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ABSTRACT TITLE: The AmeriFlux Management Program: Technical QA/QC for all AmeriFlux sites, and establishment of long term AmeriFlux Core Sites

ABSTRACT: The AmeriFlux Management Program (AMP) is enhancing the utility of AmeriFlux data on terrestrial fluxes of CO_2, water, and energy with increased technical support as well as by ensuring there are long term observational records. The AMP **QA/QC and Technical Site Support team** is strengthening the AmeriFlux network by standardizing operational, calibration, and maintenance activities, setting clear data quality goals, and helping to resolve discrepancies promptly. We are conducting site inter-comparisons with roving eddy covariance measurement systems, provide calibration gas standards and lab-quality sensors to check instrument performance, and identify uncertainties associated with data processing using data diagnostics and gold-standard files. During the past eight months the new AmeriFlux QA/QC lab at LBNL has transitioned from the prior AmeriFlux QA/QC lab at Oregon State University. The team is experienced in testing new instruments and working with manufacturers, and is building working relationships with both vendors and investigators. There are eight sites scheduled for QA/QC visits this first year. They have just completed their first site visit, where calibrations, QA/QC routines and tests were conducted, and

One of the most exciting opportunities in this project is **the stewardship of AmeriFlux Core Sites** as sources of comprehensive, high quality data for a broad range of research applications. We have identified a first set of ten exceptional AmeriFlux sites, most comprising a cluster of multiple towers, which will be funded and supported to form a backbone of long-term AmeriFlux research. These sites cover a range of ecosystem types and climate regions, complement other networks and sites, comprise coherent clusters of demography and disturbance, and are good choices for addressing important ecological questions. Our strategy is to support the PIs, who understand the observational challenges and research opportunities at their sites, while drawing them to a common standard for critical instruments and protocols. We are developing tools to assist them in data QA/QC and management, tracking instrument and calibration activity, data revisions, and recalibration effects on data. The Core Sites will generally have a full-time technician at each site-cluster to carry out or oversee instrument installation, routine maintenance, calibration, and QA/QC; initial data processing, ancillary data collection and sample processing; and PI-preferred processed data.