7-30-2020

Design, Monitoring and Management Approaches for the Root-Zone in Microgravity

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Recommended Citation

Roles and Responsibilities
PI Jones with assistance of Co-PI Bugbee will serve as the database administrator for this project. They will ensure that data and models developed/synthesized by the project are transferred to the project database and made available to the research community. Both Jones and Bugbee have extensive experience with data management. Jones was involved with developing the T.W. Daniel Experimental Forest Observatory and with iUTAH-innovative Urban Transitions and Aridregion Hydro-sustainability (NSF Award # 1208732), which required sophisticated data management and dissemination to deal with the large volumes and diversity of data (including models and model simulation outputs). Bugbee has a long track record of data collection and dissemination in the laboratory and in the field with weather station data on campus (weather.usu.edu) and within the Cache Valley.

Expected Data Types and Results of Data Analysis
      Data types
      Data logger output files, Spreadsheets, Photographs, Model simulations
      Sources
      Sensor output, Logger response, System control inputs, Material properties, Flux
      measurements, Individual observation records and Numerical modeling simulations

Data Format
Raw data will be gathered as hard copy documentation recorded permanently in laboratory notebooks and/or as electronic files, as follows:
      Written material: Word files
      Spreadsheets: Excel files
      Digital images: tiff, jpeg
      Statistical analysis files: R, SAS
      Other: PowerPoint, Adobe PDF
All hard copy data will be digitized as either images (jpeg) or PDF documents.

Data Storage and Preservation
All hard copy records will be archived and securely stored onsite in our laboratories. All digital data will be secured on individual computers, on a secure cloud server (Box.com) maintained by the university with restricted access and on an external hard drive maintained offsite. Digital data will be backed up periodically to the cloud and to the external hard drive.

Data Sharing and Public Access
It is our intention to publish research data in publicly available journals, including all relevant raw data related to that work, which may be deposited as supplementary information at the journal website or made available through USU's Digital Commons repository.

All original research data will be secured with access restricted to personnel involved directly in this research project. Access will be granted and managed by the PI and/or Co-PI; access to cloud storage via Box.com is managed using various permission level settings (e.g., view

access only, or view/edit/delete access).

No costs are required for managing data; Box.com provides unlimited storage to USU.