The Atmospheric Radiation Measurement (ARM) User Facility Data Quality Office (DQO) was formed by the ARM Program in July 2000 at CIMMS to characterize the quality of ARM measurements and to act as the independent arbiter of data quality for the entire program. The primary objective of the DQO is to minimize the time required to address instrument problems in order to provide the best possible measurements for scientific research. DQO staff and student analysts systematically review the majority of data collected by the program by inspecting DQO-generated plots and data quality metrics tables. Any potential data quality issues are identified and communicated to ARM's instrument mentors, site operators, and data system personnel to ensure that this objective is met. Plots are generated with Python processing code developed by the DQO in conjunction with open-source software such as the Atmospheric Community Toolkit (ACT, https://github.com/ARM-DOE/ACT). The data inspection process is facilitated by specialized web-based tools developed by the DQO to inspect pre-generated and dynamic plots and assess the quality of the data. These tools include: DQ-Explorer, DQ-Plotbrowser, and DQ-Zoom interactive plotter (shown below). Data quality findings from this process are communicated to data users so that they may make informed decisions when using the data. The three primary sources of data quality information for ARM data are: (1) embedded quality control flags within data files; (2) data quality reports that are optionally integrated with data files when they are obtained; and (3) web-available instrument handbooks.

Relevant Links:
DQ-Zoom
DQ-Explorer
DQ-Plotbrowser

For further information please contact Dr. Randy Peppler (rpeppler@ou.edu)

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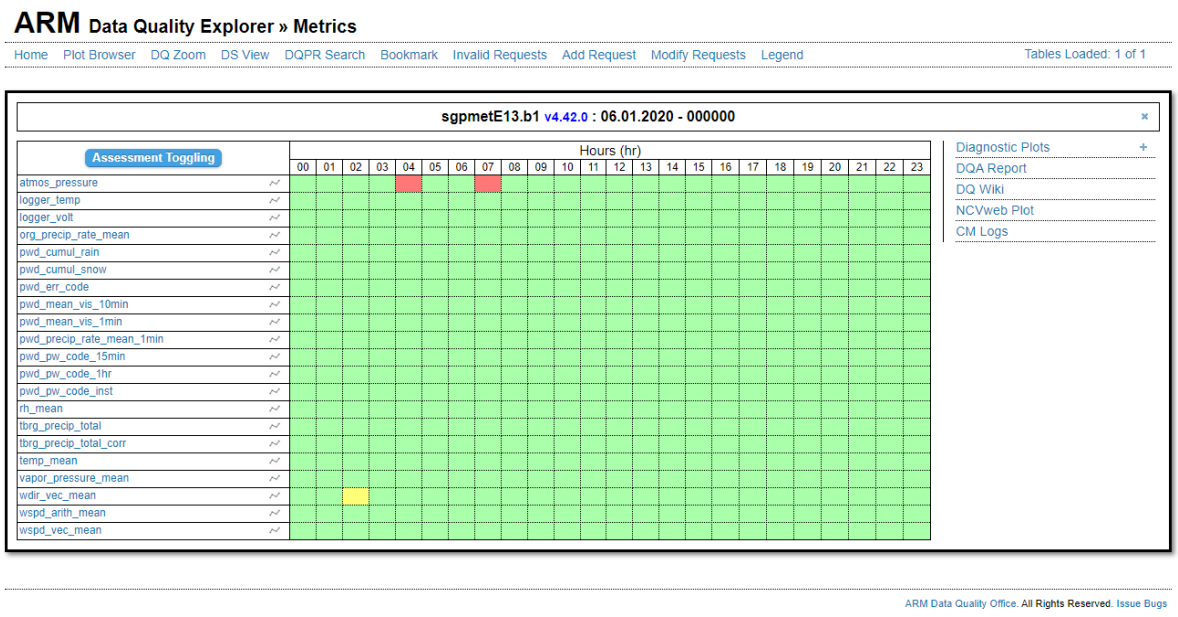
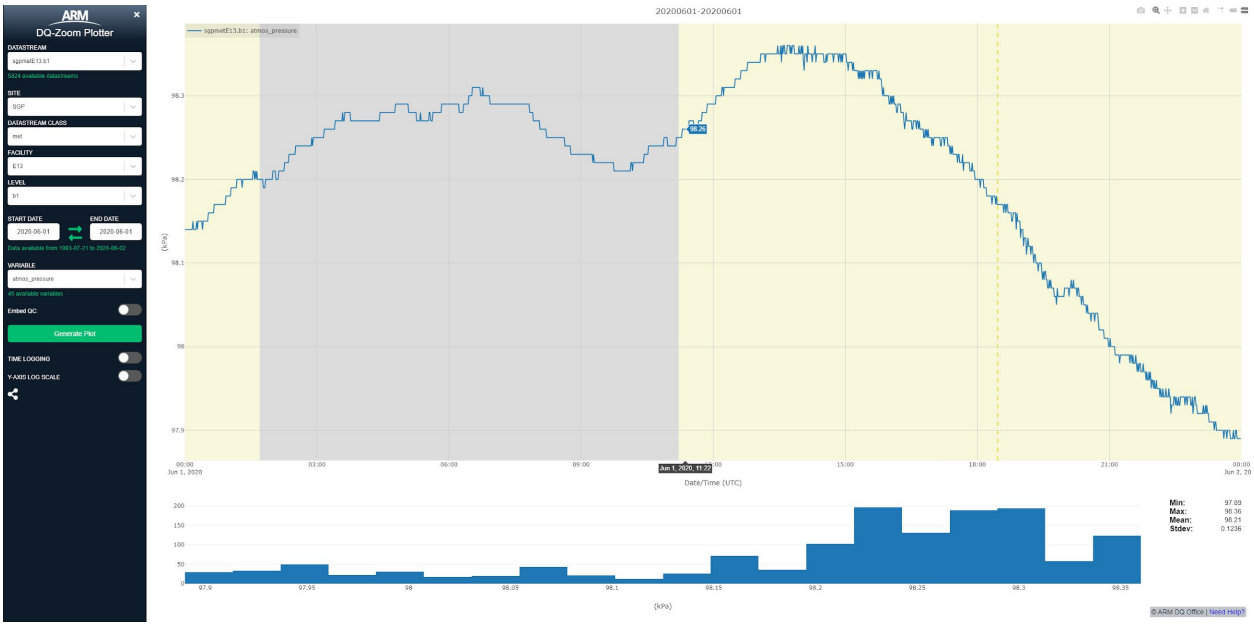
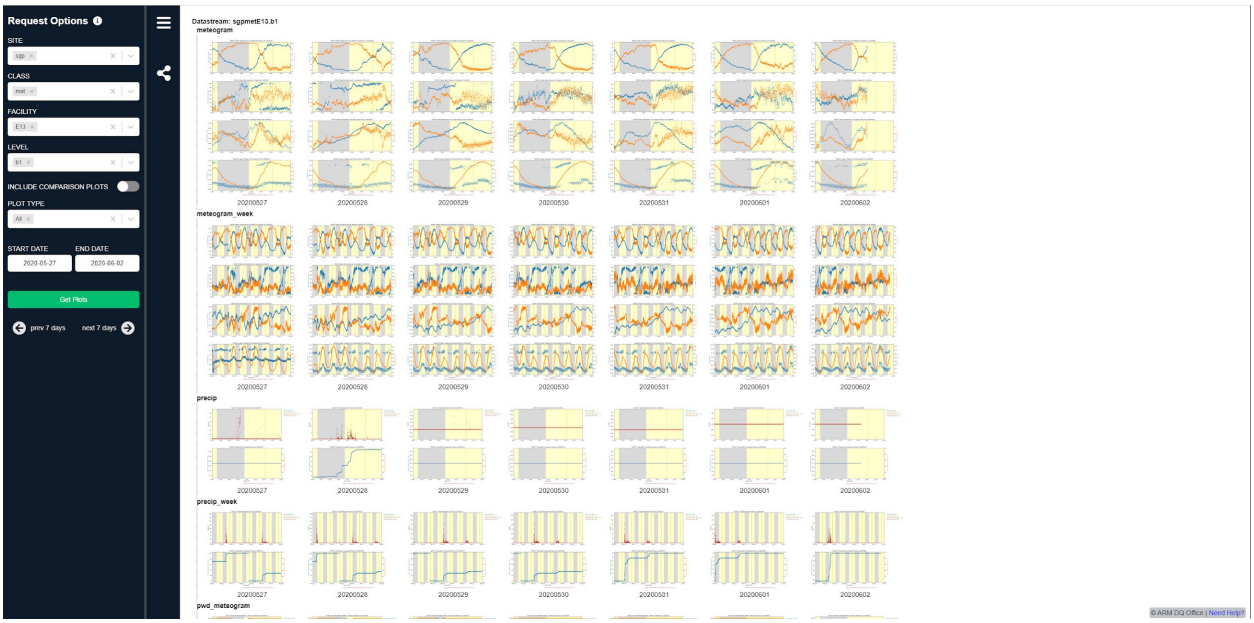


DQ-Explorer



DQ-Zoom



DQ-Plotbrowser