INSTALLATION MANUAL DEFORESTATION RISK MAP TOOL

Support to the development of an updated Forest Reference Level and develop options to allocate the FRL at multiple spatial scales for REDD+ implementation in Cambodia

7 JULY 2020

Author: Javier Cano / Supported by Vexiza

Client: UNDP Cambodia

PROJECT:

Support to the development of an updated Forest Reference Level and develop options to allocate the FRL at multiple spatial scales for REDD+ implementation in Cambodia

Report:

Installatioin Manual

Author: Javier Cano Martín / Supported by Vexiza

Date: 7 July 2020

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INSTALLATION STEPS:

The application has been developed based on three free/open access technologies:

- Python
- GDAL
- R

Several users may have currently installed other applications that use these technologies. However, for the proper functioning of the Deforestation Risk Map Tool, it is strongly recommended to follow all the steps described below, including downloading and installing the specified versions of each one of the technologies.
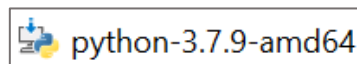
The installation process is described step by step below.

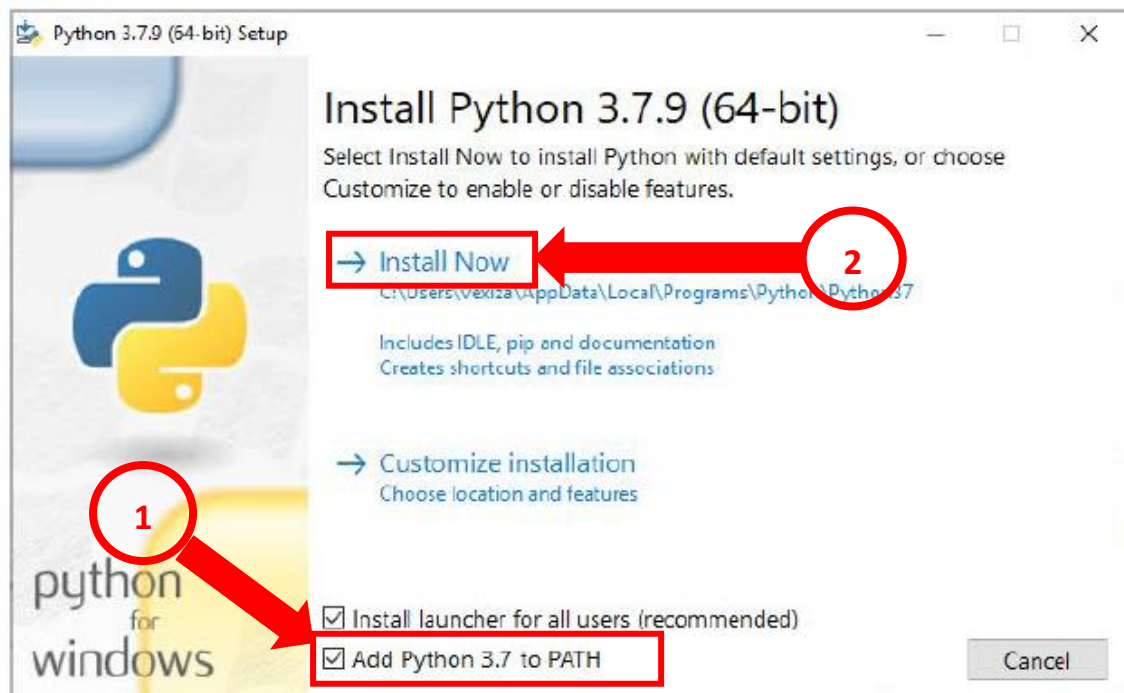## ✓ Step 1: Download and Install Python 3.7.9 (64 bits)

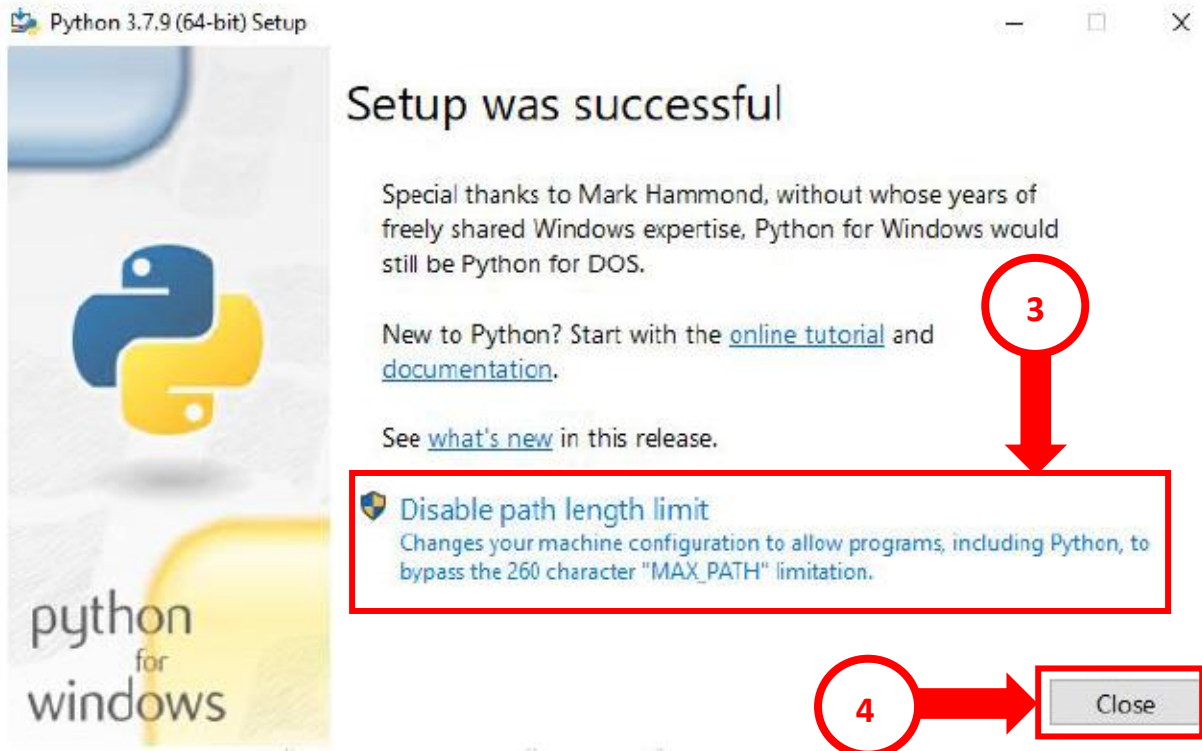To download the resource, click on the following link or copy it to the browser:

https://www.python.org/ftp/python/3.7.9/python-3.7.9-amd64.exe

Run the Python installation wizard clicking in the downloaded .exe file

python-3.7.9-amd64

1. Check 'Add Python 3.7 to PATH'
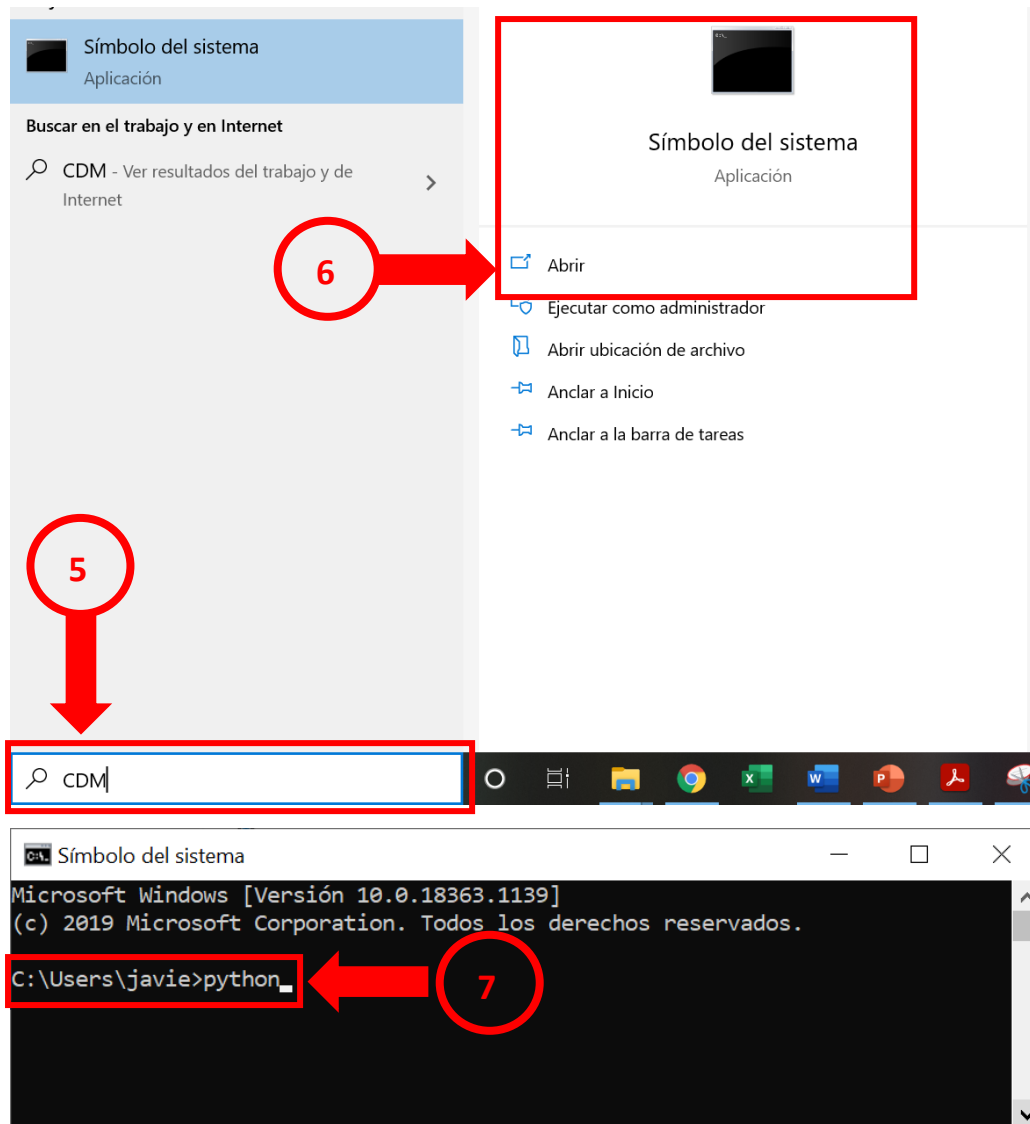2. Press "Install Now":

3. When the installation is completed, the user must press the "Disable path length limit" button.
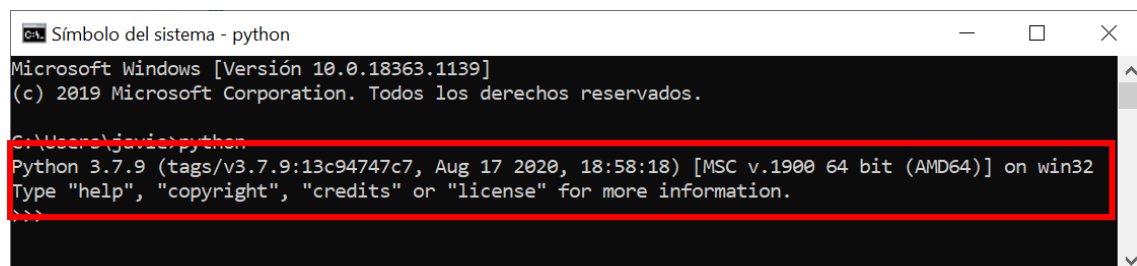4. Now, the python installation wizard can be closed.

To ensure the installation was successful, please:

5. Type "CMD" in the Windows application search bar
6. Open CMD
7. Type "python" and click enter.

If the installation was successful, the following message must be returned:
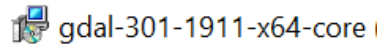
✓ Step 2: Download and install GDAL Core

To download the resource, click on the following link or copy it to the browser:

http://download.gisinternals.com/sdk/downloads/release-1911-x64-gdal-3-1-2-mapserver-7-6-1/gdal-301-1911-x64-core.msi

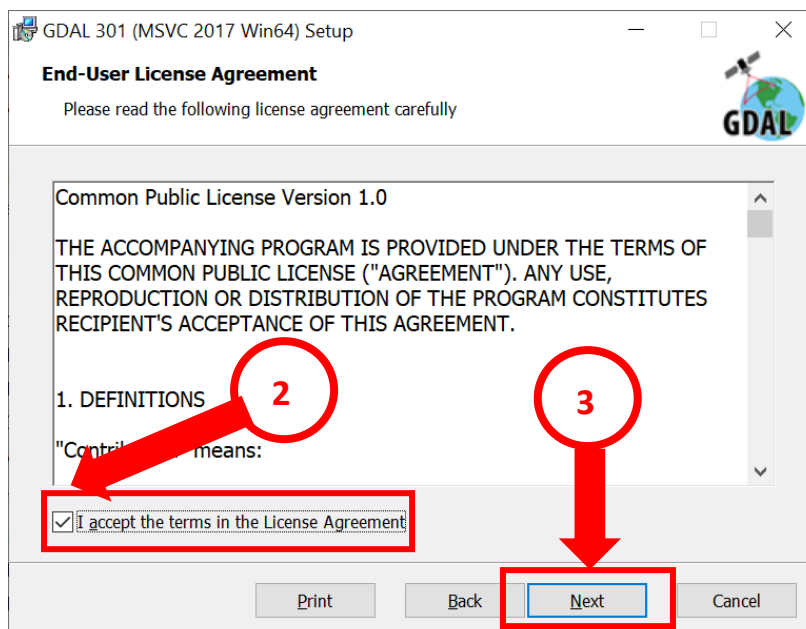Run the installation wizard clicking in the downloaded .exe file

gdal-301-1911-x64-core

Follow the next steps in the GDAL installation wizard:

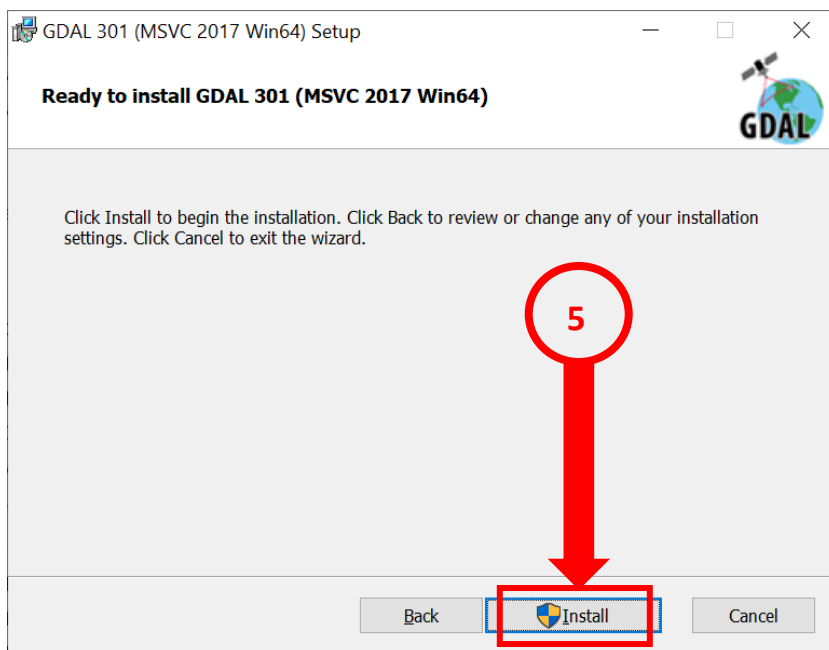1. Click "Next" in the welcome setup wizard

2. Check "I accept the terms in the License Agreement."
3. Click "Next".

4. In the next window, select "Typical" and click "Next."
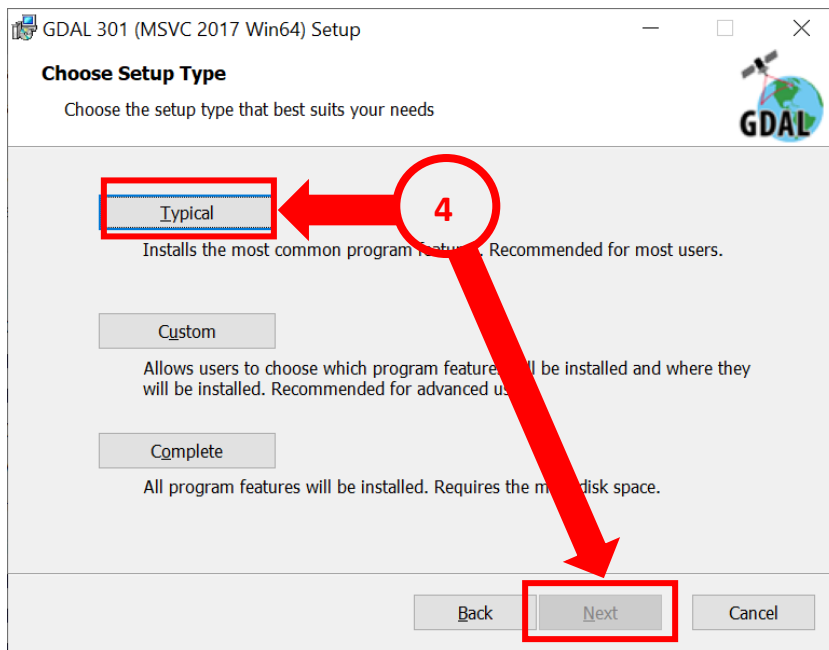
5. In the next window, click "Install".

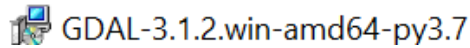6. Once the installation is completed, click "Finish".

✓ Step 3: Download and install GDAL Python 3.7 bindings

To download the resource, click on the following link or copy it to the browser:

http://download.gisinternals.com/sdk/downloads/release-1911-x64-gdal-3-1-2-mapserver-7-6-1/GDAL-3.1.2.win-amd64-py3.7.msi

Run the installation wizard clicking in the downloaded .exe file:

GDAL-3.1.2.win-amd64-py3.7

Follow the next steps in the GDAL installation wizard:

1. Select the option "Install for all users" and click "Next."
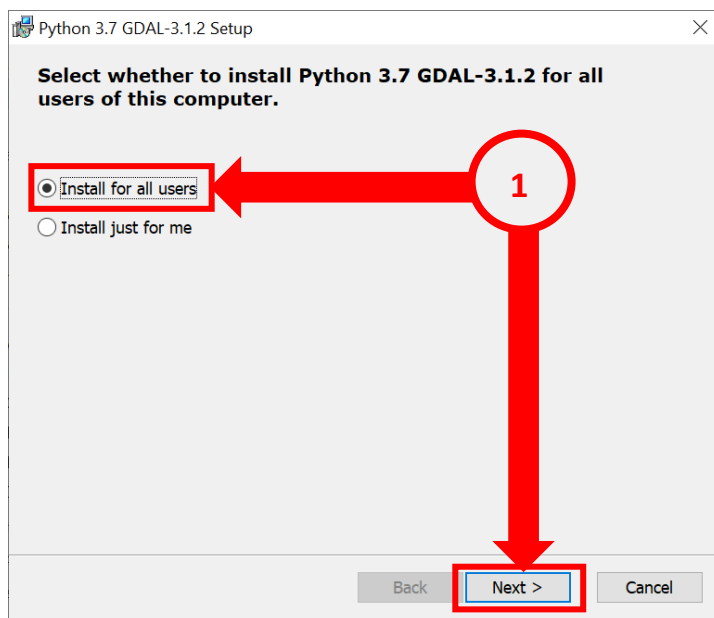
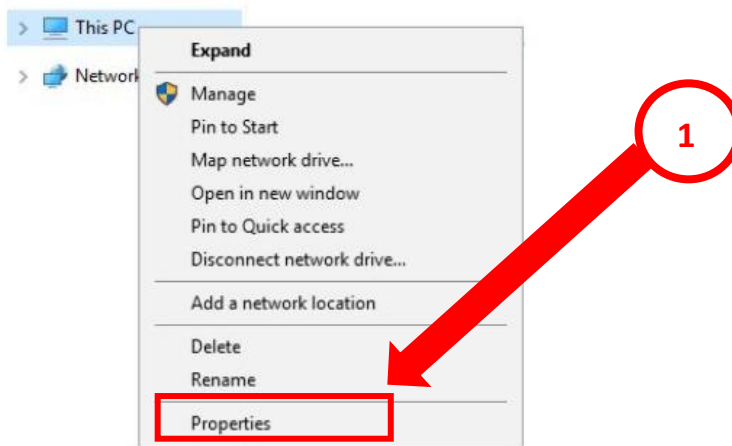2. Select the option "Python 3.5 from registry."

9
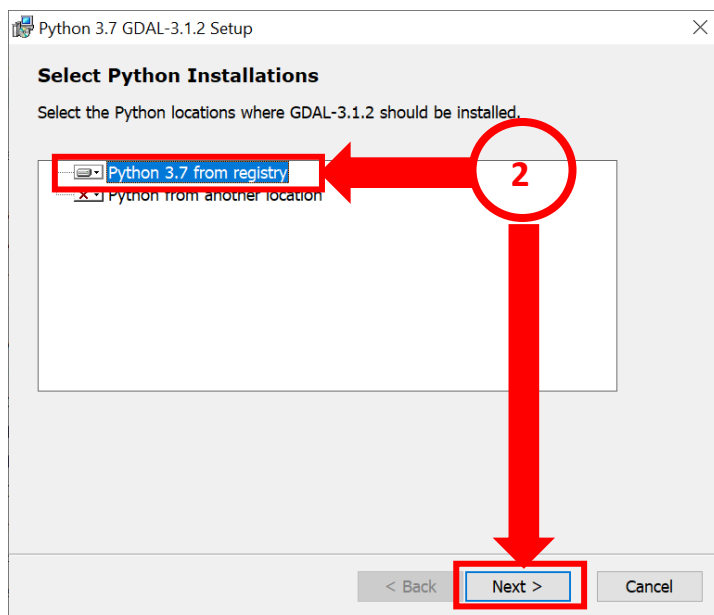
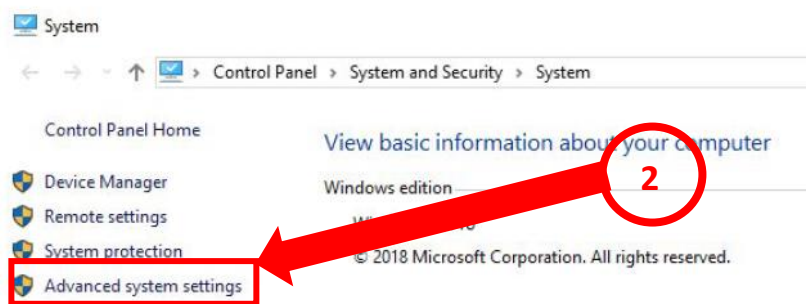3. Once the installation is completed, click "Finish".
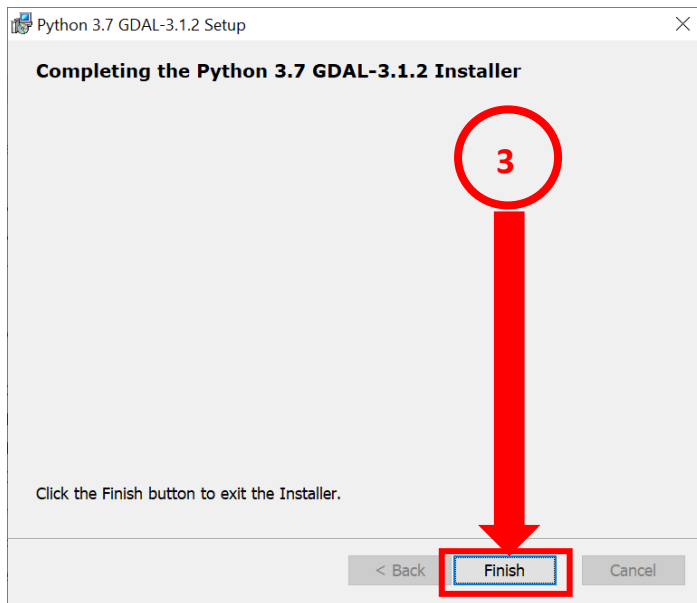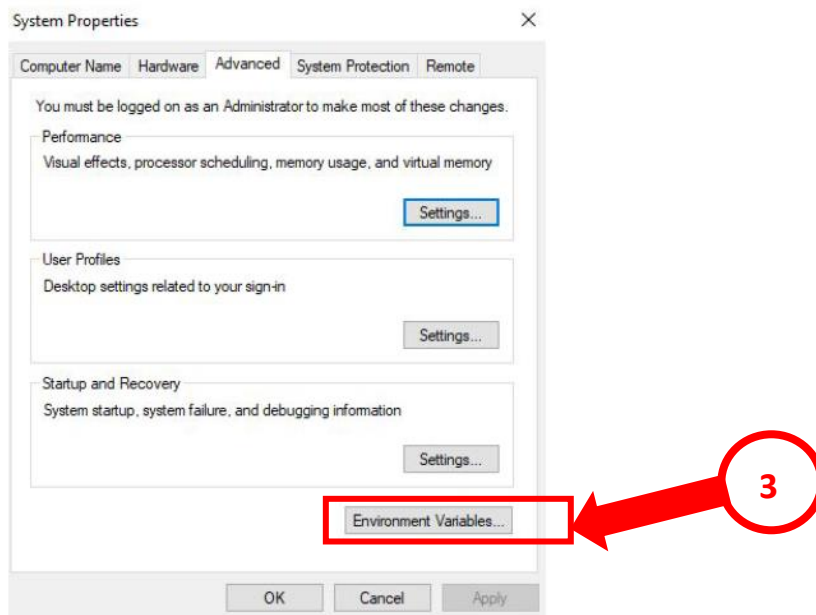
✓ Step 4: Add PATH variables

1. Go to the 'File Explorer' and right-click on 'This PC' and open 'Properties'.
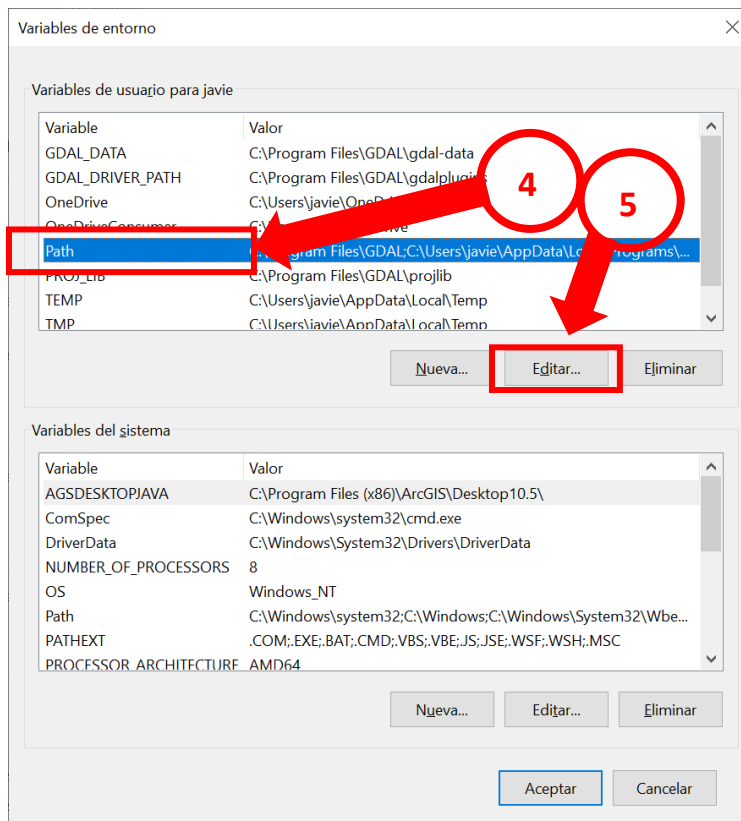

2. On the left panel, click on 'Advanced system settings':

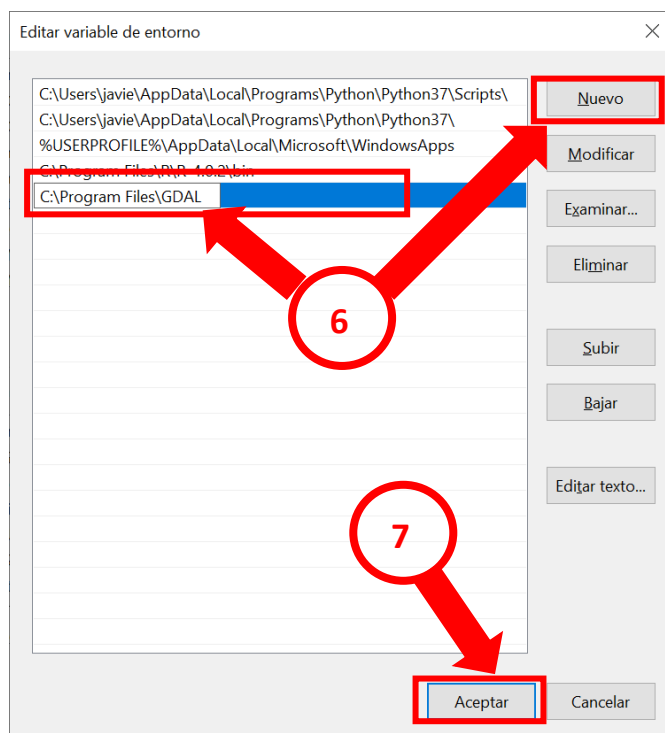3. On the new panel, click on 'Environment Variables':

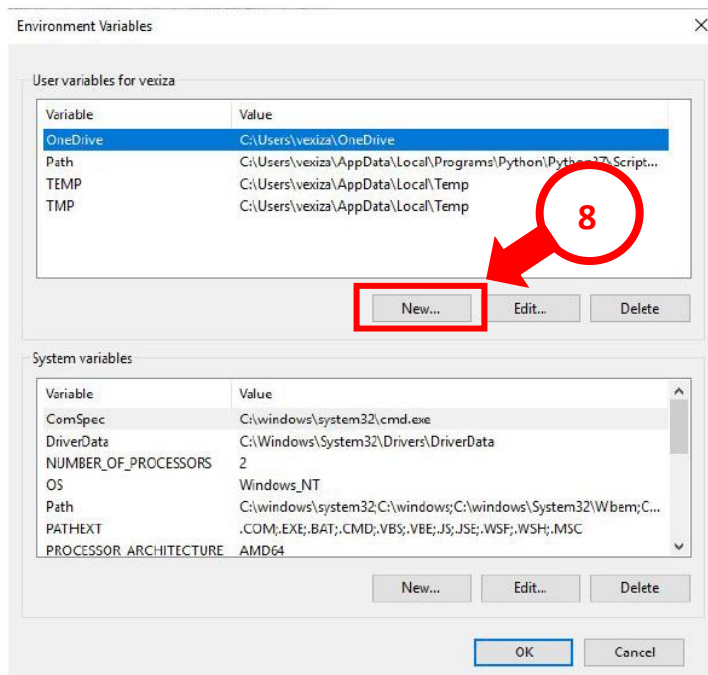4. On the 'System Variables' area, select the 'Path' variable
5. Click 'Edit':

6. In the following window, click on 'New' and paste the following text:
   C:\Program Files\GDAL

7. Click "OK" to close the window and back to the "Environment Variables."

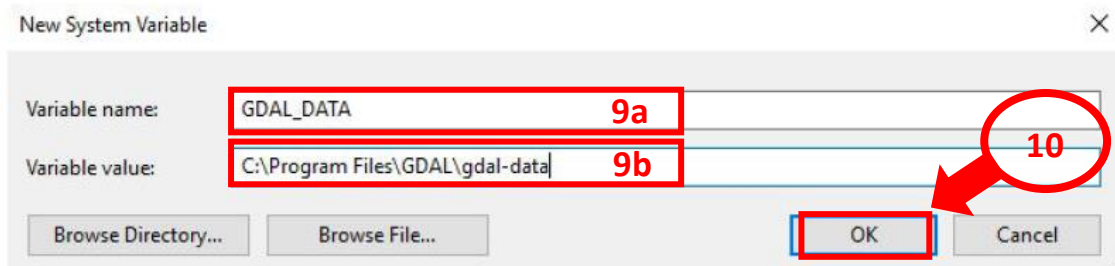In the following step, a new variable will be created.

8. In the "Environment Variables" window, click on "New":

9. A new window will be open, to create the variable type or paste the following text in the "Variable name" and "Variable value":

    a. Variable name: GDAL_DATA
    b. Variable Value: C:\Program Files\GDAL\gdal-data

10. Click "OK" to save the variable and close the window.

Repeat the process to create the following variables:

- GDAL_DRIVER:
  - NAME: GDAL_DRIVER_PATH
  - VALUE: C:\Program Files\GDAL\gdalplugins

- PROJ_LIB:
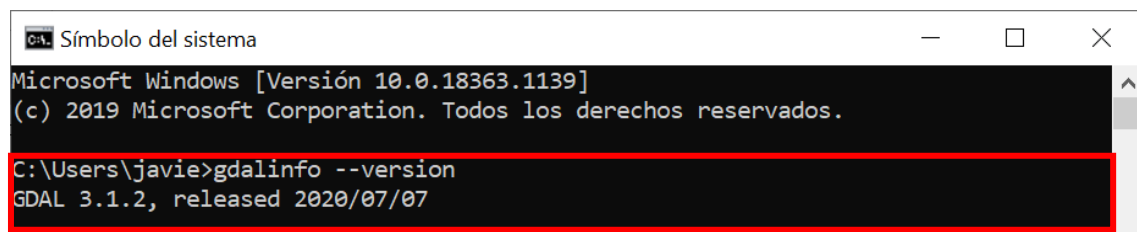 - NAME: PROJ_LIB
  - VALUE: C:\Program Files\GDAL\projlib

Click 'OK' in every open window.

To ensure the installation was successful, please:

11. Type "CMD" in the Windows application search bar
12. Open CMD
13. Type "gdalinfo --version" and click enter.
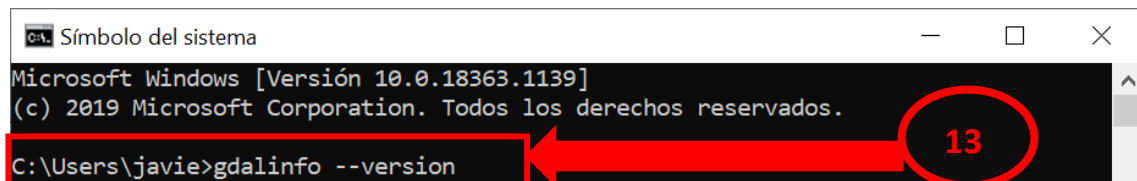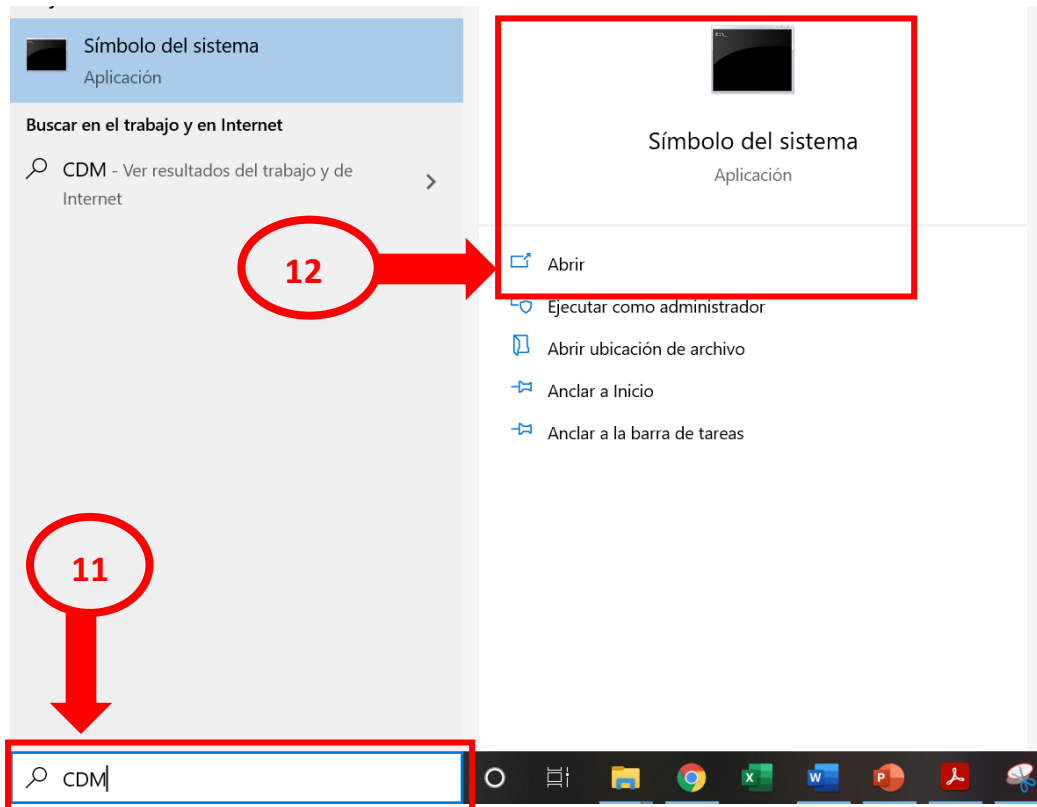
If the installation was successful, the following message must be returned:
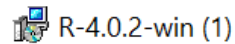
✓ Step 5: Download and install R

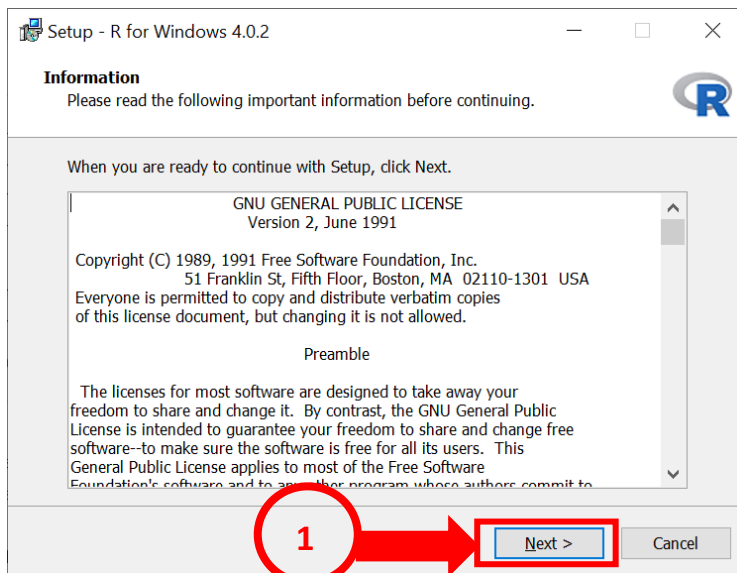To download the resource, click on the following link or copy it to the browser:

https://cran.rstudio.com/bin/windows/base/old/4.0.2/R-4.0.2-win.exe

Run the installation wizard clicking in the downloaded .exe file:
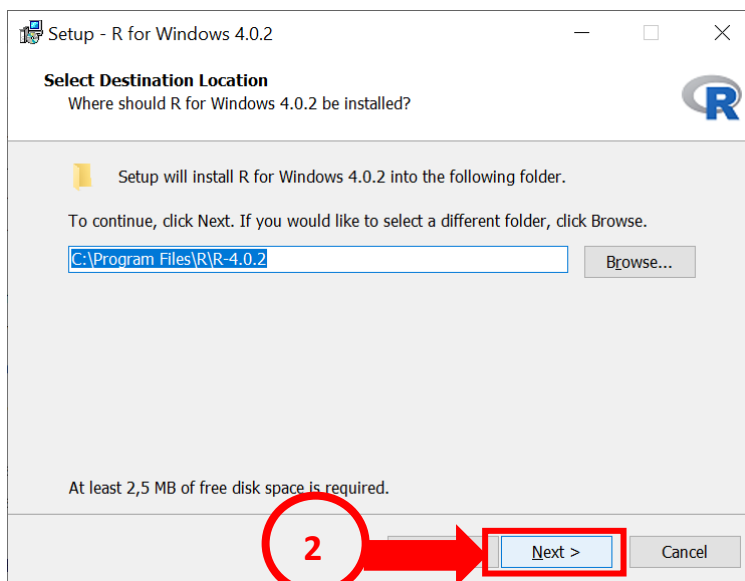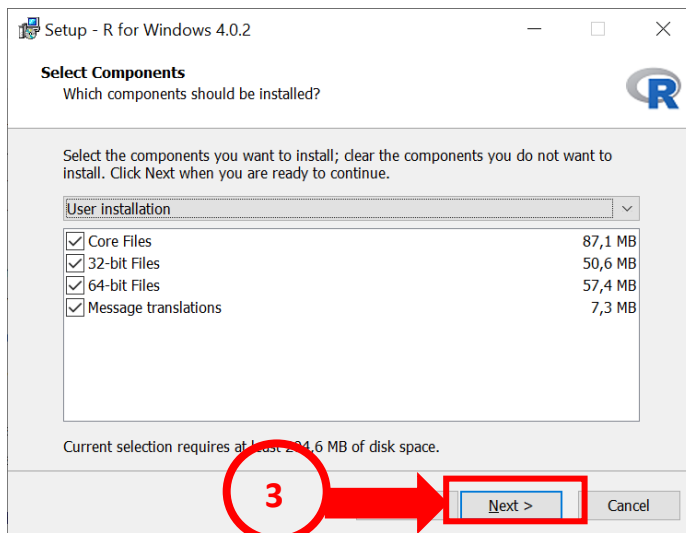
R-4.0.2-win (1)

Follow the default installation option:

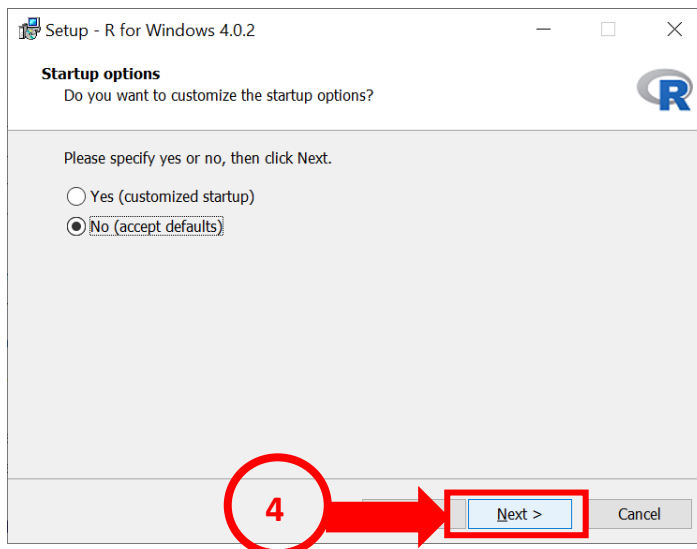1. Click 'Next' in the initial window.

2. Click 'Next' in the following window. Do not modify the destination location.
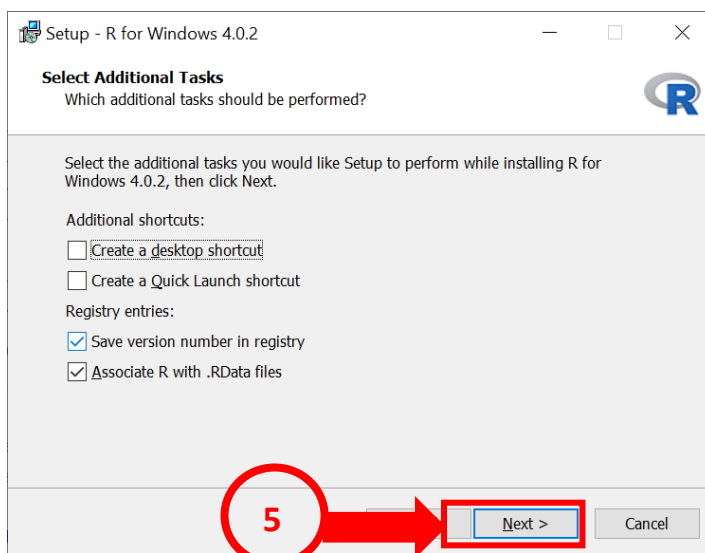
3. Click 'Next' in the following window. Do not modify the components to be installed.
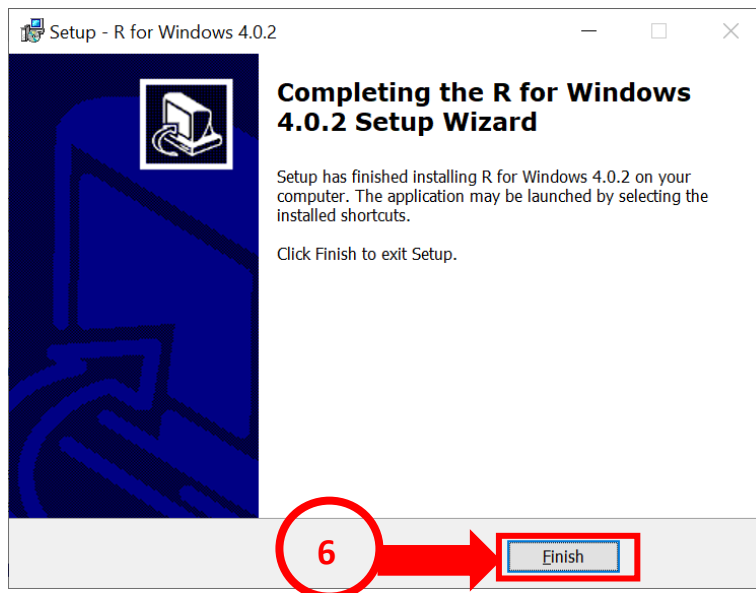

4. Click 'Next' in the following window. Do not modify the startup options.

5. Click 'Next' in the following window. Do not modify the additional tasks.
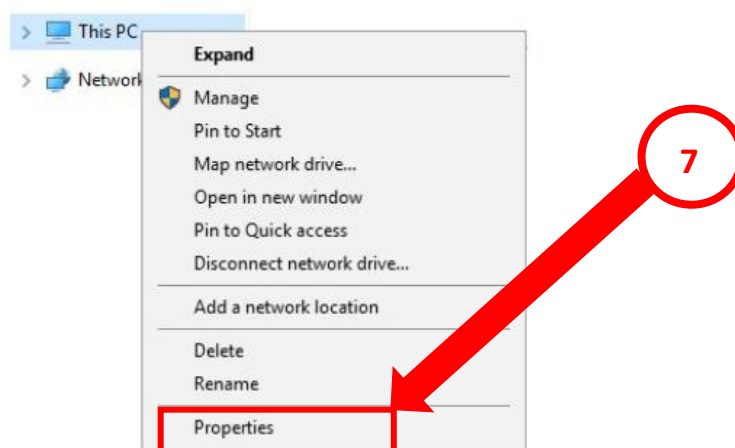
6. Once the installation is finished, click 'Finish' in the last window.
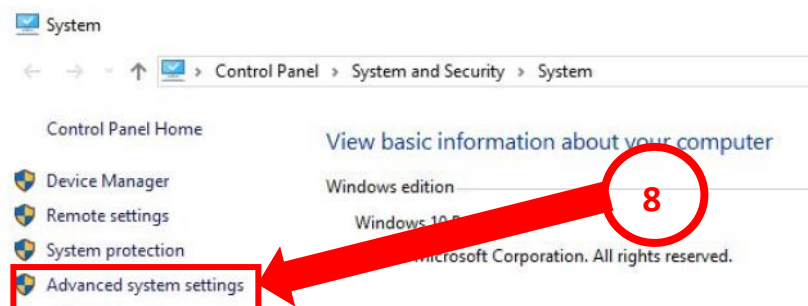

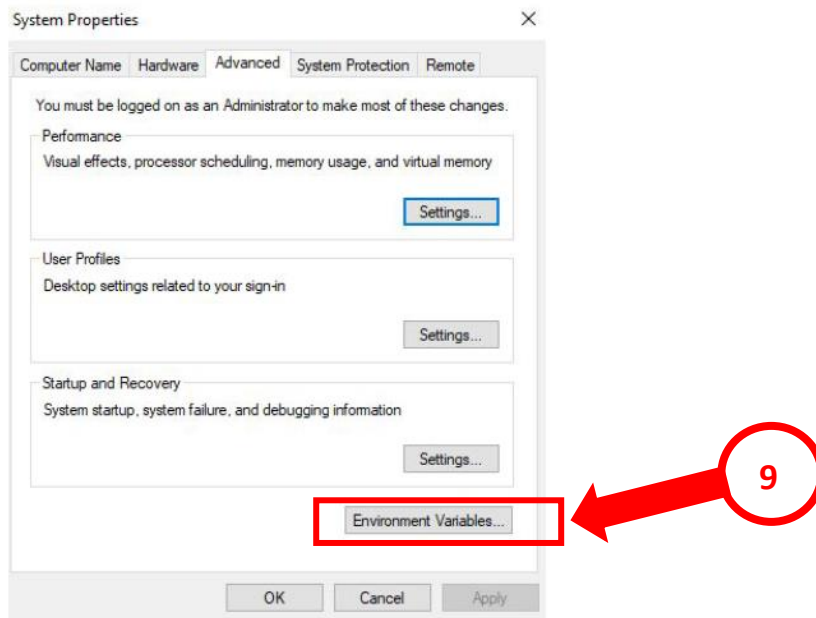After the installation, it is needed to create a new PATH as in Step 4.

7. Go to the 'File Explorer' and right-click on 'This PC' and open 'Properties'.
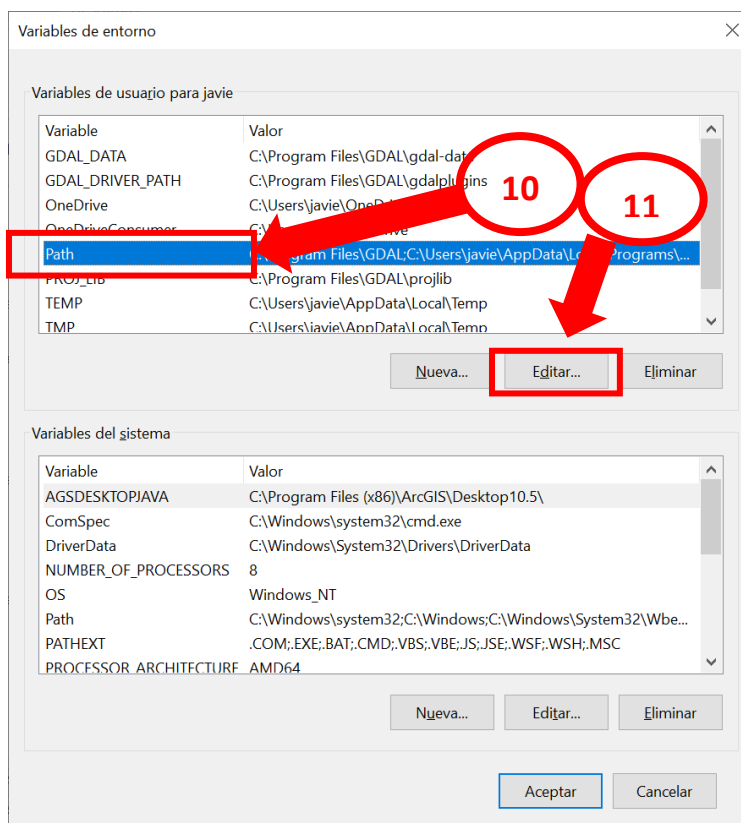

8. On the left panel, click on 'Advanced system settings':

9. On the new panel, click on 'Environment Variables':
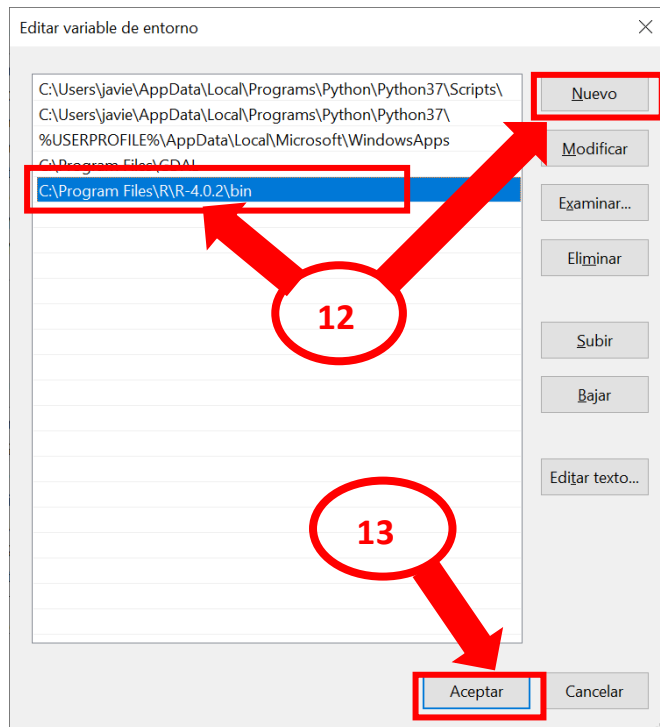

10. On the 'System Variables' area, select the 'Path' variable
11. Click 'Edit'

12. In the following window, click on 'New' and paste the following text:
C:\Program Files\R\R-4.0.2\bin

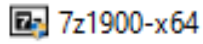13. Click "OK" to close the window and back to the "Environment Variables."
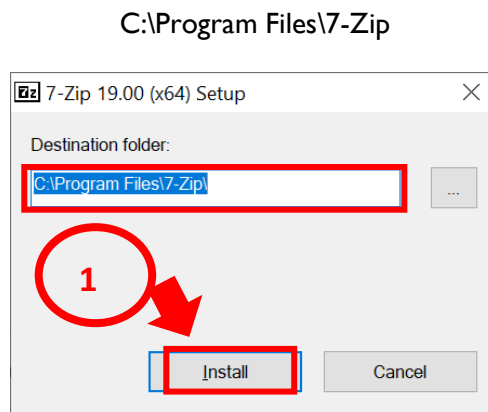
✓ Step 5: Download and install 7-Zip

To download the resource, click on the following link or copy it to the browser:

https://www.7-zip.org/a/7z1900-x64.exe

Run the installation wizard clicking in the downloaded .exe file:

7z1900-x64

1. In the initial window do not modify the default destination folder directory and click "Install":

C:\Program Files\7-Zip

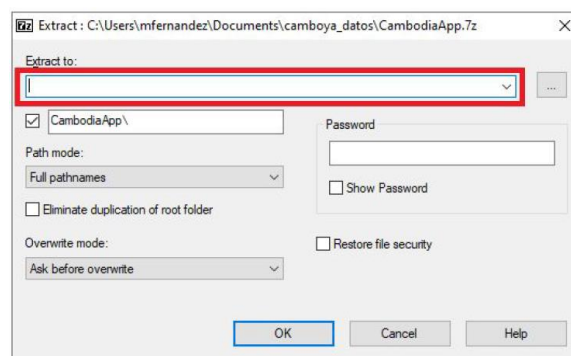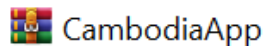2. Close the wizard when the installation finished.

✓ Step 6: Install R libraries

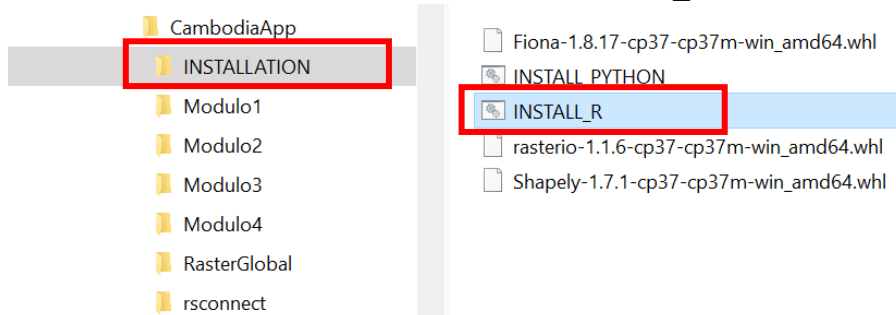R libraries are included in the CamboidaApp zip file. This script will install the following libraries:

- ○ shiny
- ○ shinyjs
- ○ uuid
- ○ sf
- ○ raster
- ○ rgdal
- ○ reticulate

To install the libraries follow the next steps:

1. Download and extract the project zip into a folder.

2. Go into the 'INSTALLATION' folder and run 'INSTALL_R.bat'.

3. The script will run in "CMD". When the installation is finished, the following message will appear: "Press any key to continue…". You will exit from the "CMD."
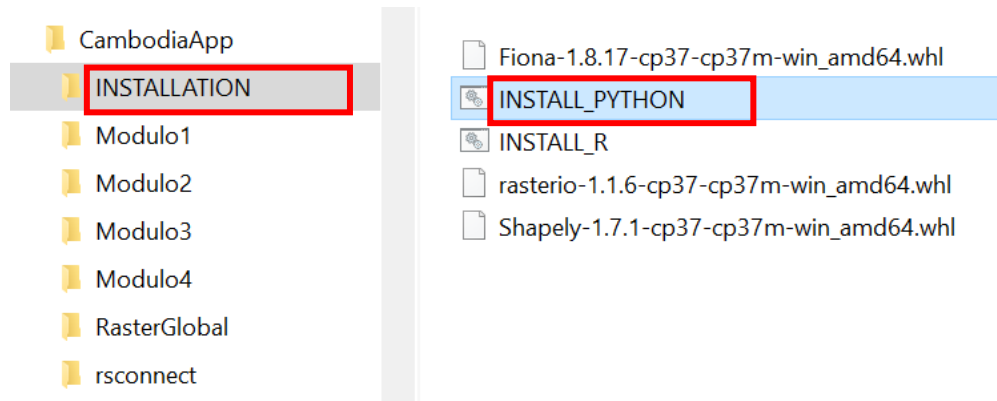
✓ Step 7: Install Python libraries

Python libraries are also included in the CamboidaApp zip file. The script will install the following libraries:

- o   Shapely
- o   Fiona
- o   Rasterio
- o   Rasterstats

To install the libraries follow the next steps:

1. Go into the 'INSTALLATION' folder and run 'INSTALL_PYTHON.bat'.

2. The script will run in "CMD". When the installation is finished, the following message will appear: "Press any key to continue…". You will exit from the "CMD."

✓ Step 8: Run the application

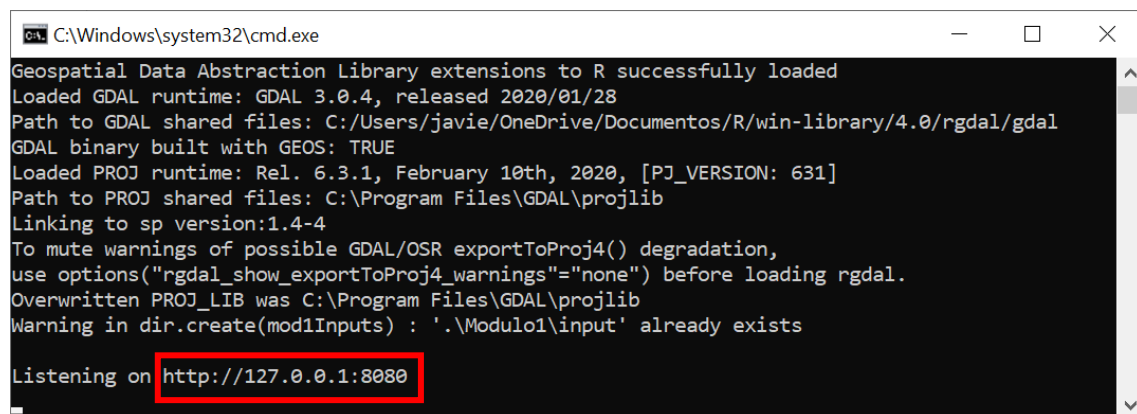Previous steps allow the user to run the application.

To start the application, the user must run the file "RUN.bat", located in the main folder "CambodiaApp".
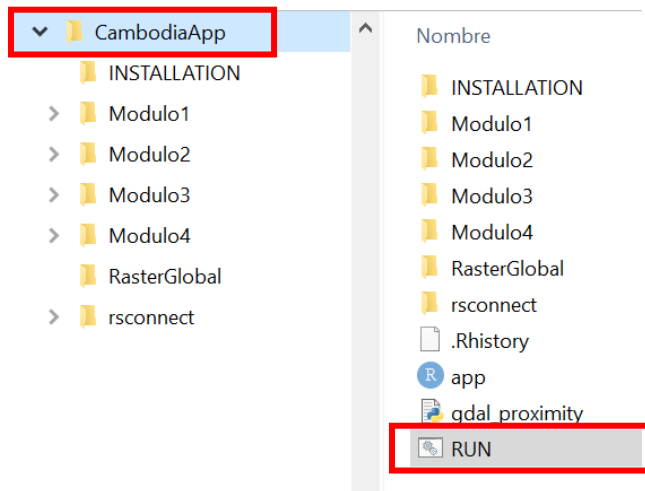
Then, a "CMD" window will be open, and the script will run using Shiny and on a local server.

It will prompt the address when it finishes starting up:

http://127.0.0.1:8080

To open the Deforestation Risk Map Tool, type that address in your web browser.

During the execution of the application, you have to keep the cmd open.

vexiza

JavierCano

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