

Priority List on 2021-11-02

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Priority Task list :

1. Automate / code PyFluxPro "Creating the Database" section. (Done)
 - a. ~~Test with various dataset.~~
 - i. ~~Run EddyPro for Jan 2021 with 2 weeks data~~
 - ii. ~~Make the below changes for the file output from Eddypro run:~~
 1. ~~Match the meta data header rows in both files.~~
 2. ~~Change timestamp format~~
 3. ~~Convert temperature units for various columns~~
 4. ~~Convert units and rename column~~
 5. ~~Timestamp checks — check the first and last timestamps — should be 00:00 and 23:00. (we don't need to do it, confirmed to Bethany)~~
 - iii. ~~Manual entry of 2 sheets in excel. Copy output files from preprocessor.py and the changed output file from EddyPro run.~~
 - iv. ~~Install and run PyFluxPro~~
 - b. ~~Man hours = approx. 15 hours~~
2. Create a function to check if required variables are available and correctly formatted for eddypro in format.py
 - a. ~~Required variables - Ambient Relative Humidity (RH), Global Radiation (SWIN), Longwave Incoming Radiation (LWIN), Photosynthetically Active Radiation (PPFD) (Done)~~
 - b. ~~Check the variable upper/lower case names. (Done)~~
 - c. Check if eddypro reads variables in case-sensitive manner.
 - i. EddyPro labels are case-sensitive. The data will not get read to EddyPro.
 - d. ~~Man hours = approx. 4 hours~~
3. Test preprocessor.py, format.py and eddypro headless with Sept - Oct 2020 data. (Mac has a problem)
 - a. ~~Man hours = approx. 2 hours~~
4. Create a function for quality check in precip data. This should be in preprocessor.py.
 - a. ~~Missing timestamp check : the function should break and write the till then processed output to file.~~
 - b. ~~Possible data values check : The range of precip data is 0-0.2 mm. the function should break and write the till then processed output to file.~~
 - c. ~~Man hours = approx. 4 hours~~
5. Formatting the EddyPro output for AmeriFlux publication (changing the variables)
 - a. L1 processing
 - b. L2 Processing
 - c. Man hours = approx. two days per L1 and L2

Other Tasks

1. Test run eddypro_rp in macOS.
 - a. Resolve the current error of

```
NCSA-xxx:bin minum$ ./eddypro_rp "xx/xxx/xxx/templates/templates.eddypro"
*****
Executing EddyPro
*****
sh: -c: line 0: unexpected EOF while looking for matching `"'
sh: -c: line 1: syntax error: unexpected end of file
Reading EddyPro project file: /xx/xxx/xxx/xx/templates/templates.eddypro..
Done.
sh: -c: line 0: unexpected EOF while looking for matching `"'
sh: -c: line 1: syntax error: unexpected end of file
Fatal error(86)> Could not retrieve files from directory. Either directory does not exist
Fatal error(86)> or it does not contain files matching the selected requirements.
Fatal error(86)> Program execution aborted.
STOP 1
```

2. Use python packages to convert units (cf_units or udunits) in format.py and preprocessor.py
 - a. [Yong Wook Kim](#) will look into this
3. ~~Compare output from EddyPro~~
 - a. ~~will coordinate with [Bethany Blakely](#)~~
4. ~~Compare the eddypro output with the manual input file and the automated input file.~~
 - a. ~~will coordinate with [Bethany Blakely](#)~~
5. Automate / code PyFluxPro "Formatting the PyFluxPro Control Files"
6. Work on automated data acquisition [Yong Wook Kim](#)
7. Make pyfluxpro run in the pipeline [Yong Wook Kim](#)

8. Possibly dockerize the process (What should be the output delivery) [Yong Wook Kim](#)
9. Add an web site like Pecan for showing the necessary information (weather, site, etc) [Minu Mathew](#)