

## Change log for AquaFlux

### **PATCH 2019.07.08**

This patch addressed a number of code integrity improvement to make it run smoother directly from Github and address MEE editor's requests.

#### Front end changes:

- Package is now directly downloadable from Github. Example download script is provide and README walks the user through downloading in-depth.
- Github repo now includes example download-AquaFlux script and reorganized to be more intuitive.
- Ability to handle multiple sites of dT data removed.
- User no longer enters time zones. See stability improvements for more details.
- Added GUI folder navigation buttons to select meteorological and dT data
- Streamlined the Start Up panel to accommodate new buttons and more intuitively guide the user.
- User manual updated to reflect these changes.

#### Stability improvement:

- Eliminate time zones: The user no longer assigned time zones to their data. Instead AquaFlux (like base R) assumes the time zone is UTC. This eliminates any possible issues around daylight saving times and creates better program stability. It does not effect AquaFlux output, as exported AquaFlux timestamps do not list the time zone.
- All GUI folder navigation buttons confirmed to work on both Mac and Windows.

#### Back end changes

- Made the code more module-ized. Each post processing function now has it's own R script.
- Improved package metadata (DESCRIPTION & NAMESPACE) to eliminate the bugs previously interfering with downloading the package code from GitHub

### **Patch 2019.5.6**

This patch addressed a few bugs, made streamlined changes to the start up page, and ensured proper running without air temperature (TA) or vapor pressure defect (VPD). Update were also made to the manual.

#### Start up panel-

- New ability to navigate to file paths through a file browser
- Has radio bottoms asking the user if this is an new or established site
- New site questions only appear if it's a new site
- Added options for running without VPD or TA

Running without VPD or TA

- Note: missing RH, TA, and VPD are stored in AquaFlux as a column of NA's
- Added RH column option: missing data
- Added RH units option: NA
- Added TA column option: missing data
- Added TA units option: NA
- Insured that VPD is not calculated when TA or RH is missing.
- Insured that telling AquaFlux to plot missing TA and/or VPD does not interfere with program
- Insured that AquaFlux successfully and stably does not provide auto Tmax suggestions when VPD is missing.

#### Bug fixes:

- If you give it an invalid directory, it now asks you to fix it
- if you have if load data from a directory where there is no data, it will ask for correction
- AquaFlux no longer gives errors if you try to plot Tmax when there's none selected

#### Changes to internal processes, with no UI changes—

- Change internal set up of the conditional panels in the processing tab.
- Change “mV” to “dT” in internal code and external products

#### Manual updates explain:

- New setup UI
- How to download AquaFlux
- Running without VPD, TA, or RH it it's own section.
- More about the robustness of timestamps.
- VPD gapfilling.
- If you messed up on metadata, start over
- Added information on how VPD is calculated
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- How to download AquaFlux
- General read over
- If you messed up on metadata, start over