

Lo que debe hacer antes de asistir al webinar...

1. Crear una cuenta en Earthdata si aún no tiene una (instrucciones a continuación).
2. Crear una cuenta de Google si desea usar Jupyter Notebooks como en la demostración durante el webinar (tutorial opcional del Notebook a continuación si desea ver lo que vamos a cubrir).
3. Ver la Sesión No. 2 de nuestro webinar nivel introductorio, “Un Vistazo a Cómo la NASA Mide la Contaminación del Aire.” Esta sesión cubre:
 - ¿Qué son los Aerosoles?
 - Interpretación de Imágenes de Aerosoles: Qué hacer y qué no hacer
 - Un recorrido por los recursos de la NASA para Generar sus Propias Visualizaciones

<https://appliedsciences.nasa.gov/join-mission/training/english/inside-look-how-nasa-measures-air-pollution> (English)

<https://appliedsciences.nasa.gov/join-mission/training/spanish/un-vistazo-como-la-nasa-mide-la-contaminacion-del-aire-0> (español)

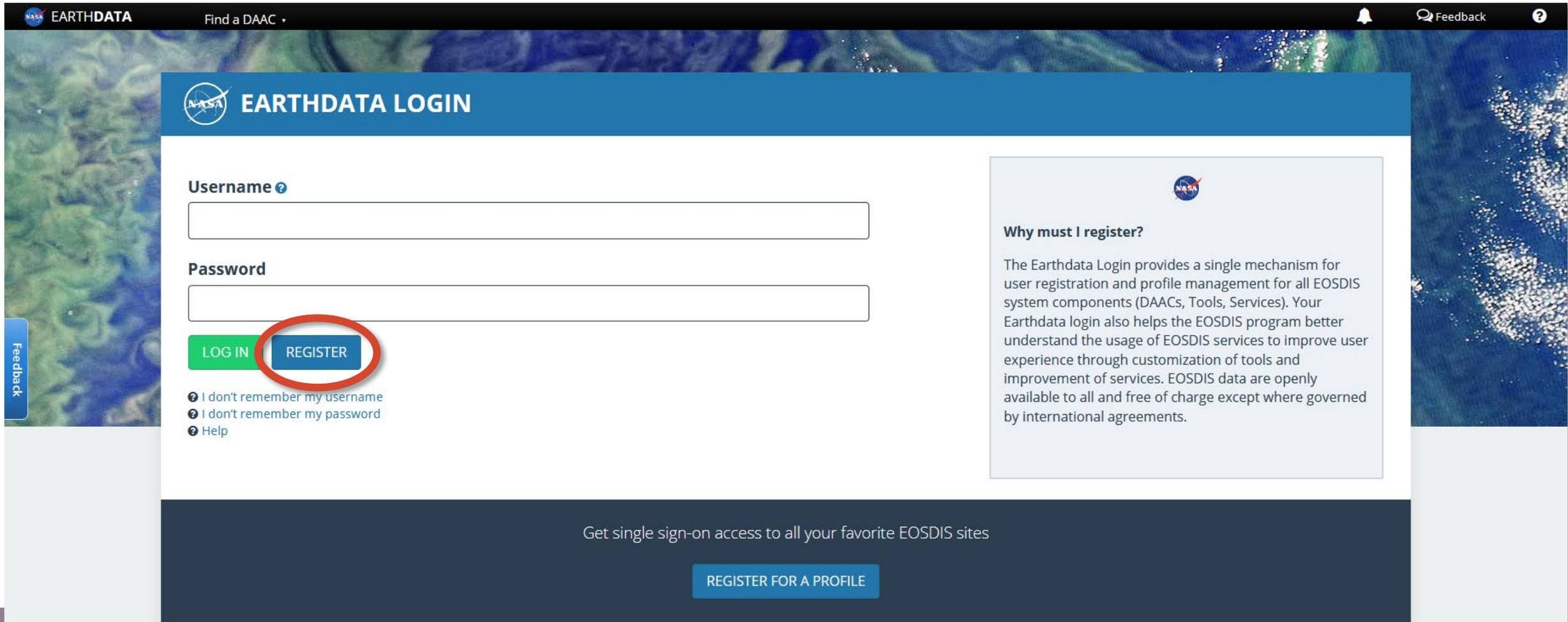




Crear una Cuenta en Earthdata

Crear una Cuenta en Earthdata

Paso 1: Vaya a <https://urs.earthdata.nasa.gov/> y haga clic en “Register.”



The screenshot shows the Earthdata Login page. At the top, there is a navigation bar with the NASA Earthdata logo, a search bar for DAACs, and links for Feedback and Help. The main content area is titled "EARTHDATA LOGIN" and features a form with fields for Username and Password. Below the form are two buttons: "LOG IN" (green) and "REGISTER" (blue), with the "REGISTER" button circled in red. There are also links for "I don't remember my username", "I don't remember my password", and "Help". To the right of the form is a text box titled "Why must I register?" which explains the benefits of registration. At the bottom of the page, there is a dark blue banner with the text "Get single sign-on access to all your favorite EOSDIS sites" and a "REGISTER FOR A PROFILE" button.

EARTHDATA LOGIN

Username 

Password

LOG IN **REGISTER**

-  I don't remember my username
-  I don't remember my password
-  Help

Why must I register?

The Earthdata Login provides a single mechanism for user registration and profile management for all EOSDIS system components (DAACs, Tools, Services). Your Earthdata login also helps the EOSDIS program better understand the usage of EOSDIS services to improve user experience through customization of tools and improvement of services. EOSDIS data are openly available to all and free of charge except where governed by international agreements.

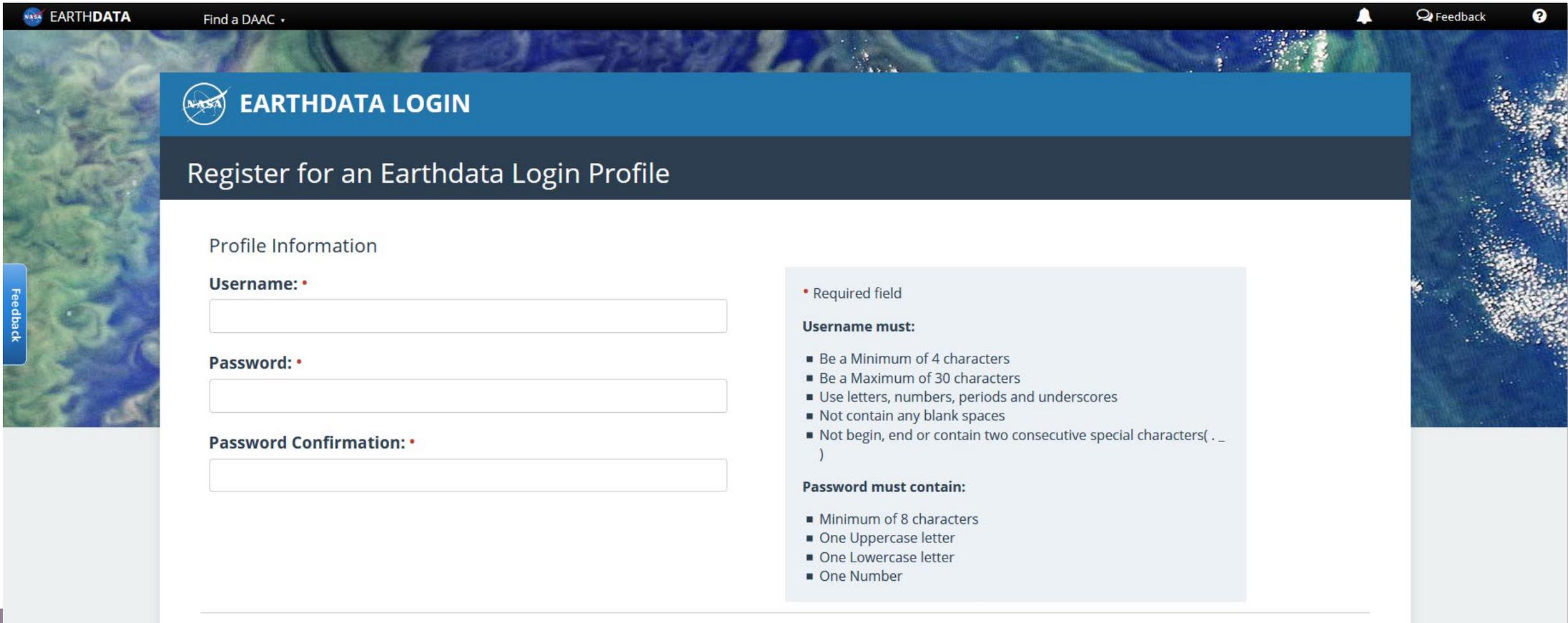
Get single sign-on access to all your favorite EOSDIS sites

REGISTER FOR A PROFILE



Crear una Cuenta en Earthdata

Paso 2: Llene el formulario de registraci3n y haga clic en “Register for Earthdata Login”.



EARTHDATA LOGIN

Register for an Earthdata Login Profile

Profile Information

Username:

Password:

Password Confirmation:

Required field

Username must:

- Be a Minimum of 4 characters
- Be a Maximum of 30 characters
- Use letters, numbers, periods and underscores
- Not contain any blank spaces
- Not begin, end or contain two consecutive special characters(. _)

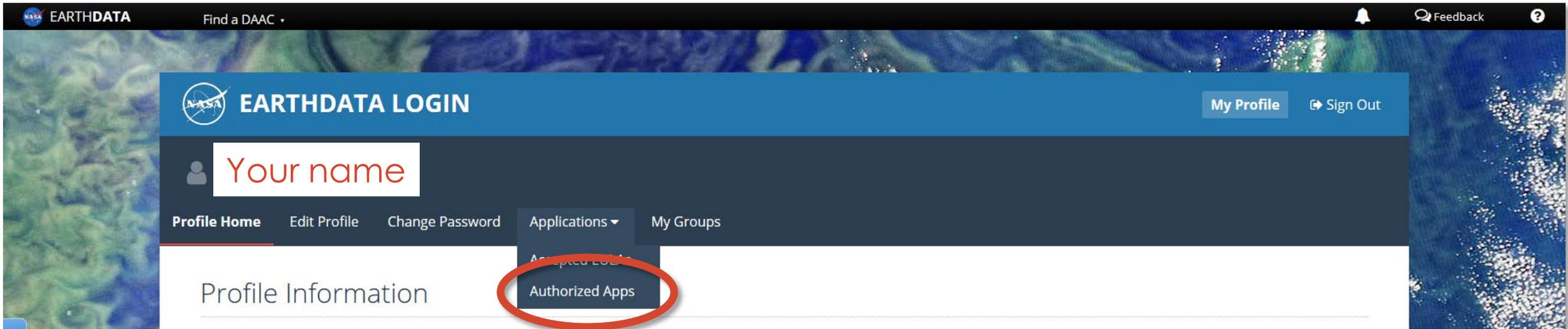
Password must contain:

- Minimum of 8 characters
- One Uppercase letter
- One Lowercase letter
- One Number



Agregar Aplicaciones

Paso 1: Después de ingresar, verá su pantalla de perfil, haga clic en Applications → Authorized Apps.



Agregar Aplicaciones

Paso 2: Desplácese hacia abajo y haga clic en “Approve More Applications.”

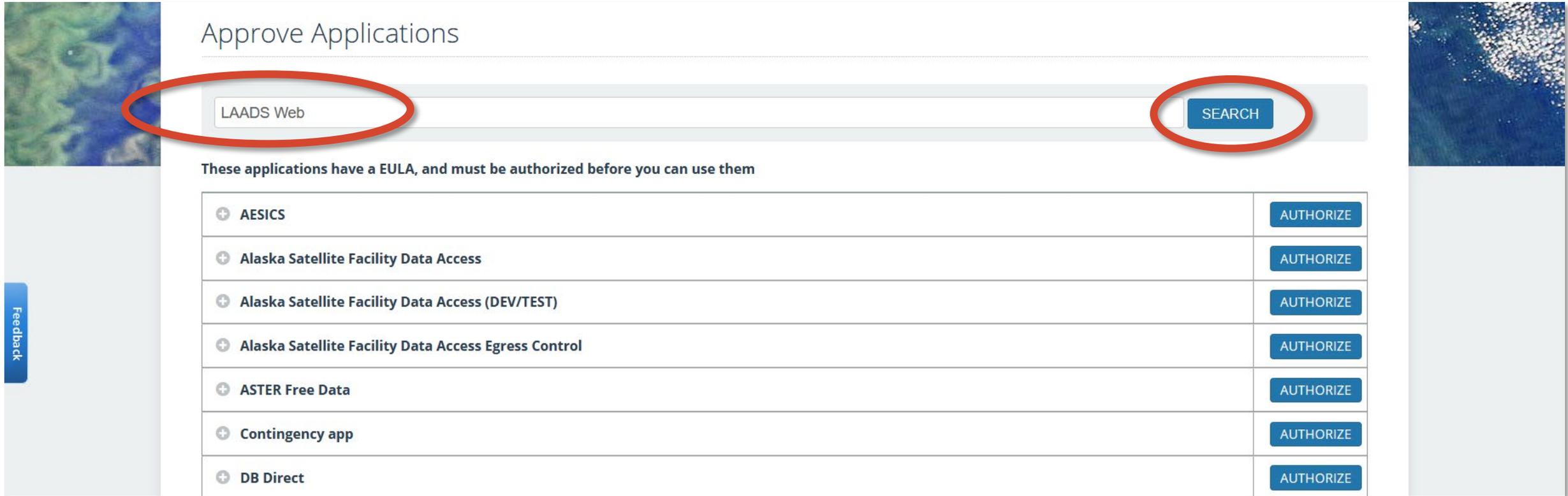
GES DISC	 
Earthdata Search Prod (new)	 
CMR SSO APP for EDL in PROD	
Earthdata Search PROD (Serverless)	 
SEDAC Website	 
ORNL DAAC apache module	 

APPROVE MORE APPLICATIONS



Agregar Aplicaciones

Paso 3: Busque “LAADS Web” y haga clic en “Search.”



Approve Applications

LAADS Web

SEARCH

These applications have a EULA, and must be authorized before you can use them

+ AESICS	AUTHORIZE
+ Alaska Satellite Facility Data Access	AUTHORIZE
+ Alaska Satellite Facility Data Access (DEV/TEST)	AUTHORIZE
+ Alaska Satellite Facility Data Access Egress Control	AUTHORIZE
+ ASTER Free Data	AUTHORIZE
+ Contingency app	AUTHORIZE
+ DB Direct	AUTHORIZE

Feedback



Agregar Aplicaciones

Paso 4: Señale 'Show Applications that can be auto-authorized' y haga clic en "Authorize."

The screenshot displays the 'Approve Applications' interface in the Earthdata Login system. At the top, the NASA logo and 'EARTHDATA LOGIN' are visible, along with user options 'My Profile' and 'Sign Out'. The user's name, 'Melanie Cook', is shown, with navigation links for 'Profile Home', 'Edit Profile', 'Change Password', 'Applications', and 'My Groups'. A search bar with a 'SEARCH' button is present. Under the 'Application Results' section, the checkbox 'Show applications that can be auto-authorized' is checked and circled in red. Below this, a table entry for 'LAADS Web' is shown, with an 'AUTHORIZE' button circled in red. A footer note reads: 'For questions regarding the EOSDIS Earthdata Login, please contact Earthdata Support.'



Agregar Aplicaciones

Paso 5: Autorice cualesquiera atributos de usuario adicionales y haga clic en “Authorize”

Authorize Application

Additional user attributes required by the application.
Please provide the following information to be able to authorize and use the application.

Sentinel3: ⓘ •

1

Meris: ⓘ •

1

Application Administrators may send out occasional emails notifying users about application updates or alerts. Yes, I would like to be notified.

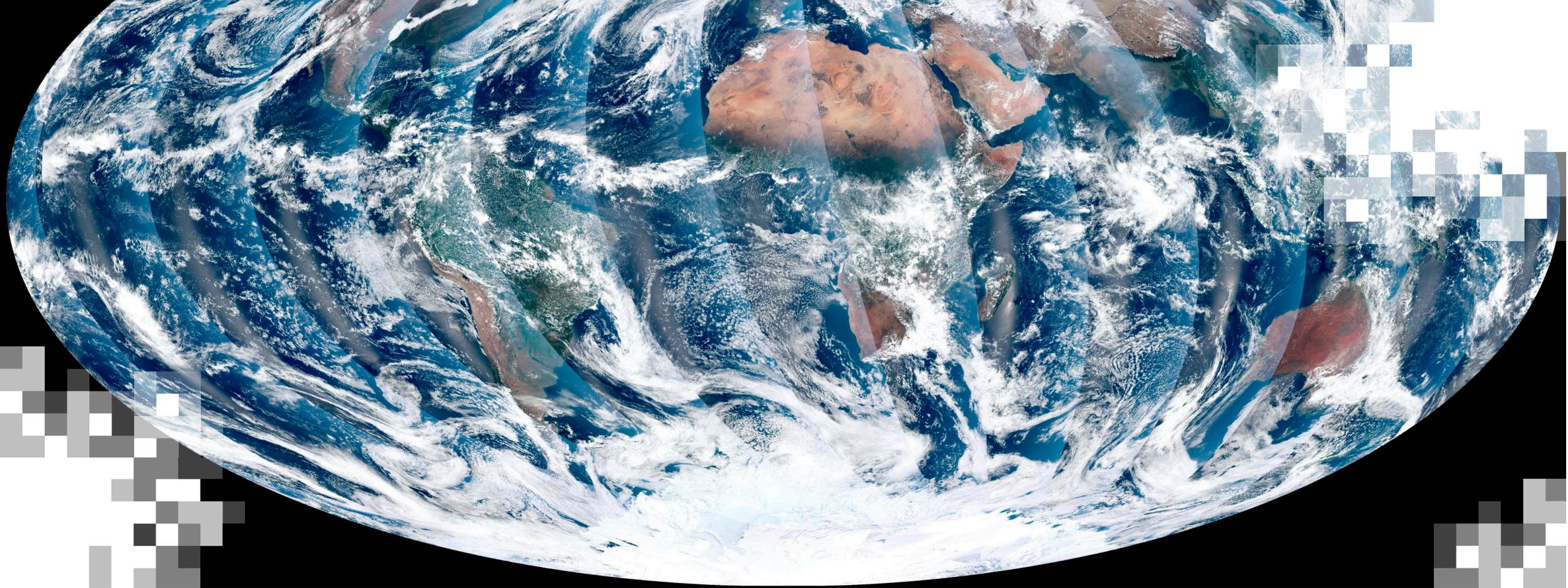
AUTHORIZE

NO THANKS

For questions regarding the EOSDIS Earthdata Login, please contact [Earthdata Support](#)

V 4.123 [Home](#) [Register](#) [Documentation](#) [NASA](#)





Descargar Jupyter Notebooks y Guardar en Su
Computadora

Descargar Jupyter Notebooks y Guardar en Su Computadora

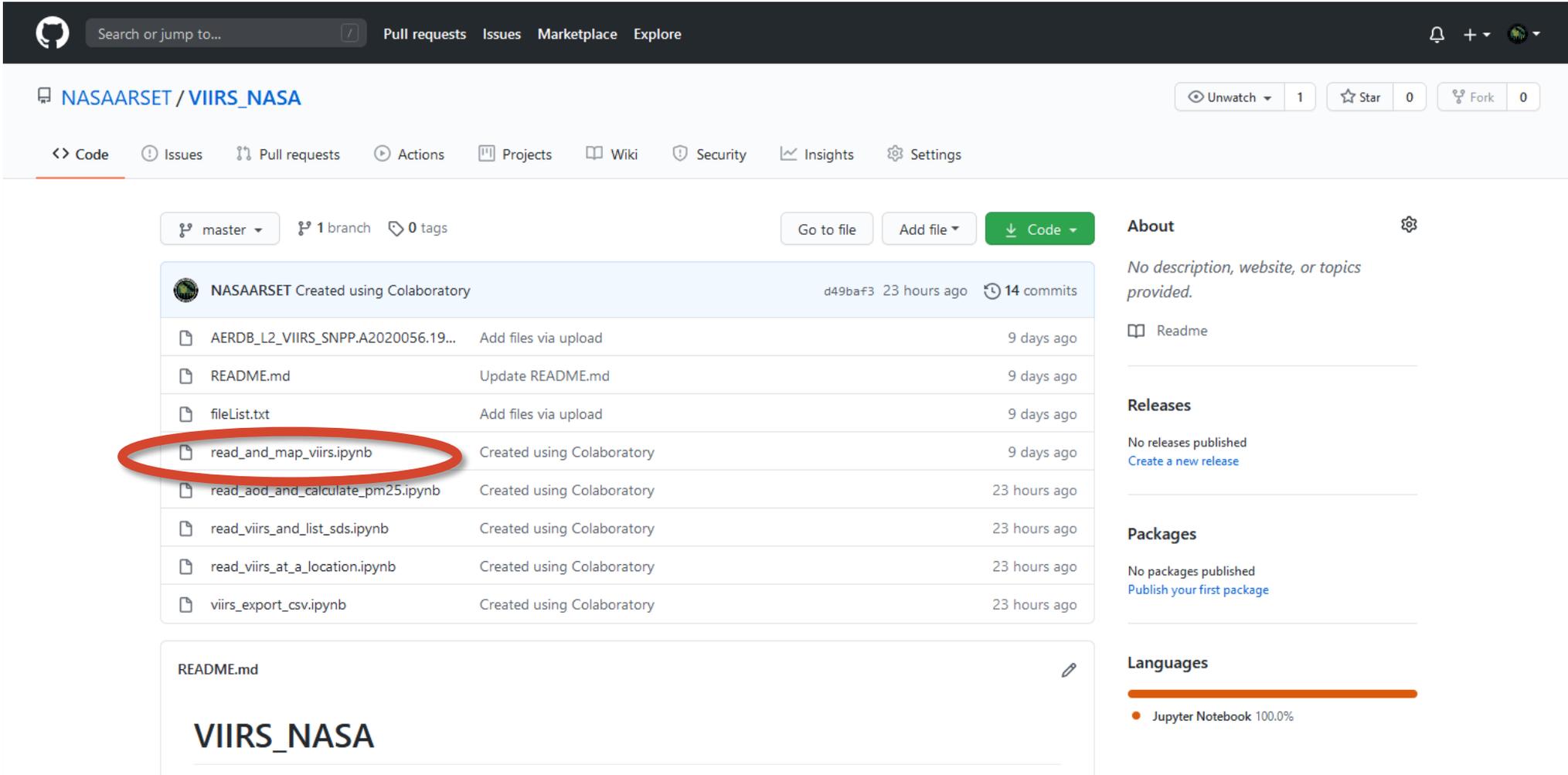
Paso 1: Vaya a <https://github.com/NASAARSET/>, haga clic en VIIRS_NASA

The screenshot displays the GitHub profile for NASAARSET. At the top, there is a navigation bar with the GitHub logo, a search bar, and links for Pull requests, Issues, Marketplace, and Explore. Below the navigation bar, the user's profile is shown with a circular logo for the Applied Remote Sensing Training Program. The profile includes a 'ProTip!' message, a 'Popular repositories' section with 'VIIRS_NASA' highlighted by a red circle, and a contribution activity calendar for 2020. The calendar shows 18 contributions in the last year, with a '2020' button to view the full year's activity.



Descargar Jupyter Notebooks y Guardar en Su Computadora

Paso 2: Haga clic en read_and_map_viirs.ipynb



The screenshot shows the GitHub interface for the repository NASAARSET/VIIRS_NASA. The repository is on the master branch and has 14 commits. The file list includes:

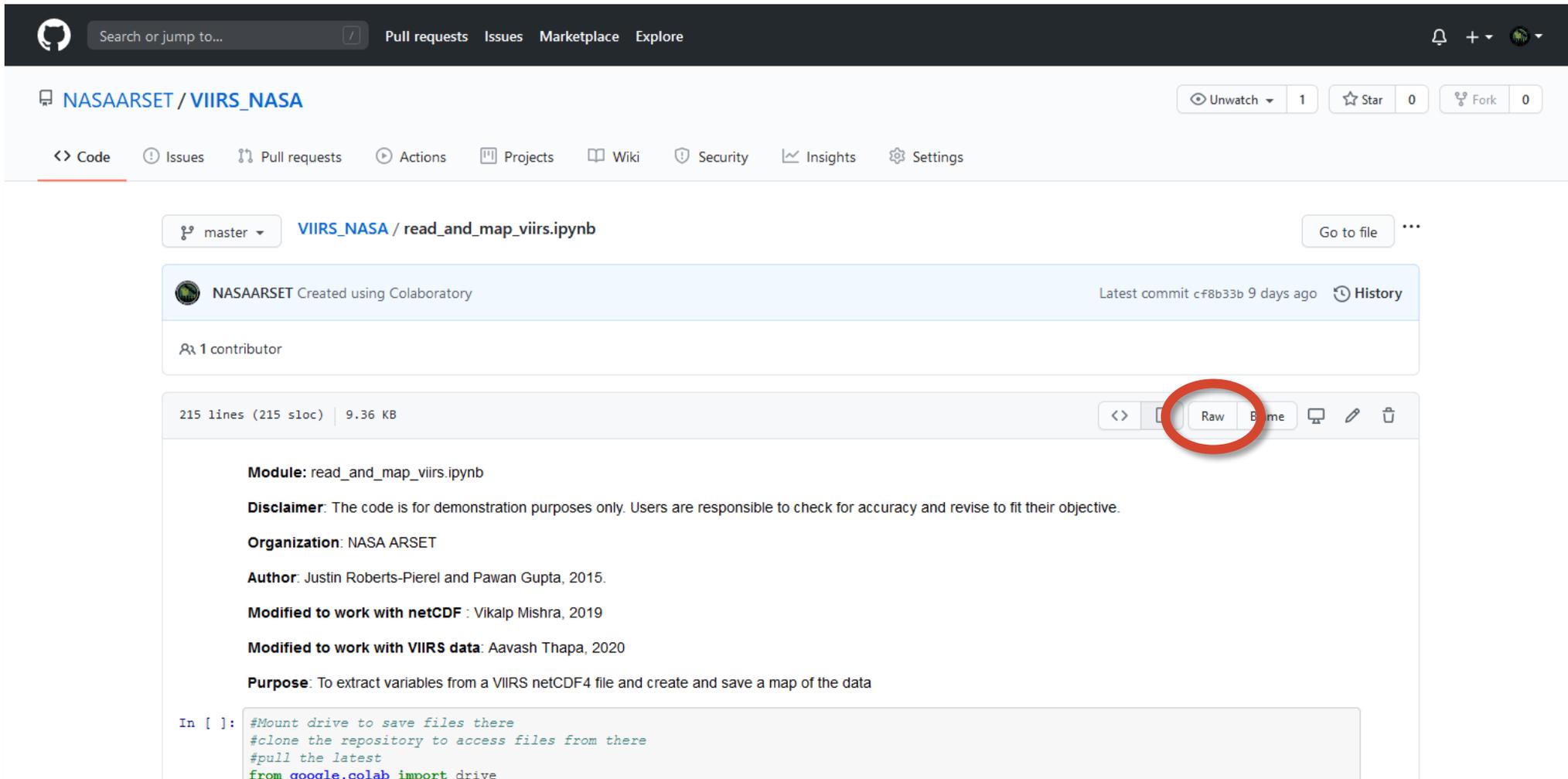
File Name	Commit Message	Time Ago
AERDB_L2_VIIRS_SNPP.A2020056.19...	Add files via upload	9 days ago
README.md	Update README.md	9 days ago
fileList.txt	Add files via upload	9 days ago
read_and_map_viirs.ipynb	Created using Colaboratory	9 days ago
read_aod_and_calculate_pm25.ipynb	Created using Colaboratory	23 hours ago
read_viirs_and_list_sds.ipynb	Created using Colaboratory	23 hours ago
read_viirs_at_a_location.ipynb	Created using Colaboratory	23 hours ago
viirs_export_csv.ipynb	Created using Colaboratory	23 hours ago

The file **read_and_map_viirs.ipynb** is circled in red. The repository also includes a README.md file with the title **VIIRS_NASA**.



Descargar Jupyter Notebooks y Guardar en Su Computadora

Paso 3: Arriba del código, haga clic en 'Raw'. Esto visualizará el código en bruto



The screenshot shows the GitHub interface for the repository NASAARSET/VIIRS_NASA. The file 'read_and_map_viirs.ipynb' is selected. The 'Raw' button is circled in red. The code content is visible below.

215 lines (215 sloc) | 9.36 KB

Module: read_and_map_viirs.ipynb

Disclaimer: The code is for demonstration purposes only. Users are responsible to check for accuracy and revise to fit their objective.

Organization: NASA ARSET

Author: Justin Roberts-Pierel and Pawan Gupta, 2015.

Modified to work with netCDF : Vikalp Mishra, 2019

Modified to work with VIIRS data: Aavash Thapa, 2020

Purpose: To extract variables from a VIIRS netCDF4 file and create and save a map of the data

```
In [ ]: #Mount drive to save files there
#clone the repository to access files from there
#pull the latest
from google.colab import drive
```



Descargar Jupyter Notebooks y Guardar en Su Computadora

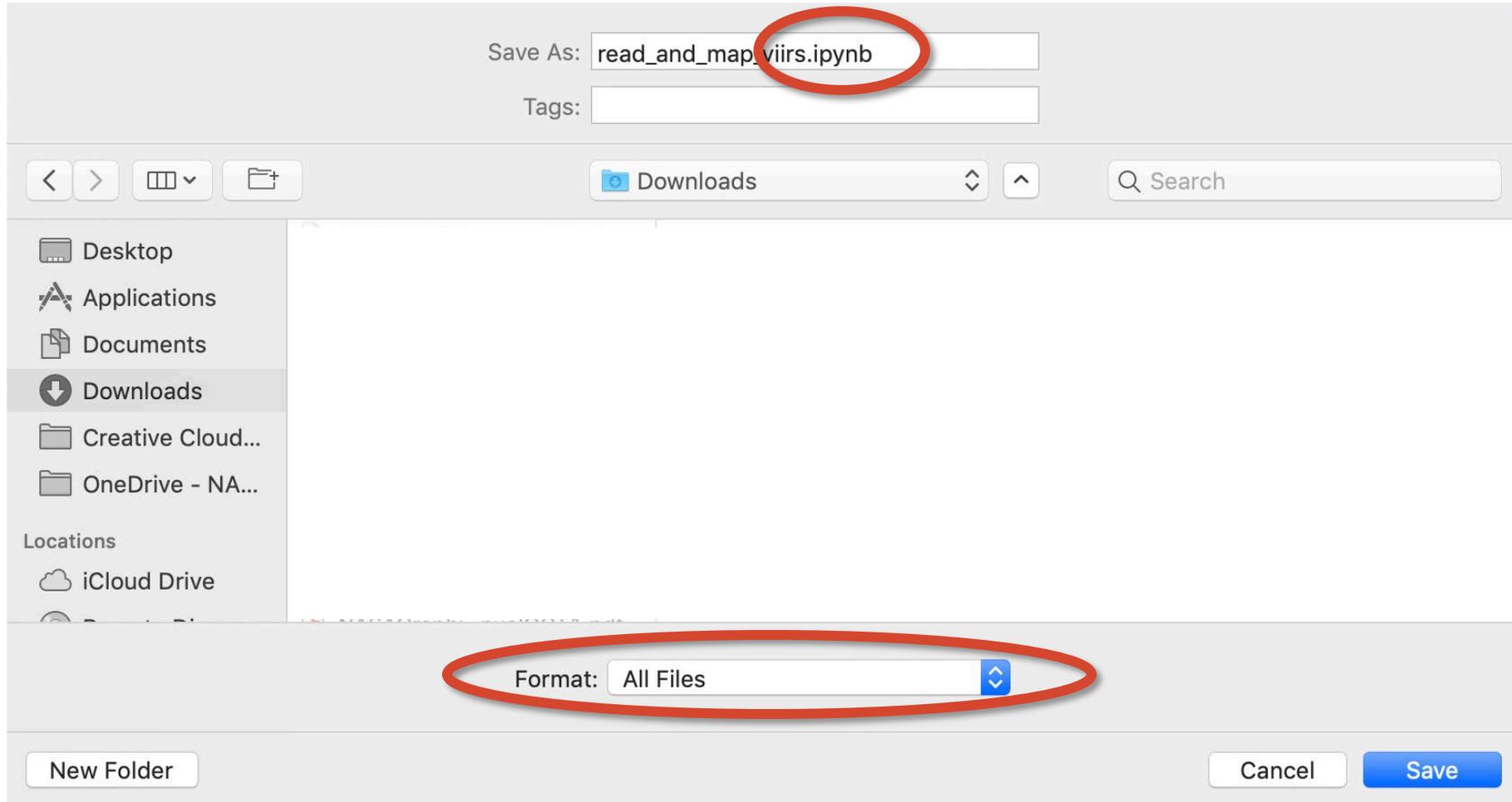
Paso 4: Haga clic en Ctrl+S para guardar en su computadora como .ipynb.

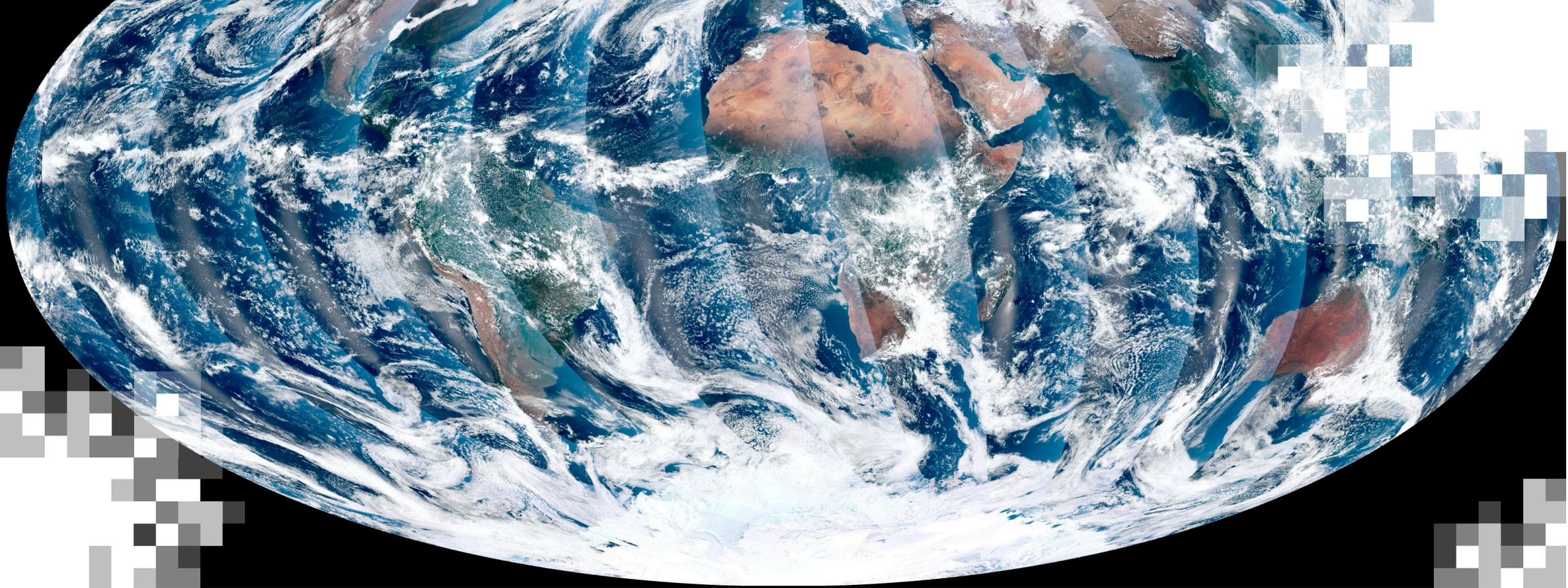
```
{
  "nbformat": 4,
  "nbformat_minor": 0,
  "metadata": {
    "colab": {
      "name": "read_and_map_viirs.ipynb",
      "provenance": [],
      "collapsed_sections": []
    },
    "kernelspec": {
      "name": "python3",
      "display_name": "Python 3"
    }
  },
  "cells": [
    {
      "cell_type": "markdown",
      "metadata": {
        "id": "im8zRbMslQLL"
      },
      "source": [
        "***Module** read_and_map_viirs.ipynb\n",
        "\n",
        "***Disclaimer**": The code is for demonstration purposes only. Users are responsible to check for accuracy and revise to fit their objective.\n",
        "\n",
        "***Organization**": NASA ARSET\n",
        "\n",
        "***Ruthor**": Justin Roberts-Pierel and Pawan Gupta, 2015.\n",
        "\n",
        "***Modified to work with netCDF** : Vikalp Mishra, 2019 \n",
        "\n",
        "***Modified to work with VIIRS data**": Aavash Thapa, 2020\n",
        "\n",
        "***Purpose**": To extract variables from a VIIRS netCDF4 file and create and save a map of the data"
      ]
    },
    {
      "cell_type": "code",
      "metadata": {
        "id": "Y7UD2gkECz6c"
      },
      "source": [
        "#Mount drive to save files there\n",
        "#clone the repository to access files from there\n",
        "#pull the latest\n",
        "from google.colab import drive\n",
        "drive.mount('/content/drive', force_remount=True)\n",
        "! git clone https://github.com/NASAARSET/VIIRS_NASA.git\n",
        "! git -C VIIRS_NASA/ pull"
      ]
    }
  ]
}
```



Descargar Jupyter Notebooks y Guardar en Su Computadora

¡Asegúrese guardar el archivo con la extensión “.ipynb”!

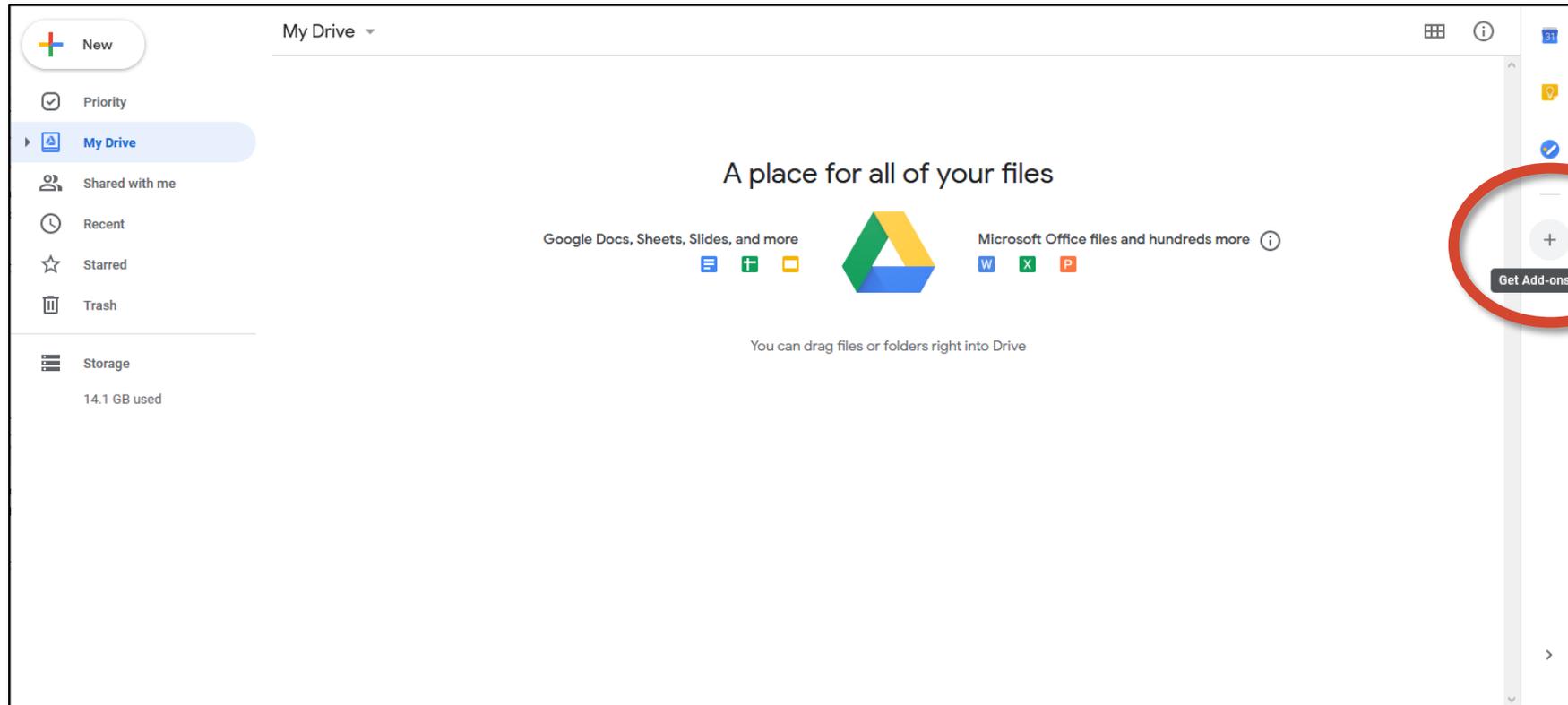




Instalar el Complemento Google Colaboratory y
Agregar Notebooks a la Carpeta 'Colab Notebooks' en
Google Drive

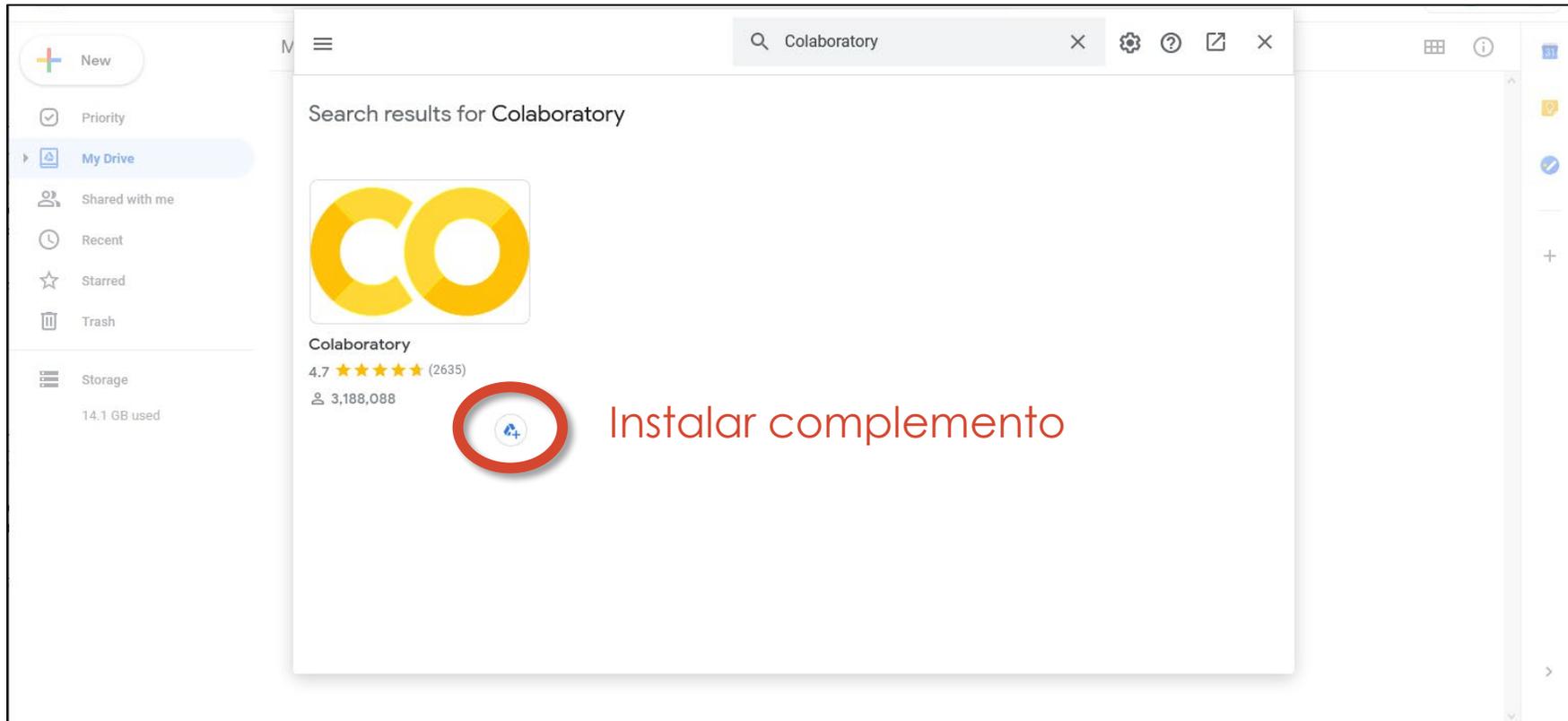
Agregar Sus Cuadernos (Notebooks) a Google Drive

Paso 1: Vaya a drive.google.com and haga clic en el + a la derecha para agregar complementos.



Agregar Sus Cuadernos (Notebooks) a Google Drive

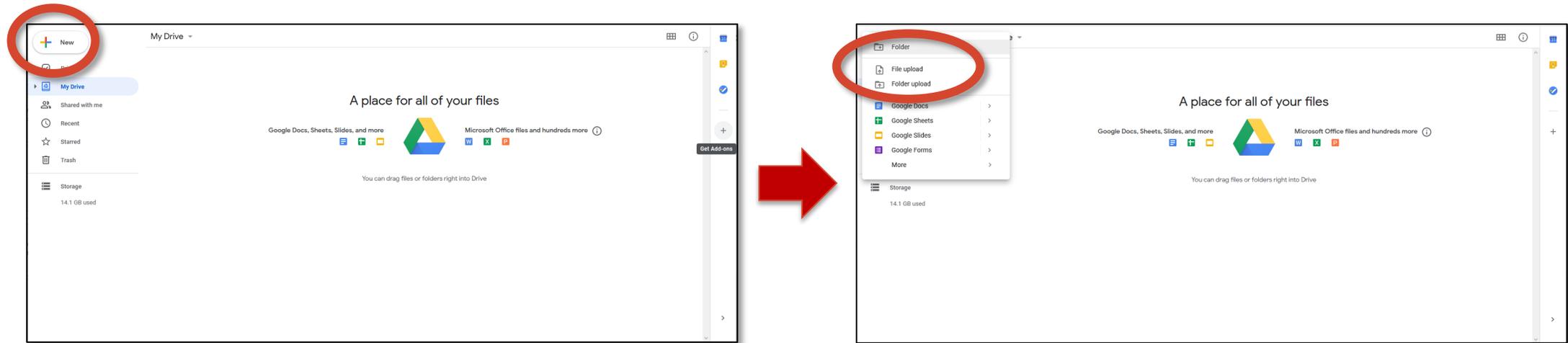
Paso 2: Busque “Colaboratory” e instale.



Agregar Sus Cuadernos (Notebooks) a Google Drive

Paso 3: Agregar Notebook a Google Drive arrastrando archivos o haciendo clic en New → File Upload.

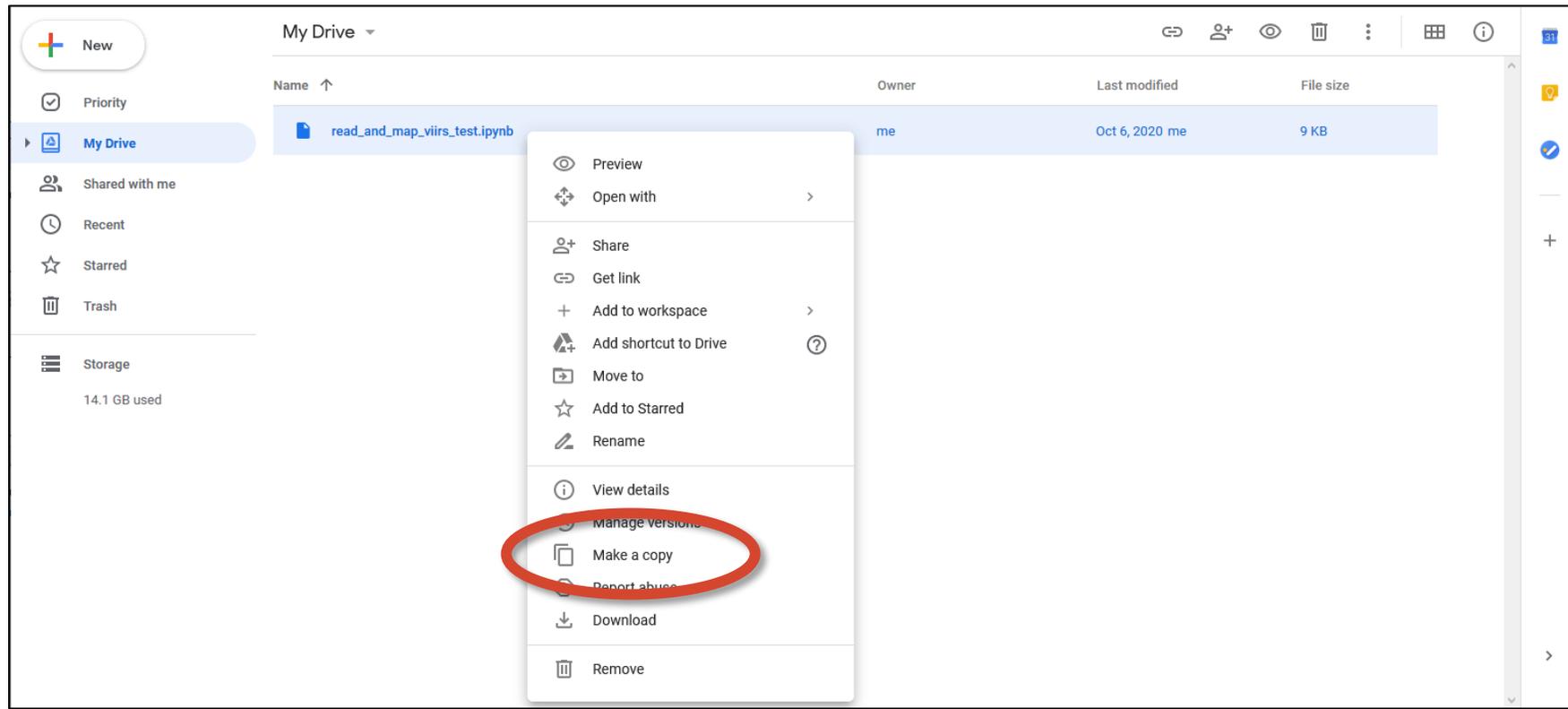
* Si ya tenía Colaboratory instalado, agregue el archivo a su carpeta Colab Notebooks. *

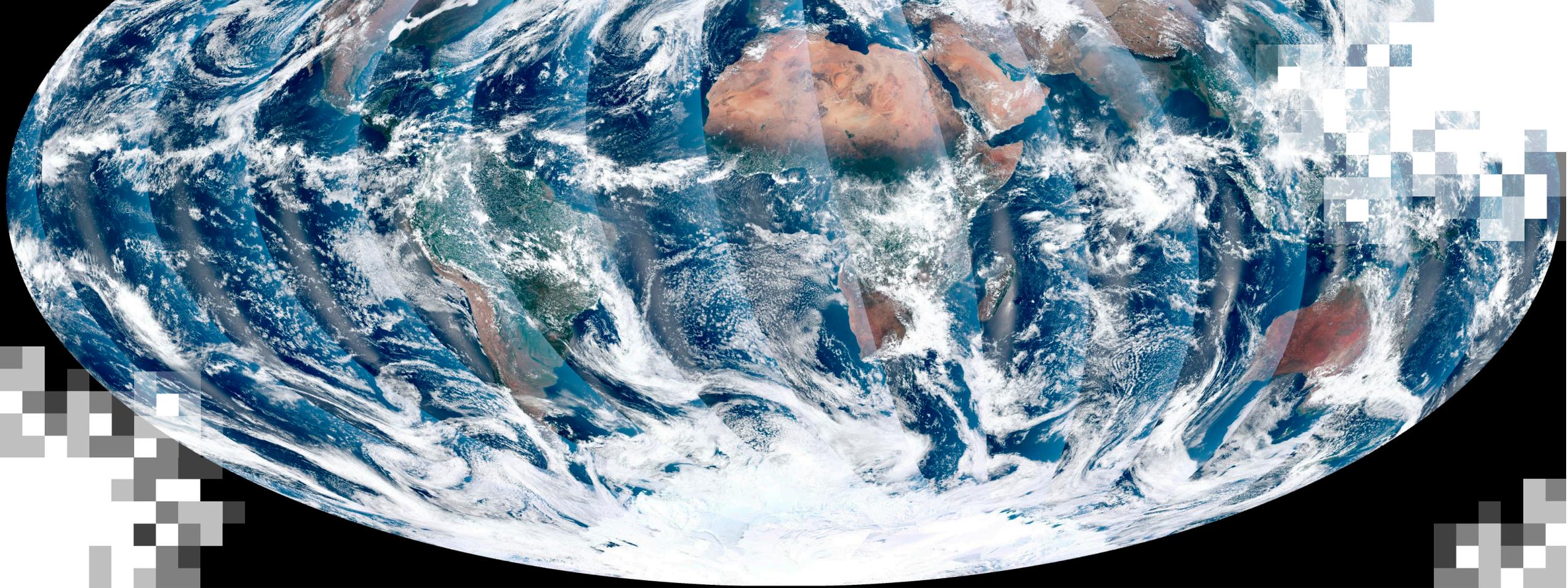


Agregar Sus Cuadernos (Notebooks) a Google Drive

Paso 3a: Haga clic con el botón derecho en su archivo y haga clic en “Make a copy” (hacer copia). Esto creará la carpeta Colab Notebooks en su Google Drive. La copia del archivo estará dentro de esta carpeta.

* Este paso es necesario si tuvo que instalar Colaboratory. *

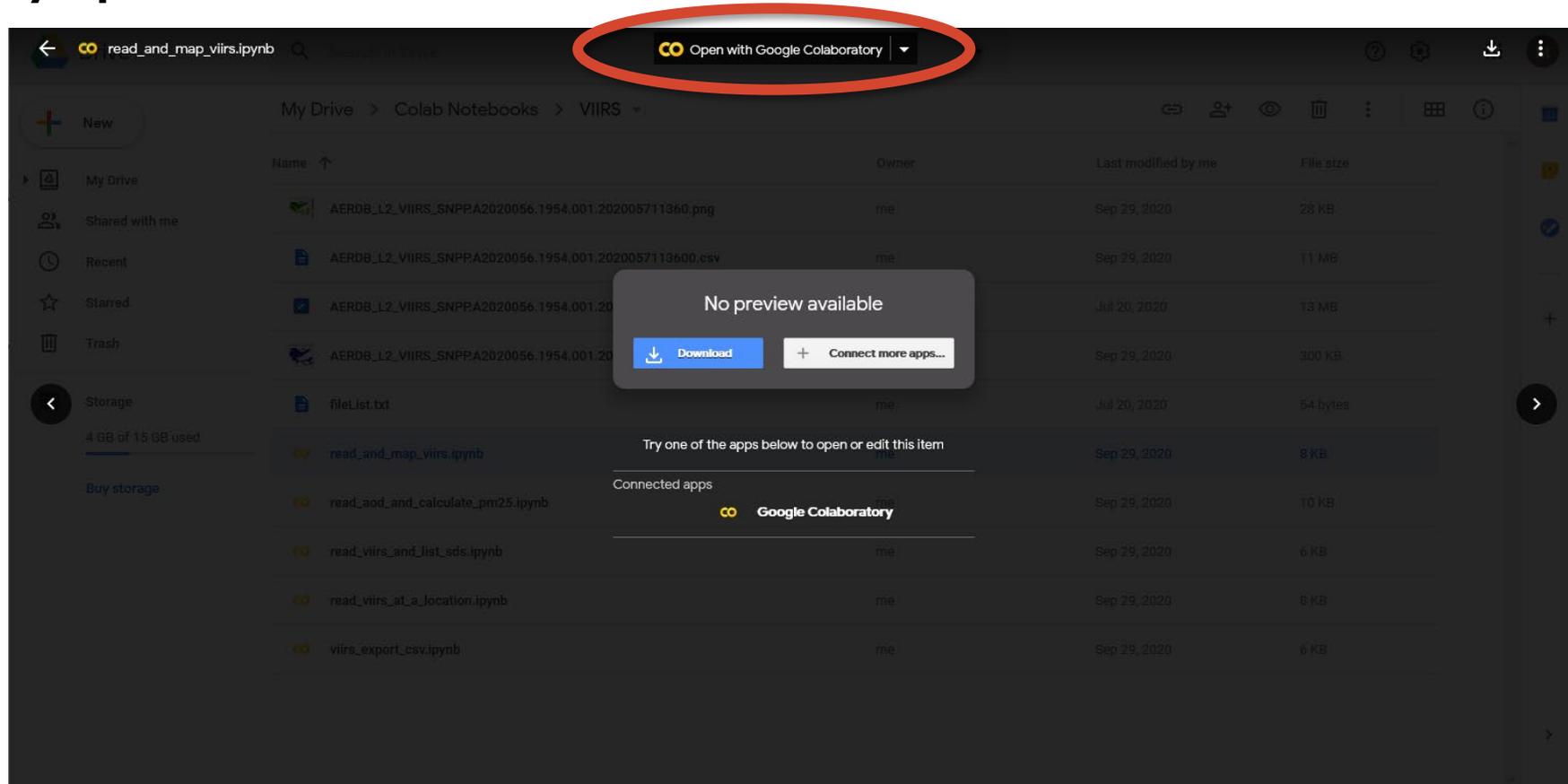




Ejecutar Jupyter Notebooks Usando Google Colaboratory

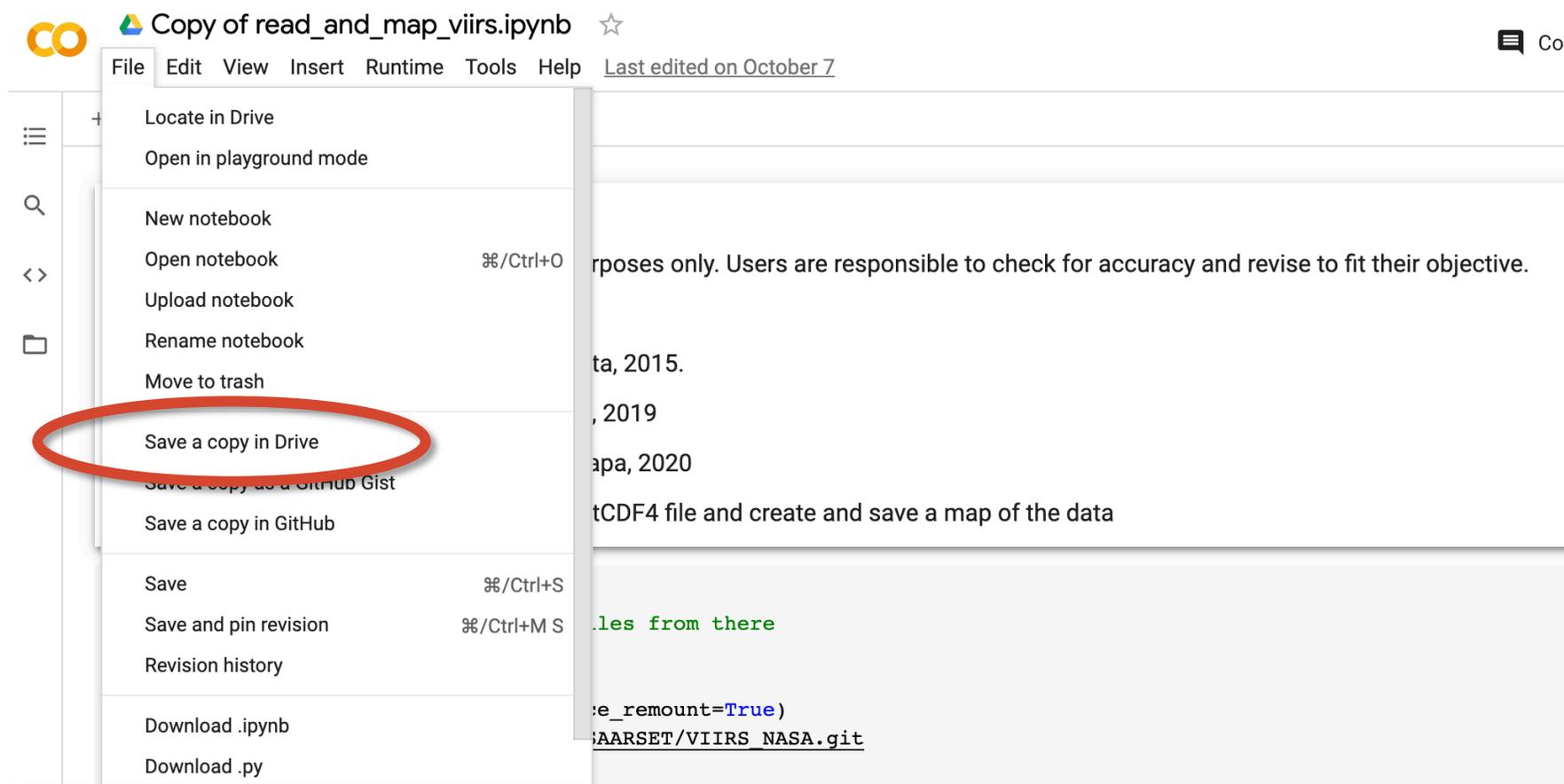
Ejecutar su Jupyter Notebook

Paso 1a: Haga doble clic en su archivo para abrirlo y elija “Open with Google Colaboratory” para abrirlo.



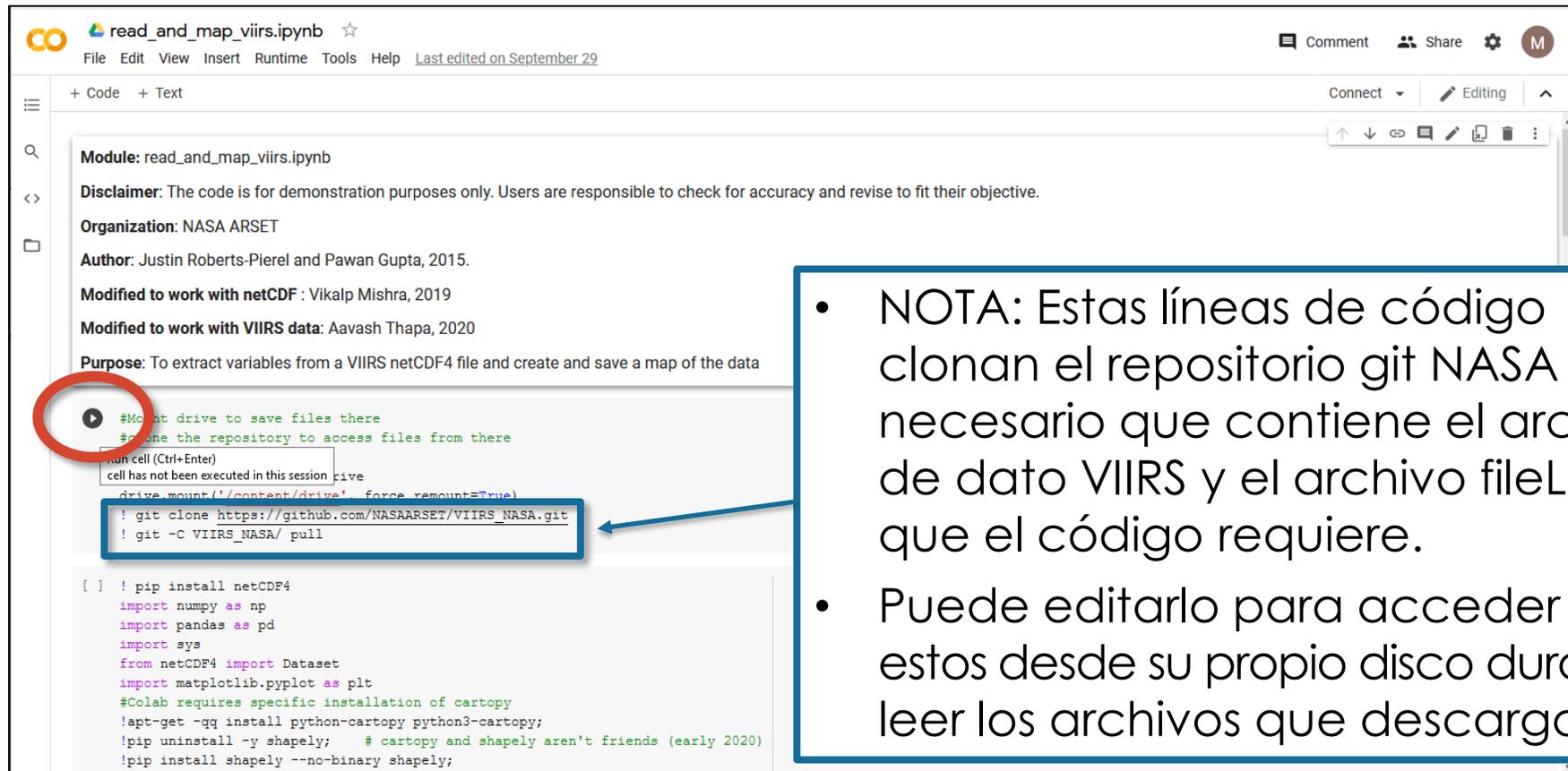
Ejecutar su Jupyter Notebook

Paso 1b: Una vez abierto, haga clic en File > Save a copy in Drive. Esto automáticamente creará una copia en una carpeta llamada “Colab Notebooks”.



Ejecutar su Jupyter Notebook

Paso 2: Ejecute cada celda de su cuaderno en orden.



Module: read_and_map_viirs.ipynb

Disclaimer: The code is for demonstration purposes only. Users are responsible to check for accuracy and revise to fit their objective.

Organization: NASA ARSET

Author: Justin Roberts-Pierel and Pawan Gupta, 2015.

Modified to work with netCDF4: Vikalp Mishra, 2019

Modified to work with VIIRS data: Aavash Thapa, 2020

Purpose: To extract variables from a VIIRS netCDF4 file and create and save a map of the data

```
! git clone https://github.com/NASAARSET/VIIRS_NASA.git
! git -C VIIRS_NASA/ pull
```

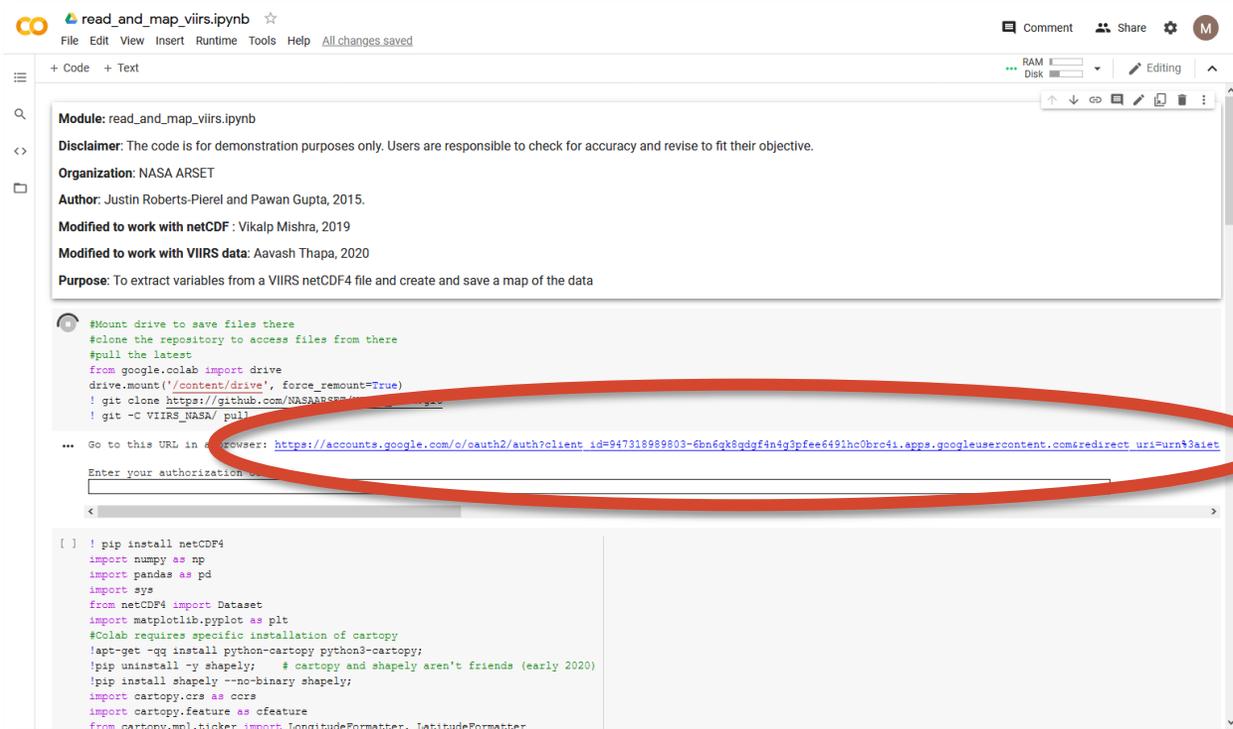
```
[ ] ! pip install netCDF4
import numpy as np
import pandas as pd
import sys
from netCDF4 import Dataset
import matplotlib.pyplot as plt
#Colab requires specific installation of cartopy
!apt-get -qq install python-cartopy python3-cartopy;
!pip uninstall -y shapely; # cartopy and shapely aren't friends (early 2020)
!pip install shapely --no-binary shapely;
```

- NOTA: Estas líneas de código clonan el repositorio git NASA ARSET necesario que contiene el archivo de dato VIIRS y el archivo fileList.txt que el código requiere.
- Puede editarlo para acceder a estos desde su propio disco duro para leer los archivos que descarga.



Ejecutar su Jupyter Notebook

Paso 2a: La primera vez que ejecute cada código deberá obtener un código de autorización de Google File Stream. Haga clic en el enlace y elija su cuenta de Google Drive.

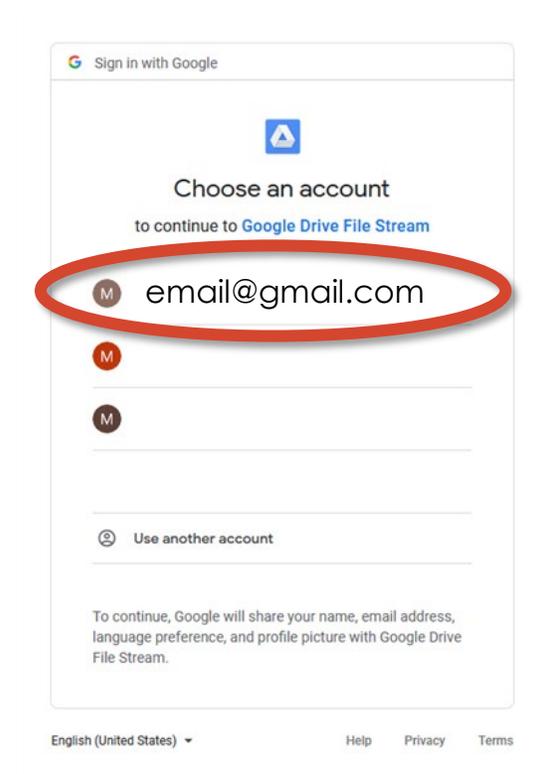


The screenshot shows a Jupyter Notebook titled "read_and_map_viirs.ipynb". The code cell contains the following text:

```
#Mount drive to save files there
#clone the repository to access files from there
#pull the latest
from google.colab import drive
drive.mount('/content/drive', force_remount=True)
! git clone https://github.com/NASAARSET/VIIRS_NASA.git
! git -C VIIRS_NASA/ pull
```

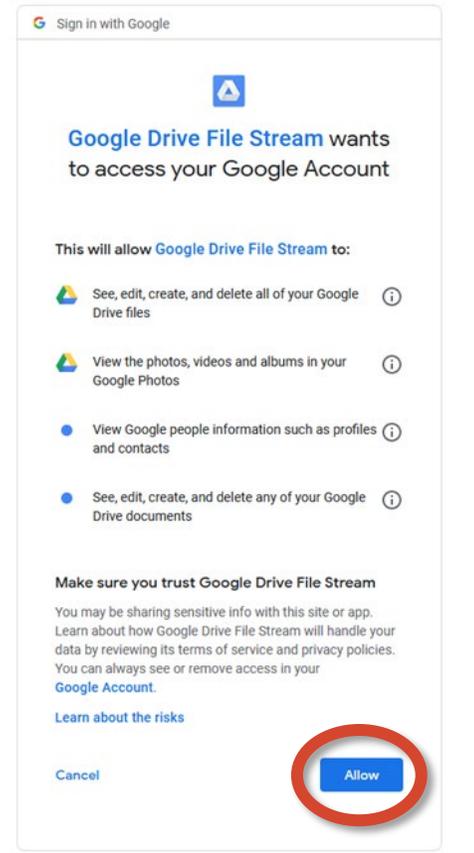
Below the code, there is a red circle around the following URL:

Go to this URL in a browser: https://accounts.google.com/o/oauth2/auth?client_id=947318989803-6bn6gk8qdgf4nig3pfee6491hc0brc4i.apps.googleusercontent.com&redirect_uri=urn%3Aietf:wg:oauth:2.0:oob



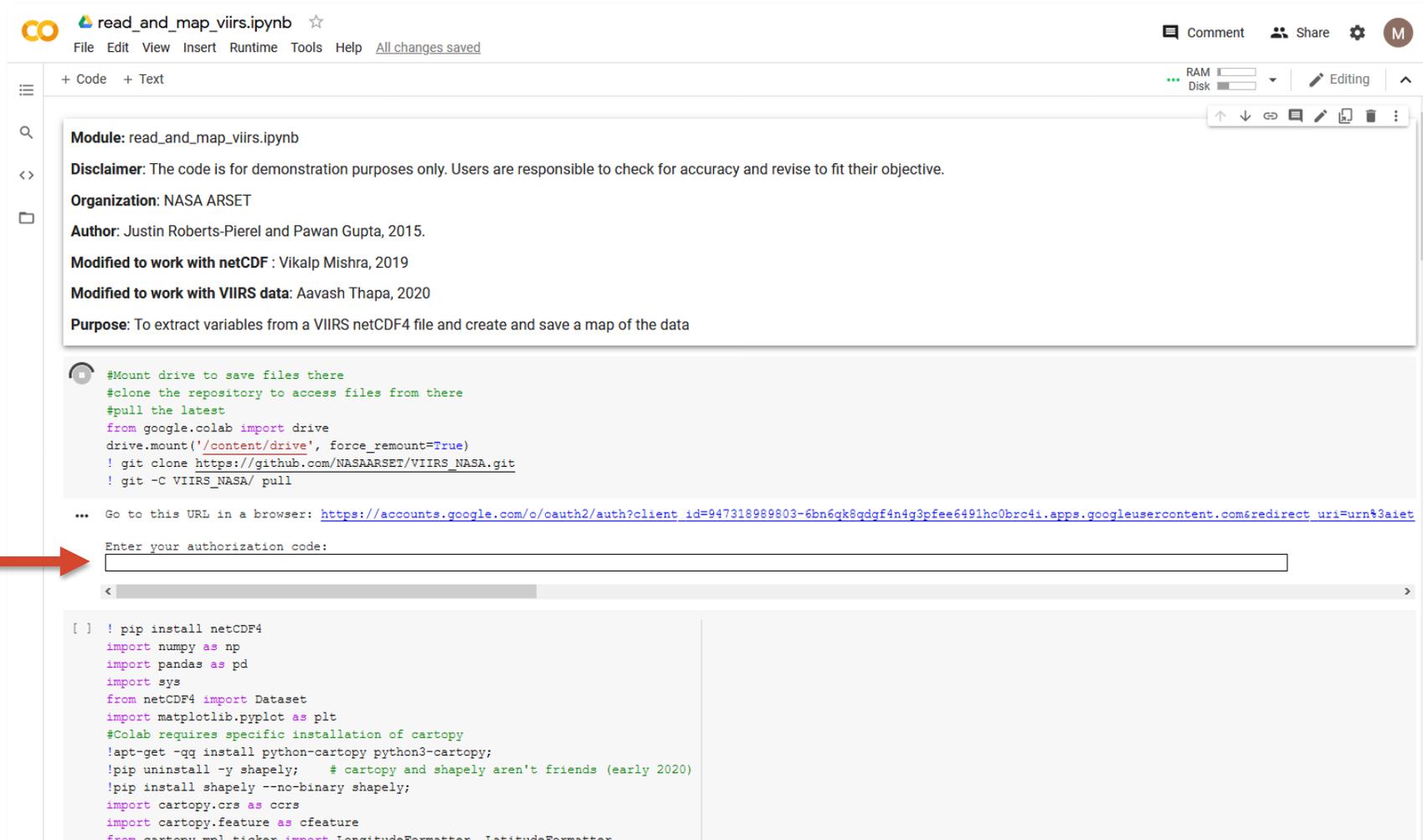
Ejecutar su Jupyter Notebook

Paso 2b: Haga clic en Allow y copie el código.



Ejecutar su Jupyter Notebook

Paso 2c: Pegue el código en el cuaderno y presione Enter.



The screenshot shows a Jupyter Notebook interface with the following content:

- Module:** read_and_map_viirs.ipynb
- Disclaimer:** The code is for demonstration purposes only. Users are responsible to check for accuracy and revise to fit their objective.
- Organization:** NASA ARSET
- Author:** Justin Roberts-Pierel and Pawan Gupta, 2015.
- Modified to work with netCDF:** Vikalp Mishra, 2019
- Modified to work with VIIRS data:** Aavash Thapa, 2020
- Purpose:** To extract variables from a VIIRS netCDF4 file and create and save a map of the data

```
#Mount drive to save files there
#clone the repository to access files from there
#pull the latest
from google.colab import drive
drive.mount('/content/drive', force_remount=True)
! git clone https://github.com/NASAARSET/VIIRS_NASA.git
! git -C VIIRS_NASA/ pull
```

... Go to this URL in a browser: https://accounts.google.com/o/oauth2/auth?client_id=947318989803-6bn6qk8qdgf4n4g3pfee6491hc0bro4i.apps.googleusercontent.com&redirect_uri=urn%3aietf

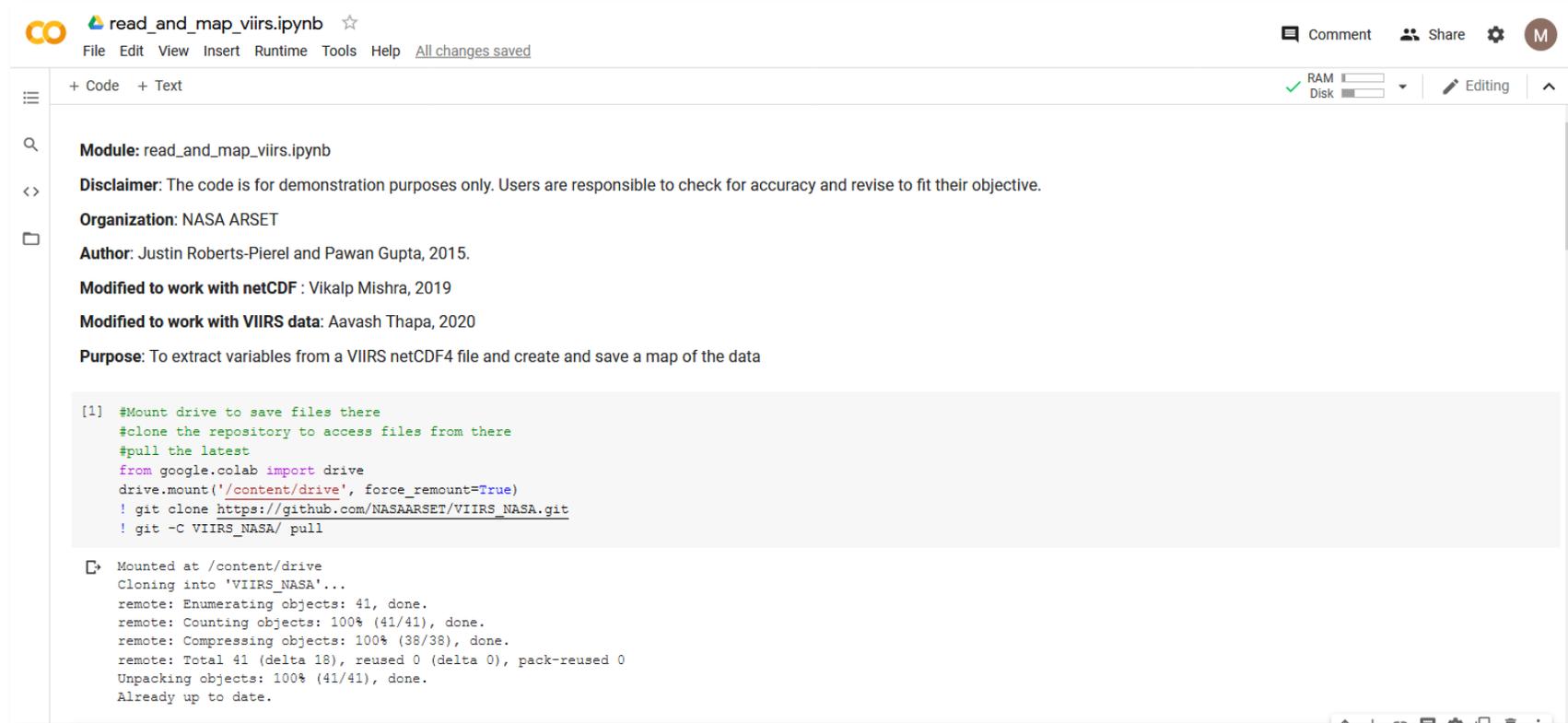
Enter your authorization code:

Pegue aquí



Ejecutar su Jupyter Notebook

Paso 2c: Pegue el código en el cuaderno y presione Enter.



The screenshot shows a Jupyter Notebook interface for a file named 'read_and_map_viirs.ipynb'. The top navigation bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help', with a status indicator 'All changes saved'. On the right, there are options for 'Comment', 'Share', and a settings gear. Below the navigation bar, the notebook content is displayed in a light gray cell. The code cell contains the following text:

```
[1] #Mount drive to save files there
#clone the repository to access files from there
#pull the latest
from google.colab import drive
drive.mount('/content/drive', force_remount=True)
! git clone https://github.com/NASAARSET/VIIRS_NASA.git
! git -C VIIRS_NASA/ pull
```

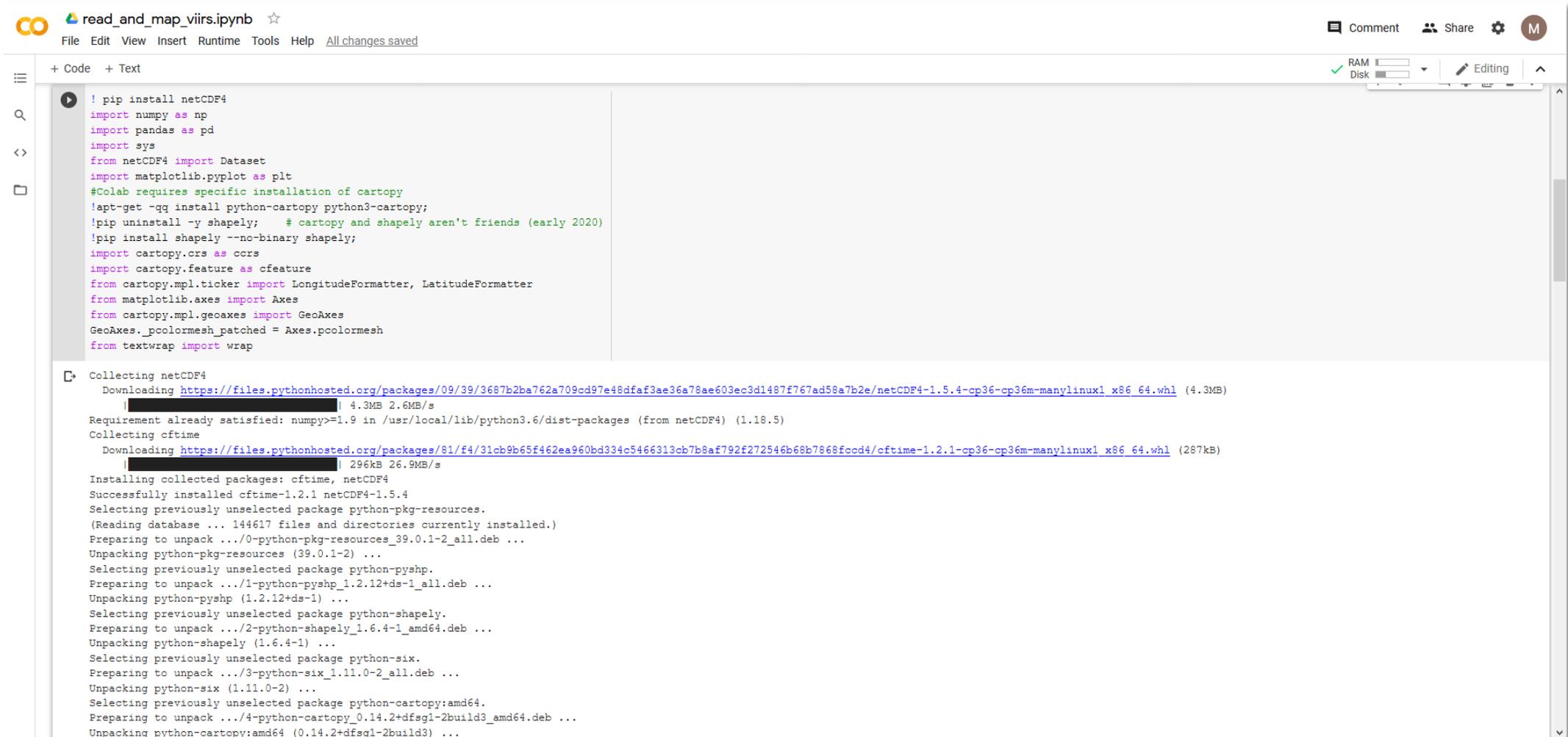
Below the code cell, the output is shown in a light gray cell with a copy icon on the left. The output text is:

```
Mounted at /content/drive
Cloning into 'VIIRS_NASA'...
remote: Enumerating objects: 41, done.
remote: Counting objects: 100% (41/41), done.
remote: Compressing objects: 100% (38/38), done.
remote: Total 41 (delta 18), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (41/41), done.
Already up to date.
```



Ejecutar su Jupyter Notebook

Paso 3: Ejecute la siguiente celda para importar las colecciones necesarias.



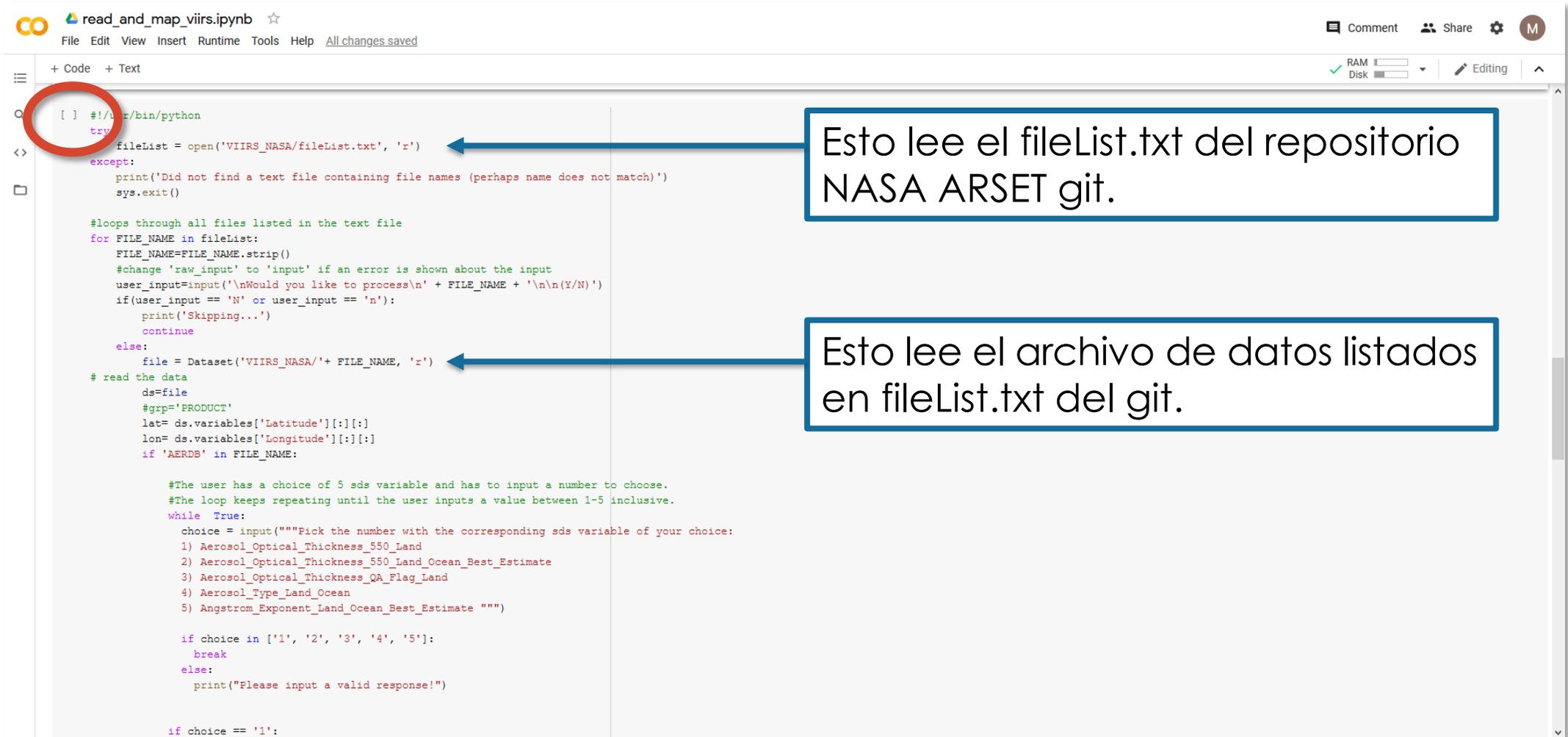
```
! pip install netCDF4
import numpy as np
import pandas as pd
import sys
from netCDF4 import Dataset
import matplotlib.pyplot as plt
#Colab requires specific installation of cartopy
!apt-get -qq install python-cartopy python3-cartopy;
!pip uninstall -y shapely; # cartopy and shapely aren't friends (early 2020)
!pip install shapely --no-binary shapely;
import cartopy.crs as ccrs
import cartopy.feature as cfeature
from cartopy.mpl.ticker import LongitudeFormatter, LatitudeFormatter
from matplotlib.axes import Axes
from cartopy.mpl.geoaxes import GeoAxes
GeoAxes._pcolormesh_patched = Axes.pcolormesh
from textwrap import wrap
```

Collecting netCDF4
Downloading https://files.pythonhosted.org/packages/09/39/3687b2ba709cd97e48dfaf3ae36a78ae603ec3d1487f767ad58a7b2e/netCDF4-1.5.4-cp36-cp36m-manylinux1_x86_64.whl (4.3MB)
|██████████| 4.3MB 2.6MB/s
Requirement already satisfied: numpy>=1.9 in /usr/local/lib/python3.6/dist-packages (from netCDF4) (1.18.5)
Collecting cftime
Downloading https://files.pythonhosted.org/packages/81/f4/31cb9b65f462ea960bd334c5466313cb7b8af792f272546b68b7868f0cd4/cftime-1.2.1-cp36-cp36m-manylinux1_x86_64.whl (287kB)
|██████████| 296kB 26.9MB/s
Installing collected packages: cftime, netCDF4
Successfully installed cftime-1.2.1 netCDF4-1.5.4
Selecting previously unselected package python-pkg-resources.
(Reading database ... 144617 files and directories currently installed.)
Preparing to unpack .../0-python-pkg-resources_39.0.1-2_all.deb ...
Unpacking python-pkg-resources (39.0.1-2) ...
Selecting previously unselected package python-pyshp.
Preparing to unpack .../1-python-pyshp_1.2.12+ds-1_all.deb ...
Unpacking python-pyshp (1.2.12+ds-1) ...
Selecting previously unselected package python-shapely.
Preparing to unpack .../2-python-shapely_1.6.4-1_amd64.deb ...
Unpacking python-shapely (1.6.4-1) ...
Selecting previously unselected package python-six.
Preparing to unpack .../3-python-six_1.11.0-2_all.deb ...
Unpacking python-six (1.11.0-2) ...
Selecting previously unselected package python-cartopy:amd64.
Preparing to unpack .../4-python-cartopy_0.14.2+dfsg1-2build3_amd64.deb ...
Unpacking python-cartopy:amd64 (0.14.2+dfsg1-2build3) ...



Ejecutar su Jupyter Notebook

Paso 4: Ejecutar la última celda para ejecutar el código.



The screenshot shows a Jupyter Notebook titled "read_and_map_viirs.ipynb". The code in the cell is as follows:

```
[ ] #!/usr/bin/python
try:
    fileList = open('VIIRS_NASA/fileList.txt', 'r')
except:
    print('Did not find a text file containing file names (perhaps name does not match)')
    sys.exit()

#loops through all files listed in the text file
for FILE_NAME in fileList:
    FILE_NAME=FILE_NAME.strip()
    #change 'raw_input' to 'input' if an error is shown about the input
    user_input=input('\nWould you like to process\n' + FILE_NAME + '\n\n(Y/N)')
    if(user_input == 'N' or user_input == 'n'):
        print('Skipping...')
        continue
    else:
        file = Dataset('VIIRS_NASA/'+ FILE_NAME, 'r')
# read the data
ds=file
#grp='PRODUCT'
lat= ds.variables['Latitude'][:][:]
lon= ds.variables['Longitude'][:][:]
if 'AERDB' in FILE_NAME:

#The user has a choice of 5 sds variable and has to input a number to choose.
#The loop keeps repeating until the user inputs a value between 1-5 inclusive.
while True:
    choice = input("""Pick the number with the corresponding sds variable of your choice:
1) Aerosol_Optical_Thickness_550_Land
2) Aerosol_Optical_Thickness_550_Land_Ocean_Best_Estimate
3) Aerosol_Optical_Thickness_QA_Flag_Land
4) Aerosol_Type_Land_Ocean
5) Angstrom_Exponent_Land_Ocean_Best_Estimate """)

    if choice in ['1', '2', '3', '4', '5']:
        break
    else:
        print("Please input a valid response!")

if choice == '1':
```

Two callout boxes with blue borders and arrows point to specific lines of code:

- The first callout box points to the line `fileList = open('VIIRS_NASA/fileList.txt', 'r')` and contains the text: "Esto lee el fileList.txt del repositorio NASA ARSET git."
- The second callout box points to the line `file = Dataset('VIIRS_NASA/'+ FILE_NAME, 'r')` and contains the text: "Esto lee el archivo de datos listados en fileList.txt del git."



Ejecutar su Jupyter Notebook

Paso 4: Ingrese Y para procesar el archivo.



```
read_and_map_viirs.ipynb ☆
File Edit View Insert Runtime Tools Help

+ Code + Text
RAM
Disk
Editing

cb = plt.colorbar(shrink = 0.7)
cb.set_label(map_label, fontsize =9, wrap=True)
"""
grd = m.gridlines(crs=ccrs.PlateCarree(), draw_labels=True, linewidth=2, color='gray', alpha=0.5, linestyle='--')
grd.xlabels_top = None
grd.ylabels_right = None
grd.xformatter = LONGITUDE_FORMATTER
grd.yformatter = LATITUDE_FORMATTER
"""
# Show the plot window.
plt.show()
#once you close the map it asks if you'd like to save it
#change 'raw_input' to 'input' if an error is shown about the input
is_save=str(input('\nWould you like to save this map? Please enter Y or N \n'))
if is_save == 'Y' or is_save == 'y':
    #saves as a png if the user would like
    pngfile = '{0}.png'.format(FILE_NAME[:-3])
    fig.savefig('/content/drive/My Drive/Colab Notebooks/' + pngfile, dpi = 300, bbox_inches='tight')
#close the hdf5 file
file.close()

...
Would you like to process
VIIRS_SNPP.A2020056.1954.001.2020057113600.nc
(Y/N) 
```

Es aquí donde su mapa se guardará



Ejecutar su Jupyter Notebook

Paso 5: Ingrese 2 (Aerosol_Optical_Thickness_550_Land_Ocean_Best_Estimate) y luego ingrese Y para crear un mapa. Ahora ingrese Y para guardarlo en su Google Drive/Colab Notebooks/ carpeta

```
read_and_map_viirs.ipynb
File Edit View Insert Runtime Tools Help All changes saved
+ Code + Text
#close the hdf5 file
file.close()

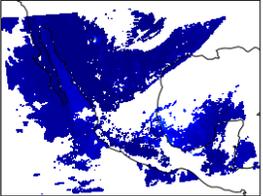
Would you like to process
AERDB_L2_VIIRS_SNPP.A2020056.1954.001.2020057113600.nc

(Y/N) Y
Pick the number with the appropriate description of your choice:
1) Aerosol_Optical_Thickness_550_Land
2) Aerosol_Optical_Thickness_550_Land_Ocean_Best_Estimate
3) Aerosol_Optical_Thickness_QA_Flag_Land
4) Aerosol_Type_Land_Ocean
5) Angstrom_Exponent_Land_Ocean_Best_Estimate 2

The average of this data is: 0.075
The standard deviation is: 0.073
The median is: 0.059
The range of latitude in this file is: 11.471696 to 36.39784 degrees
The range of longitude in this file is: -120.826866 to -85.44587 degrees

Would you like to create a map of this data? Please enter Y or N
Y
/usr/lib/python3/dist-packages/cartopy/io/_init__.py:264: DownloadWarning: Downloading: http://naciscdn.org/naturalearth/110m/physical/ne\_110m\_coastline.zip
warnings.warn("Downloading: {}".format(url), DownloadWarning)

AERDB_L2_VIIRS_SNPP.A2020056.1954.001.2020057113600.nc
Deep Blue/SOAR aerosol optical thickness at 550 nm over land and ocean, QA-filtered



Would you like to save this map? Please enter Y or N
Y
```

