1. **Contacts**

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1. **Workshop title**

Conducting Open Science using R and DataONE: A Hands-on Primer

1. **Description (<250 words):**

The inherent variability in ecological systems has placed a premium on well-designed studies that can elucidate patterns and processes that are fundamentally important to ecology. The analysis and modeling approaches used in these studies to understand this ecological variability are critically important to understanding and verifying the conclusions from these experiments. Although students learn how to acquire and analyze data, only recently has there been an emphasis on doing so in an open manner that allows for full reproducibility of ecological science. In this workshop, we will examine the convergence of open access, open data, and open source and their ability to jointly facilitate open science.

The purpose of this workshop is to highlight the use of open software tools for conducting open science in ecology. Through a series of hands-on activities, participants will explore approaches to accessing data from the DataONE federation in analytical tools such as R, and then conduct basic data assessment, summarization, and visualization using that data. We will also expose students to various R libraries available from the ROpenSci project for accessing data, and in the use of R for generating data documentation and archiving data in DataONE-compatible data repositories.

We are targeting early-career scientists, including students, postdocs, and faculty that would benefit from new techniques for open science and educators who want to incorporate open science concepts in curricula. Workshop participants should have a basic understanding of data analysis and statistics, and it would be helpful if they have had basic exposure to the R system. Participants must bring their own laptop to participate in hands-on activities, and must have the ability to install new software.

This workshop is linked to a related workshop on data management being proposed by DataONE that may be useful and complementary.

1. **Summary Sentence (<50 words):**

This workshop will explore how to practice open science using the R system in combination with libraries for data access from DataONE and other systems via ROpenSci. Through hands-on activities, participants will build portable analytical scripts to access data, handle basic data manipulation, and publish derived data and results in a manner that is open and citable.

1. **List of speakers**

*Confirmed participants*

Matthew Jones, NCEAS & DataONE

Mark Schildhauer, NCEAS

Jim Regetz, NCEAS

*Potential Participants*

Karthik Ram, ROpenSci

Carl Boettegir, ROpenSci

1. **List of equipment needed**

Screen

LCD Projector

Internet Connection with sufficient bandwidth for wireless transmission to ~35 users (wireless router provided)

Flip charts (5 for breakout discussions)

Power strips at each table

1. **Number of participants**

Minimum: 12

Maximum: 35

1. **Proposed date/time**

Sunday, August 5, 2011

12 – 5 pm

1. **Room setup**

Conference style with round tables and power strips at each table

1. **Underwriting of workshop costs**

Organization/Contact: NCEAS

Amount: Workshop refreshments