

Title: EDDY COVARIANCE DOWNLOAD INSTRUCTIONS		Date: 11/07/2018
NEON Doc. #:	Author: Nicole Welsh	Revision: A

## EDDY COVARIANCE LEVEL 0 PRIME DATA: DOWNLOAD INSTRUCTIONS

NEON eddy covariance L0 prime (L0') data files contain eddy covariance turbulent exchange (ECTE) and eddy covariance storage exchange (ECSE) data, in HDF5 format, at the original sensor sampling frequency (e.g., 20 Hz for 3D winds, 40Hz for accelerometer measurements, 1 Hz for CO2/H2O concentration profile measurements). These are the input data which are processed by the eddy4R code to obtain standard L1-4 data products. Additional metadata about the sensor and data, a description of terms, as well as readme info about the HDF5 file are also included.

- 1) There are two methods in which to download the EC L0' data:
  - a) **cURL** (Client URL): Is a command line tool, the instructions below use cURL for the download.
  - b) **ECDownloadScript.py** : Is a Python script designed for users to quickly enter in the required variables, such as site name and start and end dates, then download the file.
  
- 2) Required Tools:
  - a) **cURL** is installed on most Linux systems by default. It is installed on the latest version of Windows 10 (build 1803+). For earlier versions of Windows, use one of the following to download and install cURL:
    - Curl for Windows: <https://curl.haxx.se/windows/>
    - Cygwin: <https://www.cygwin.com/>
  - b) **Python3** is required to run the python script included in this document. This can be downloaded to your local machine from Python's website <https://www.python.org/downloads/>.
  - c) **HDFView** is a free application to view the transferred .h5 data file. Visit: <https://www.hdfgroup.org/downloads/hdfview/> to download the application. For an overview of the HDF5 file format and the tool HDFView, visit the **NEON SCIENCE YouTube** page: <https://youtu.be/q14F3WRwSck>.
  
- 3) Data file naming convention: Each data file is named by the Domain name, site name, and data product ID along with other variables. File names are as follows:

**NEON.D###.SNME.IP0.002000.001.Type**

- D### = Domain number (i.e D01 – D20)
- SNME = Site Name (i.e. KONZ, SERC)
- IP# = data level
- Type = For example, turbulent exchange (ECTE), and storage exchange (ECSE)
- Date: The date format is YYYY-MM-DD

For more information about NEON HDF5 files, download the readme text from The NEON DATA Document library.

Direct Link: [Download](#)

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← ECTE\_HDF5\_readme.txt

ⓓ DOWNLOAD

**ECTE\_HDF5\_readme.txt**

📁 **Uploaded by Christine Laney, 12/5/17 12:37 PM**  
 Eddy covariance turbulent exchange HDF5 readme file  
 Documents: Reference  
 Tags: [carbon flux](#) [energy](#) [eddy covariance](#) [h2o](#) [co2](#)

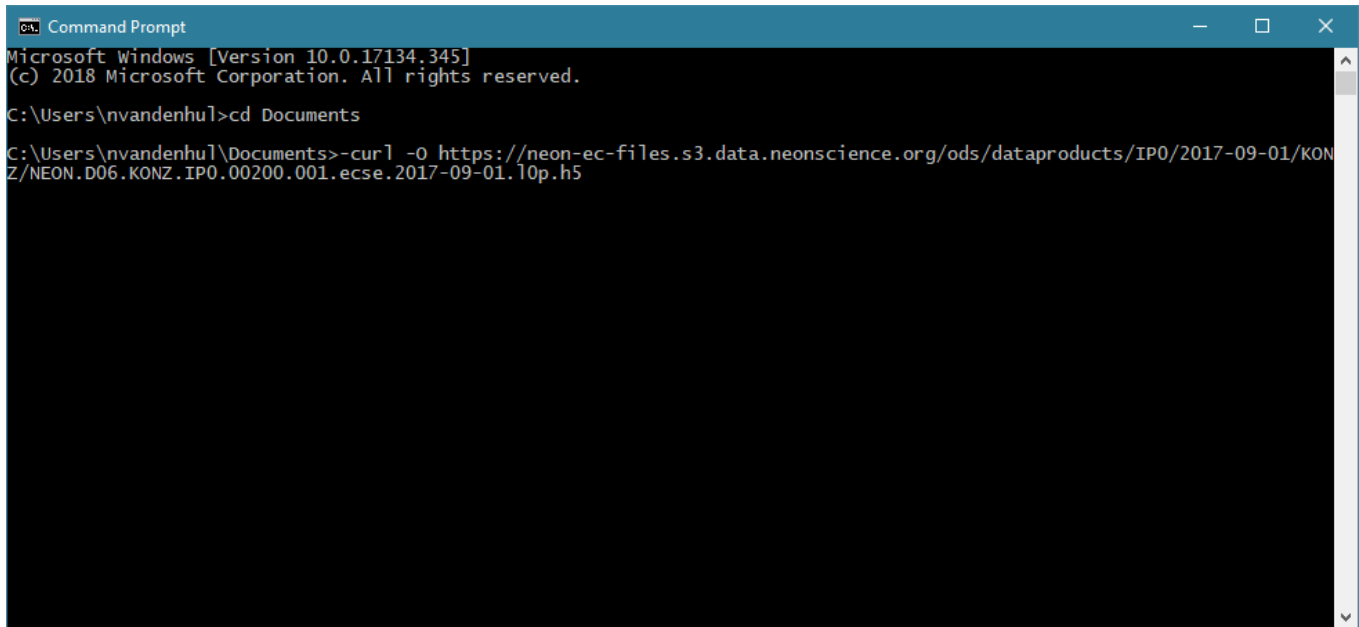
Automatically Extracted Metadata

**Content Encoding**  
windows-1252

**Content Type**  
text/plain; charset=windows-1252

4) Data transfer steps using cURL:

- a) Open a command prompt from your local machine.
- b) Change the directory to the desired download location.  
 For example, type: **cd Downloads** at the prompt.
- c) For the requested data, enter the curl commands below at the command prompt, modifying the url for each day that is requested following the naming convention:
  - curl -O <https://neon-ec-files.s3.data.neonscience.org/ods/dataproducts/IP0/2017-09-01/KONZ/NEON.D06.KONZ.IP0.00200.001.ecse.2017-09-01.l0p.h5>
  - curl -O <https://neon-ec-files.s3.data.neonscience.org/ods/dataproducts/IP0/2017-09-01/KONZ/NEON.D06.KONZ.IP0.00200.001.ecte.2017-09-01.l0p.h5>



- 5) Data transfer steps utilizing a Python Script: The python script **L0primeECDownload.py** is embedded into this document below the images on page 3. L0primeECDownload.py automates modifying the curl command link to download the EC files. Follow the instructions below to use this script:

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- a) Double-click on the **.py** icon located at the bottom of this document.
- b) Click **Open** to launch a terminal window where you will be prompted to enter the data variables.
- c) Type in the variable and hit Enter on the following prompts:
  - Domain name
  - Site name
  - EC data type
  - Start date (format is M-D-YYYY)
  - Number of days to process
- d) When all of the prompts have been entered, the file will download and the terminal window will close automatically. NOTE: The files will download to your Documents directory.

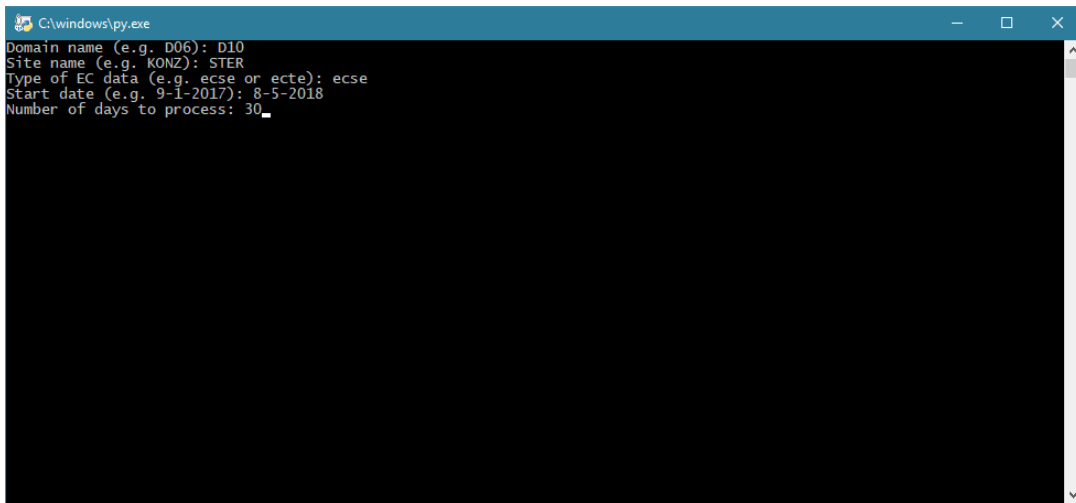


Figure 1.1

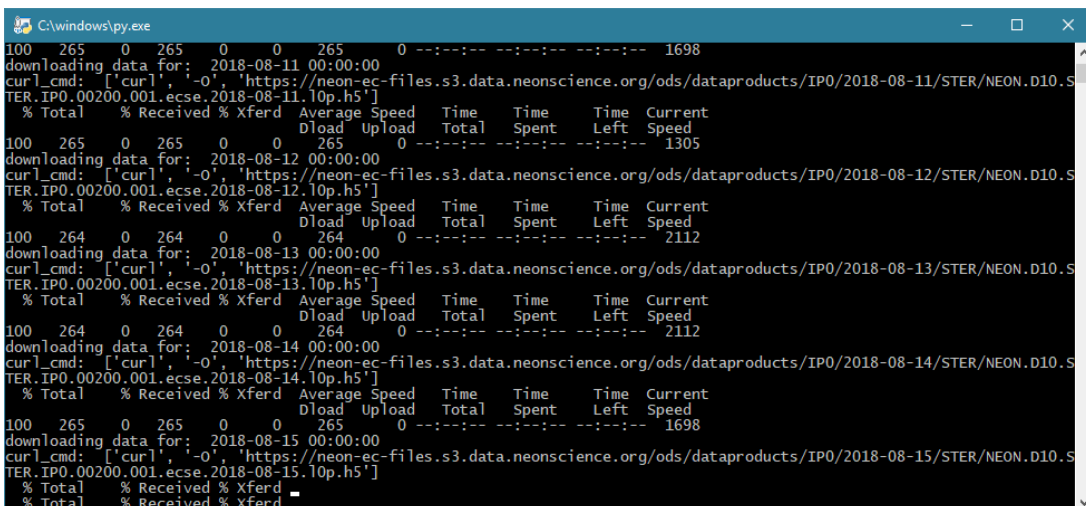


Figure 1.2

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L0primeECDownload.py