Exploration into mesh pad method

Expected Data Type

Describe the type of data (e.g. digital, non-digital), how it will be generated, and whether the data are primary or metadata.

- **Research examples include: lab work, field work and surveys.**
- **Education examples include: number of students enrolled/participated, degrees granted, curriculum, and training products.**
- **Extension examples include: outreach materials, number of stakeholders reached, number of activities, and assessment questionnaires.**

- Data sheets for recording weight measurements observed at each pad position.
- CSV files storing weight measurements (fieldwork), rainfall accumulation (Mesonet), topographic attributes (ArcGIS), TSS loads (H-flume), total carbon, total Nitrogen and total Phosphorus
- Tables and databases containing soils data (gSSURGO)
- Vector and raster files defining area of interest boundaries, digital elevation models (DEM), drainage characteristics

Data Format

For scientific data to be readily accessible and usable it is critical to use an appropriate community-recognized standard and machine readable formats when they exist. If the data will be managed in domain-specific workspaces or submitted to public databases, indicate that their required formats will be followed. Regardless of the format used, the data set must contain enough information to allow independent use (understand, validate and use) of the data.

.csv, .txt, .fgdb, .py, and .r formats

Data Storage and Preservation

Data must be stored in a safe environment with adequate measures taken for its long-term preservation. Applicants must describe plans for storing and preserving their data during and after the project and specify the data repositories, if they exist. Databases or data repositories for long-term preservation may be the same that are used to provide Data Sharing and Public Access. Estimate how much data will be preserved and state the planned retention period. Include any strategies, tools, and contingency plans that will be used to avoid data loss, degradation, or damage.

Data will be stored in the STRIPS Team CyBox, as well as saved locally on a harddrive, and made available to the public on GitHub. This data will be available for at least 5 years, and a static dataset that users can download and use but has no plans for updates and maintenance.

Data Sharing and Public Access

Describe your data access and sharing procedures during and after the grant. Name specific repositories and catalogs

as appropriate. include a statement, when applicable, of plans to protect confidentiality, personal privacy, proprietary interests, business confidential information, and intellectual property rights. Outline any restrictions such as copyright, confidentiality, patent, appropriate credit, disclaimers, or conditions for use of the data by other parties.

While preparing the dataset for analysis and publication, the data was only shared with direct collaborators aiding in analysis and interpretation using CyBox and GitHub. The locations where observations were made have been anonymized to protect location and privacy of farms participating in this study.
The anonymized data will be shared with the public using GitHub.

Roles and Responsibilities

Who will ensure DMP implementation? This is particularly important for multi-investigator and multi-institutional projects. Provide a contingency plan in case key personnel leave the project. Also, what resources will be needed for the DMP? If funds are needed, have they been added to the budget request and budget narrative? Projects must budget sufficient resources to develop and implement the proposed DMP.

Jessica Nelson and Jarad Niemi will ensure implementation of the DMP.

Planned Research Outputs

Dataset - "Field-scale depositional patterns of TN, TP, and TC"

The raw data measured at each pad location from 2016-2020 of surficial Total Nitrogen, Total Phosphorus and Total Carbon. Data collected at soil movement study sites and analyzed at the U.S. Forest Service, Grand Rapids, MN.

Dataset - "Mass of soil observations"

This dataset includes mass of soil observed on each pad position from 2016 to 2020, as well as experimental design descriptions associated at each pad (i.e., Site ID, pad position, year).

Dataset - "Total Suspended Solids (TSS)"

Data paper - "Manuscript"

Manuscript discussing mesh pad method and how well the method performs to evaluate field-scale soil movement.

Planned research output details

Title	Type	Anticipated release date	Initial access level	Intended repository(ies)	Anticipated file size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
Field-scale depositional patterns of TN, TP, and T ...	Dataset	2022-01-01	Open	None specified		None specified	None specified	No	No
Mass of soil observations	Dataset	2022-01-01	Open	None specified		None specified	None specified	No	No
Total Suspended Solids (TSS)	Dataset	Unspecified	Open	None specified		None specified	None specified	No	No
Manuscript	Data paper	Unspecified	Open	None specified		None specified	None specified	No	No