

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.

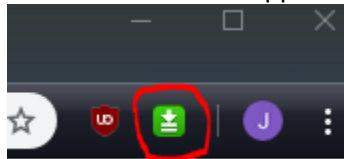
System Requirements: Python 2.7

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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:

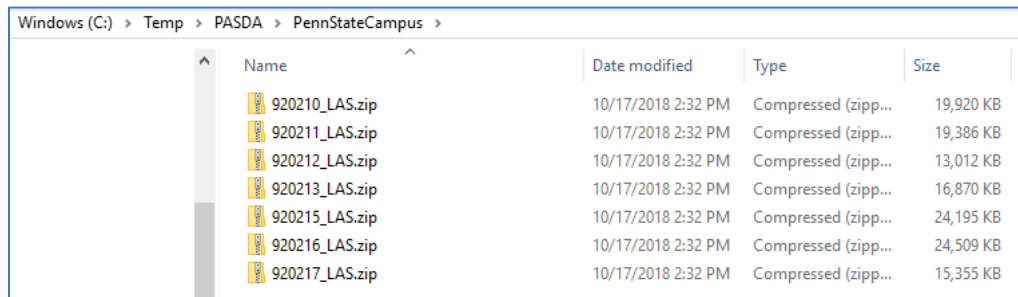


4. Navigate to the page where all the zip files are listed for download (ex: ftp://ftp.pasda.psu.edu/pub/pasda/dauphincountyLiDAR/Raster_DEM/)
5. Click on the batch link downloader icon, select the LiDAR zip files that you want, then click the Start Download button:

| 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)
```