Swift Update Log

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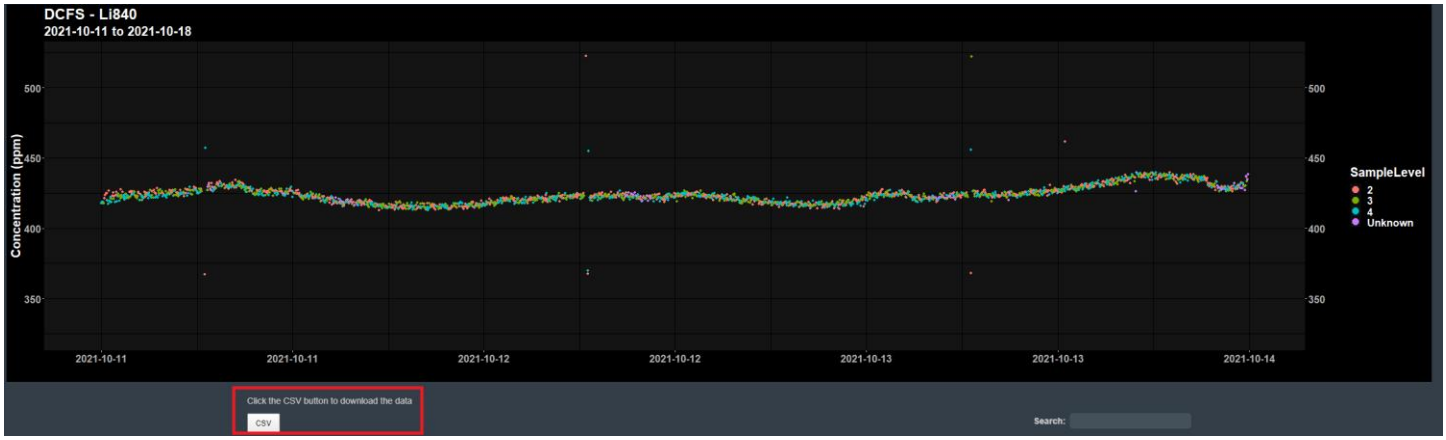
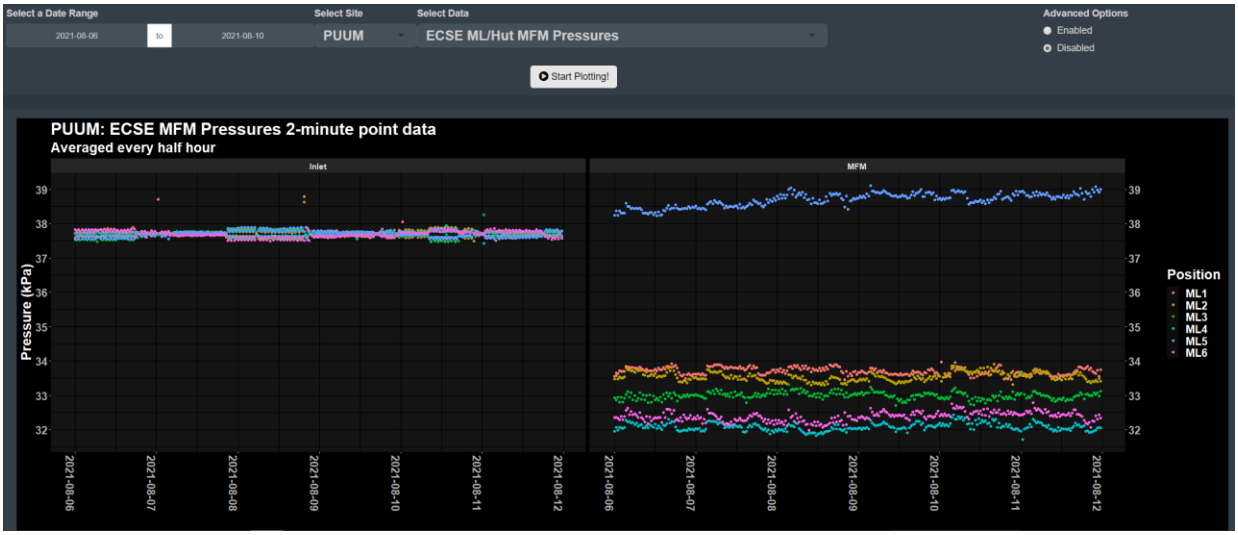
This log will detail any minor/major changes to the Swift application as the continuous development proceeds, keeping occasional and power users aware of any changes that may impact their work. If you have a question or concern about an update, **PLEASE** email or IM the maintainer. With your help we can continue to serve up helpful data for all NEON teams.

0.13.0 – 2021-10-18

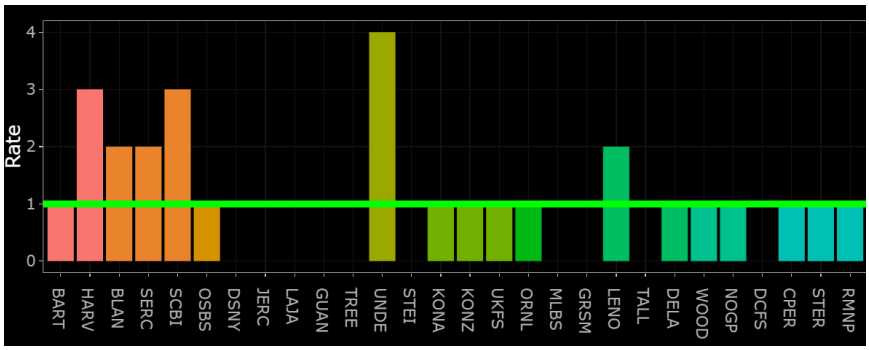
- **New Features: *Eddy-Co Plotting***
    - Data can now be downloaded from the table below the plot!



    - You can now plot ECSE Hut/MFM inlet pressures over time! They are averaged over 30 minutes though.



- **Bug Fix: *Timestamp Checker***
    - Code now allows more than 50 daily files to be pulled, allowing more data to be visualized
- **New Features: *TIS OS Data***
    - I have consolidated the TIS Site Maintenance data tab into a sub tab here.
    - Additionally, new tabs have been added such as:
        - Obs (observatory) maintenance
            - This shows overall observatory status with maintenance sampling (as requested by Matt Schroeder



- Dust Mass (currently in development)
- Wed Dep (currently in development)

0.12.0 – 2021-08-19

- **Updated Feature: *LC Services***
  - Improved load times by reducing interactivity of the overall CnC/RTU/etc plots
- **New Features: *CalVals***
  - Split into two sub tabs
  - **OLD*: CalVal Plots***: This is what used to be the primary tab.
    - Updated the logic to load in span gas values closest to the validation selected
    - Fixed bug where older G2131 data would not plot due to stream naming changes
  - **NEW: *Span Values***
    - Summary of the CVAL span gas values, included likely install and uninstall dates and more!
    - The data is filterable allowing you specify time ranges or cylinder types.

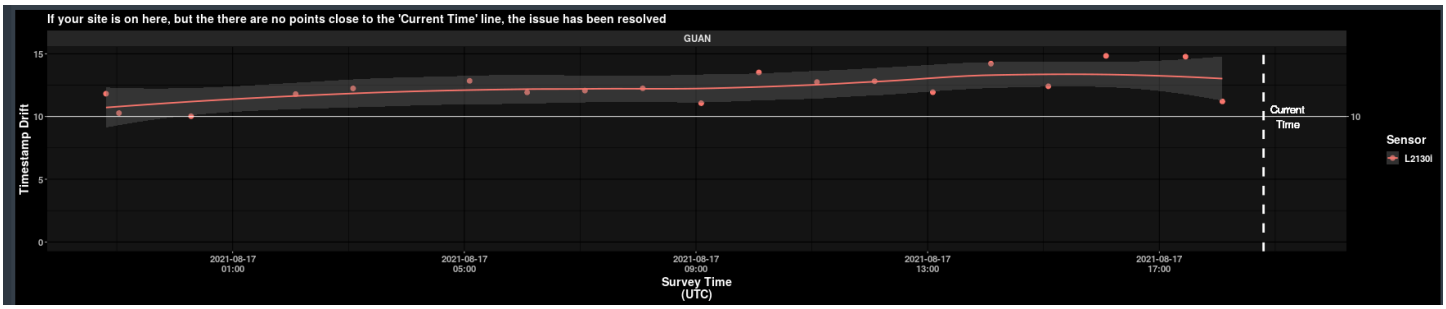
siteID	assetTag	name	CertificateNumber	aTag	concentration	concDELTA	concCH4	start_date	end_date	install_period	still_installed	notes
All	All	All	All	All	All	All	All	All	All	All	All	All
BARR	10000000005587	ECTE-LOW	235226	A12840	431.792	-9.75751	1.83331	2021-08-14	2021-08-18	4	true	
BARR	10000000005592	ECTE-Archive	235224	A9201	383.217	-9.9657	1.72633	2021-08-14	2021-08-18	4	true	
NOGP	10000000008171	ECSE-LOW	272231	A101443	364.16	-8.98657	1.72251	2021-08-13	2021-08-18	5	true	
NOGP	10000000008354	ECSE-MEDIUM	272189	A7114	447.52	-10.8835	2.0065	2021-08-13	2021-08-18	5	true	
NOGP	21000000051529	ECSE-HIGH	272191	A2569	523.583	-15.2337	2.0344	2021-08-13	2021-08-18	5	true	
NIWO	10000000000874	ECTE-LOW	272000	A9163	358.944	-9.04835	1.68948	2021-08-06	2021-08-18	12	true	
NIWO	10000000005748	ECTE-MEDIUM	272643	A92491	406.203	-8.87823	1.88052	2021-08-06	2021-08-18	12	true	
NIWO	10000000008176	ECTE-HIGH	272646	A101448	584.141	-18.3018	1.9445	2021-08-06	2021-08-18	12	true	
NIWO	10000000005561	ECSE-HIGH	272645	A9742	531.79	-15.8044	2.0344	2021-08-05	2021-08-18	13	true	
NIWO	10000000008406	ECSE-MEDIUM	272787	A1810	452.938	-10.9835	2.0285	2021-08-05	2021-08-18	13	true	
NIWO	21000000051564	ECSE-LOW	272828	A3670	378.07	-8.86466	1.84752	2021-08-05	2021-08-18	13	true	
UKFS	10000000005560	ECTE-LOW	269369	A9119	373.117	-9.3333	1.73646	2021-08-05	2021-08-18	13	true	
UKFS	10000000008340	ECTE-MEDIUM	269367	A9726	428.293	-9.49276	2.00249	2021-08-05	2021-08-18	13	true	
NOGP	10000000005750	ECTE-MEDIUM	272192	A92489	406.111	-8.94065	1.88439	2021-08-03	2021-08-18	15	true	
NOGP	10000000008371	ECTE-LOW	272193	A9165	370.195	-9.28034	1.7295	2021-08-03	2021-08-18	15	true	
NOGP	21000000010161	ECTE-HIGH	272190	A80922	581.672	-18.201	2.0095	2021-08-03	2021-08-18	15	true	

Showing 1 to 50 of 1,093 entries

Previous 1 2 3 4 5 … 22 Next

0.11.0 – 2021-08-17

- **Updated Feature: *Timestamp Checker***
  - What's new? The update uses an updated algorithm that runs a time check once an hour. This will provide more up to date information on the timestamp delay and reduce the number of false positives and negatives.
  - New plots and new tables. The information is largely the same, but some terms have been renamed to give a better explanation of what each number means.
  - Plans for the future. We will have to see how this plays out and if the plot design is robust enough to handle additional issues that are identified.



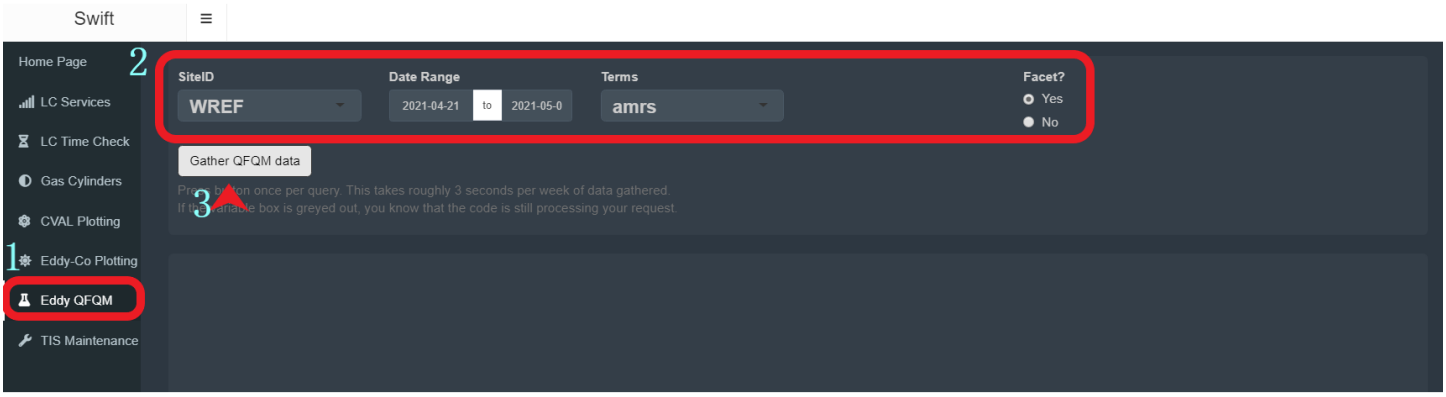
- The plot shows the drift over time. If there is a large gap between the last point and the vertical line, one greater than the refresh rate of the timestamp drift code (ie 1 hour) then the issue is likely resolved.
- There is a vertical dashed line for the current time and a horizontal solid line for the threshold at which the timestamp drift becomes an issue for processing.

0.10.0 – 2021-07-21

- **New Feature: *Eddy QFQM – Micro and Macro Views***
  - **Micro View**
    - This *new* "subtab" of the Eddy QFQM tab is what was previously the "Eddy QFQM" tab. As this is largely a more drilled down look at QFQM data, it's been renamed the "Micro View" to make room for the latest development from the QFQM data. No new updates for this version of Swift.
  - **Macro View**
    - **Background**: The Macro View subtab is a larger scale overview of the QFQM data, reporting on just core the ECTE data products: rtioMoleDryCo2, rtioMoleDryH2o, tempAir, and veloZaxsErth. The user interface is partly interactive, pulling down available data from S3 and updating the Year field dynamically.
    - **How to use this tab:** Use the input selectors to choose the SiteID, Year, EC System (currently the only option is ECTE), and Terms (these are the "eddy4R terms", i.e. rtioMoleDryCo2). Once you change a variable the graphs will automatically regenerate based upon the inputs. The graphs are heat maps of quality flagging with the **qf** field being a ratio of the number of flags raised for that variable. There's a daily range of 0 to 48 flags, the number of flags is converted to a fraction of the total possible, such that, when the **qf** field is 1.00, 100% of the data had this individual flag raised (**qf** of .45, meaning 45% of the days data had this flag).
    - **qfFinal:** this variable is the final quality flag for the data product (i.e.. rtioMoleDryCo2) so if this flag is raised, the entire period of data is flagged.
    - **qmAlph:** this flag is the percent of failed plausibility quality tests (step, spike, etc.) that occurred during an aggregation period (30-minute windows)
    - **qmBeta:** is raised when missing ancillary data prevents a plausibility test from being applied

0.9.6 – 2021-05-12

- **New Feature: *Eddy QFQM***
  - A week delayed look at the quality metrics of the eddy covariance data.
  - During data processing, quality metrics are determined based upon how much data is being flagged once in the pipeline. There is a total of 48 30-minute final quality flag raised per day.
  - This is not easily digestible unless you have a comprehensive understanding of the quality framework of the eddy covariance data products and is to be used primarily by Science to investigate data quality issues.
    1. This is where the new tab is located on the side bar



2. The array of options here are how you can specify what part of the QFQM data you want to look at.
3. Press this button once to start gathering data, this gathers data based upon the SiteID you selected and the Date Range, the other options do not require you to press this button to update the plots. However, if you want to increase the Date Range, switch SiteIDs, or both, you will have to press the Gather QFQM data to regather data.

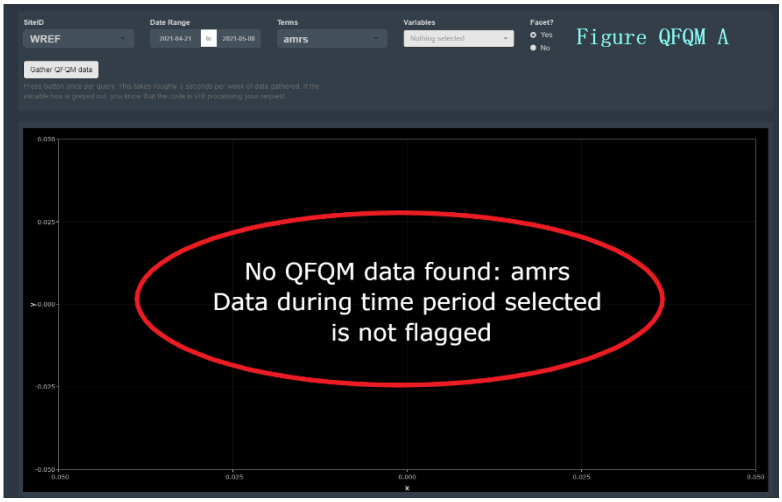


Figure QFQM A:

If no QFQM data was found, you will see a blank plot much like this one. There is no cause for concern, as this implies there are no flags for the data product you selected.

This is a common situation for shorter time ranges as there is a higher chance that there are no flags in a shorter time range. Expand the range by a few months and you will more than likely see flags appear.

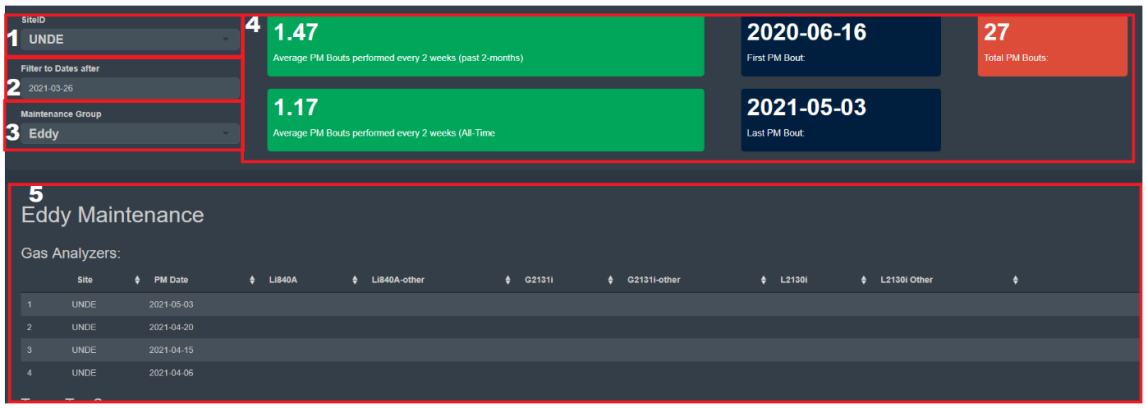
Figure QFQM B:

0.9.5 – 2021-05-05

- **Gas Cylinders:** Updated location for data to be read from, should improve speeds by 60%. Also added script to update differentials daily.

0.9.4 – 2021-05-04

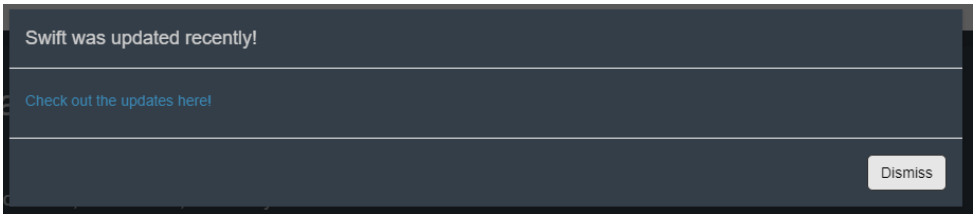
- **QFQM:** Temporarily disabled as we implement a better version…
- **New Feature:** ***TIS Maintenance***
- This addition will allow for users to quickly query their maintenance data from Fulcrum from the same location they can access other troubleshooting data. More coming in future releases!



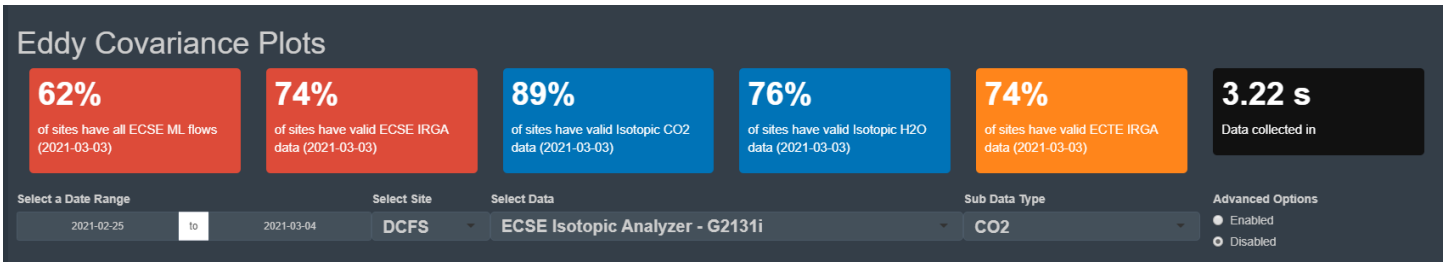
- How to use this new tab:
    1. Select the TIS site for which you'd like to observe maintenance data
    2. Select the data after which you'd like data from. Ie I want PM data after 2021-03-26
    3. Select the group of data you'd like to inspect (Tower, Soil, Eddy, DFIR, Comments)
    4. Value boxes that show useful info such as the 2-week PM bout frequency (ideally 1)
    5. The actual maintenance data collected in the field via the (TIS) Maintenance [PROD] Fulcrum application

0.9.3 – 2021-03-04

- **Overall**: Added "popup" text modal to UI to tell users when they log in there has been updates



- **Eddy Co Tab**: Reduced size of "Data Collected in:" value box
- **Eddy Co Tab**: Fixed failed plotting for Li840 Co2/H2o when no valve data was found
- **Eddy Co Tab**: Added value boxes for network wide validity calculations of the core EC sensors



- **Gas Cylinder Tab**: Fixed bug where upon deleting the currently selected site in the "Select SiteID" input would crash the app.

0.9.2 – *2021-03-03*

- **Home Tab**: Adding change log to home tab for users to easily access latest changes

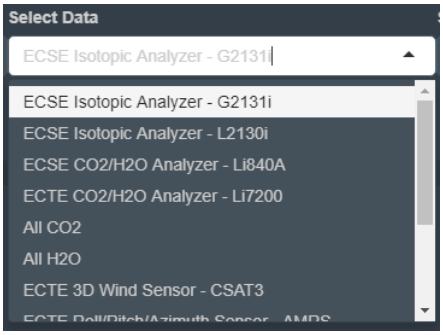
0.9.1 – *2021-03-03*

- **Overall**: Fixed library calls on den-prodshiny-1, aws.s3 libraries could not be installed on server
    - This update will only be applied to the shiny server stack, not the ISSOM stack

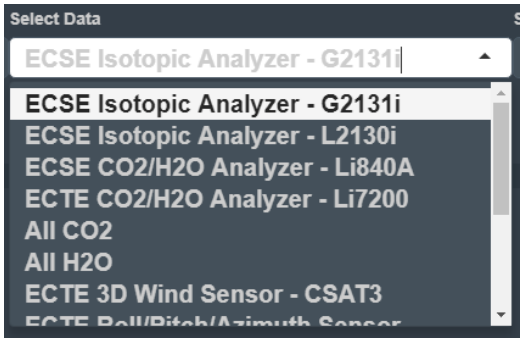
0.9.0 – *2021-03-02*

- **Overall**: Adding padding around all tables in the app
- **Overall**: Changed all plot point colors to be more visible in dark mode
- **Overall**: Change text size, face, and color for selectInputs so that text is clearer when selecting an option.

Before:



After:



- **Eddy Co Tab**: Fixed CSAT3 plotting bugs
- **Eddy Co Tab**: Fixed “All Co2/H2o” plotting bugs
- **Eddy Co Tab**: Change names of columns, “strm_name” now is “Stream Name.”
- **Eddy Co Tab**: Changed plotting logic for all “Sample Valve” plots to be more robust/precise
- **Eddy Co Tab**: Changed “good data” threshold alphas from .2 to .4 for more visibility in dark mode