

Downloading and Extracting LIDAR ZIP Files from PASDA (Python Script)

Summary: These instructions use a combination of 1) Google Chrome Batch Link Downloader Extension and 2) a python script to make downloading and extracting a large number of LIDAR data (zip files) from the PASDA FTP site (<ftp://ftp.pasda.psu.edu/pub/pasda/>) fast and easy.

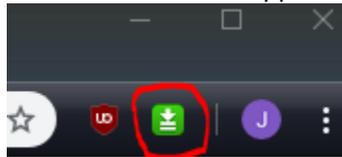
System Requirements: Python 2.7

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Disclaimer: Users are advised to use these instructions strictly at their own risk. No warranties are made about the reliability or security of these instructions. No parties shall be held liable for any losses or damages of any kind in connection with the use of these instructions.

INSTRUCTIONS:

1. Copy the included python script at the bottom of this PDF and paste it into a blank Notepad document and save it as a '.py' file (ex: **ExtractZipFiles.py**) somewhere on your local computer (ex: C:\Scripts)
2. Install the "batch-link-downloader" (Google Chrome extension) to facilitate easy downloading of LiDAR (zip) files:
 - a. <https://chrome.google.com/webstore/detail/batch-link-downloader/aiahkbnnpafepcgnhhecilboebmmolnn>
3. Add the extension to chrome, you will now have this icon in the upper right corner:

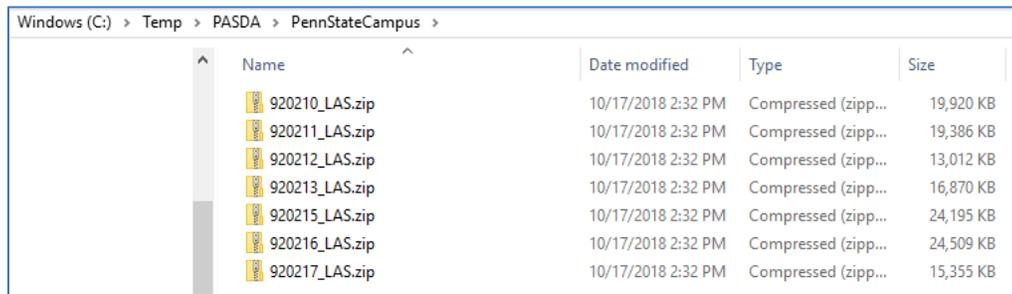


4. Navigate to the page where all the zip files are listed for download (ex: ftp://ftp.pasda.psu.edu/pub/pasda/dauphincountyLiDAR/Raster_DEM/)
5. Click on the batch link downloader icon, select the LiDAR zip files that you want, then click the Start Download button:

Name	Size	Date Modified
29002250PAS_DEM.zip	638 kB	2/17/17, 7:00:00 PM
29002253PAS_DEM.zip	756 kB	2/17/17, 7:00:00 PM
29502245PAS_DEM.zip	612 kB	2/17/17, 7:00:00 PM
29502250PAS_DEM.zip	3.5 MB	2/17/17, 7:00:00 PM
29502255PAS_DEM.zip	6.6 MB	2/17/17, 7:00:00 PM
29502260PAS_DEM.zip	218 kB	2/17/17, 7:00:00 PM
30002245PAS_DEM.zip	889 kB	2/17/17, 7:00:00 PM
30002250PAS_DEM.zip	4.1 MB	2/17/17, 7:00:00 PM
30002255PAS_DEM.zip	9.9 MB	2/17/17, 7:00:00 PM
30002260PAS_DEM.zip	4.7 MB	2/17/17, 7:00:00 PM
30002265PAS_DEM.zip	2.0 MB	2/17/17, 7:00:00 PM
30502245PAS_DEM.zip	1.5 MB	2/17/17, 7:00:00 PM
30502250PAS_DEM.zip	4.2 MB	2/17/17, 7:00:00 PM
30502255PAS_DEM.zip	9.0 MB	2/17/17, 7:00:00 PM
30502260PAS_DEM.zip	10.6 MB	2/17/17, 7:00:00 PM
30502265PAS_DEM.zip	11.0 MB	2/17/17, 7:00:00 PM
30502270PAS_DEM.zip	3.3 MB	2/17/17, 7:00:00 PM
30502275PAS_DEM.zip	605 kB	2/17/17, 7:00:00 PM
31002240PAS_DEM.zip	193 kB	2/17/17, 7:00:00 PM
31002245PAS_DEM.zip	4.6 MB	2/17/17, 7:00:00 PM
31002250PAS_DEM.zip	6.3 MB	2/17/17, 7:00:00 PM
31002255PAS_DEM.zip	10.9 MB	2/17/17, 7:00:00 PM
31002260PAS_DEM.zip	11.1 MB	2/17/17, 7:00:00 PM
31002265PAS_DEM.zip	11.3 MB	2/17/17, 7:00:00 PM
31002270PAS_DEM.zip	10.7 MB	2/17/17, 7:00:00 PM
31002275PAS_DEM.zip	10.3 MB	2/17/17, 7:00:00 PM
31002280PAS_DEM.zip	3.3 MB	2/17/17, 7:00:00 PM
31502255PAS_DEM.zip	933 kB	2/17/17, 7:00:00 PM
31502240PAS_DEM.zip	2.9 MB	2/17/17, 7:00:00 PM
31502245PAS_DEM.zip	7.3 MB	2/17/17, 7:00:00 PM
31502250PAS_DEM.zip	8.6 MB	2/17/17, 7:00:00 PM
31502255PAS_DEM.zip	11.1 MB	2/17/17, 7:00:00 PM
31502260PAS_DEM.zip	11.2 MB	2/17/17, 7:00:00 PM
31502265PAS_DEM.zip	11.0 MB	2/17/17, 7:00:00 PM

Filename	Description
entry	report a bug
LOCATION	raw listing
ftp://ftp.pasda.psu.edu/pub/pasda/dauphincountyLiDAR/	[parent directory]
29002250PAS_DEM.zip	29002250PAS_DEM.zip
29002255PAS_DEM.zip	29002255PAS_DEM.zip
29502245PAS_DEM.zip	29502245PAS_DEM.zip
29502250PAS_DEM.zip	29502250PAS_DEM.zip
29502255PAS_DEM.zip	29502255PAS_DEM.zip
29502260PAS_DEM.zip	29502260PAS_DEM.zip
30002245PAS_DEM.zip	30002245PAS_DEM.zip
30002250PAS_DEM.zip	30002250PAS_DEM.zip
30002255PAS_DEM.zip	30002255PAS_DEM.zip
30002260PAS_DEM.zip	30002260PAS_DEM.zip
30002265PAS_DEM.zip	30002265PAS_DEM.zip
30502245PAS_DEM.zip	30502245PAS_DEM.zip
30502250PAS_DEM.zip	30502250PAS_DEM.zip

6. The zip files will be downloaded into your “Downloads” folder on your C-Drive. Move these zip files into a new folder so they are the only zip files in that directory. The python script will extract the contents of ANY zip file in the directory and remove/delete the original zip files after extracting. Therefore, make sure there are no other files in the directory that you’ve moved the LiDAR zip files into.



The screenshot shows a Windows File Explorer window with the address bar set to 'Windows (C:) > Temp > PASDA > PennStateCampus'. The main area displays a list of files with columns for Name, Date modified, Type, and Size. There are seven zip files listed, all dated 10/17/2018 2:32 PM and of type 'Compressed (zipp...'. The files are named 920210_LAS.zip through 920217_LAS.zip, with sizes ranging from 13,012 KB to 24,509 KB.

Name	Date modified	Type	Size
920210_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	19,920 KB
920211_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	19,386 KB
920212_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	13,012 KB
920213_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	16,870 KB
920215_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	24,195 KB
920216_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	24,509 KB
920217_LAS.zip	10/17/2018 2:32 PM	Compressed (zipp...	15,355 KB

7. Right click the saved ‘.py’ file you created in step 1 and open it for editing in Notepad, Python IDE, or another IDE of your choosing.

Change the “dir_name” path to the directory where your zip files are located:

```
dir_name = r"C:\Temp\PASDA\PennStateCampus" # Folder where the zip files are located
```

Change the “new_dir” path to the directory where you want the zip files extracted to:

```
new_dir = r"C:\Temp\PASDA\PennStateCampus\Extract" # Folder where extracted files will go
```

Save and then close the script.

8. Run the ‘.py’ file you just edited in python.exe (both 32 or 64 bit should work). The black python window appears and automatically closes when the script is finished. The contents of the zip files should now be extracted in the folder you specified, and the original zip files deleted. It may take several hours to complete if you are downloading a large amount of LiDAR data for a large area.

The script:

```
import os, zipfile
```

```
dir_name = r"C:\Users\username\folder\folder" # folder where zip files are located
```

```
new_dir = r"\\servername\folder\folder" # folder where extracted files will go
```

```
extension = ".zip"
```

```
for item in os.listdir(dir_name):
```

```
    if item.endswith(extension):
```

```
        file_name = os.path.abspath(item)
```

```
        zip_ref = zipfile.ZipFile(file_name)
```

```
        zip_ref.extractall(new_dir)
```

```
        zip_ref.close()
```

```
        os.remove(file_name)
```