ORNL's TES SFA Data Management in Support of MODEX to Facilitate Data Sharing and Analyses

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Data management, sharing, and archiving are an integral part of the ORNL TES SFA. The open sharing of all data and results from SFA research and modeling tasks among investigators, the broader scientific community, and the public is critical to advancing the mission of DOE's Program of Terrestrial Ecosystem Science. TES SFA researchers are developing and deploying the data systems, repositories, tools, and integration capabilities needed for the collection, storage, processing, sharing, analysis, and archiving of data and model products.

These capabilities facilitate model-data integration and provide accessibility to model output and benchmark data for analysis, visualization, and synthesis activities in support of the TES SFA Vision. Active data sharing facilitates delivery of SFA products to sponsors, the scientific community, and the public. Task specific web sites, access to web-based tools, links to external products (e.g., microbial metagenomes), and data center value-added products (http://tes-sfa.ornl.gov/) enable these interactions.

The SPRUCE experiment (Spruce and Peatland Responses under Climatic and Environmental Change) is a key component of the SFA. SPRUCE is implementing an experimental platform for the long-term testing of the mechanisms controlling the vulnerability of organisms, ecosystems, and ecosystem functions to increases in temperature and exposure to elevated CO_2 treatments within the northern peatland high-carbon ecosystem. All data collected at the SPRUCE facility, all results of analyses or synthesis of information, and all model algorithms and codes developed in support of SPRUCE will be submitted to the SPRUCE Data Archive in a timely manner such that data will be available for use by SPRUCE researchers and, following publication, the public (http://mnspruce.ornl.gov).

This poster highlights ORNL TES SFA tasks including data acquisition system development, data products, web-based tools, and their availability to project staff and the public.