 free training seminars or web courses[11]. Among those we can mention are:
  - Getting started with GIS
  - Basics of geographic coordinate systems
  - Create Data Visualization Using smart mapping in ArcGIS
  - Editing in ArcGIS desktop
- The ArcGIS Book[12] where you can find 10 big ideas about applying geography to your world

In addition to the above, you can use the Health GeoLab Collaborative LinkedIn group[13] to access knowledge and expertise in the Region.

5.2 Paying resources

Esri's training resource [14] offers a large variety of paying on site or online training courses to improve your skills on specific ArcMap functionalities. The course recommendation page[15] will help you choose what is the most appropriate based on your current level of expertise and needs.

A great resource to learn about ArcMap based on health related examples is Esri's GIS Tutorial for Health which can be bought as an ebook or paperback through Amazon for example[16].

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[7] http://learn.arcgis.com/en/
[8] http://learn.arcgis.com/en/projects/get-started-with-arcmap/
[9] http://learn.arcgis.com/en/gallery/
[10] http://desktop.arcgis.com/en/arcmap/
[11] http://training.esri.com/gateway/index.cfm?fa=search.results&cannedsearch=2
[12] http://learn.arcgis.com/en/arcgis-book/
[13] https://www.linkedin.com/groups/10311235
[14] http://www.esri.com/training/main
[15] http://www.esri.com/training/main/training-catalog/course-recommendations
[16] https://www.amazon.com/GIS-Tutorial-Health-fifth-Fifth-ebook/dp/B00QJIKAU2?ie=UTF8&me=&ref_=mt_kindle