Thermo-imaging bipedalism on the savanna: Chimpanzee locomotion at Fongoli, Senegal and implications for the evolution of hominin bipedalism

A Data Management Plan created using DMPTool

Creator: Nicolette Wackerly

Affiliation: Iowa State University

Template: National Science Foundation (NSF)

Last modified: 09-17-2018

Thermo-imaging bipedalism on the savanna: Chimpanzee locomotion at Fongoli, Senegal and implications for the evolution of hominin bipedalism

Data and Materials Produced

Describe the types of data, physical samples or collections, software, curriculum materials, and other materials to be produced in the course of the project. (For collaborative proposals, the DMP must cover all the various data types being collected by each collaborator.)

Data will be collected on wild, adult male chimpanzees (n=12) at Fongoli, Senegal using rough 5-minute focal animal sampling methods. Thermo-imaging data will be collected with a FLIR E75bx IR camera. Due to delays of the FLIR E75bx IR camera and the specificity of camera angles, a more flexible data collection method when taking thermo-images is necessary than what a strict 5-minute protocol can provide. Additionally, as bipedal behavior is a large component of this study, yet is relatively infrequent, opportunistic sampling will be employed whenever an adult male is seen exhibiting this behavior.

Data will be recorded in a rite-in-the-rain data book to ensure raw data is protected in all weather conditions during the field season. Recorded data will include: positional behavior, habitat type, behavioral context, body temperature, ambient temperature, substrate, sun exposure, and thermo-image range.

Thermo-images will be saved on an SD memory card and backed up every few days onto a laptop computer, an external hard-drive and onto Dropbox. Additionally, every few days raw data will be entered into an Excel file and backed up onto an external hard-drive throughout the field season. These data will be processed using R Studio.

These data will be useful in assessing the effects of thermal stress for apes generated by various positional behaviors, as well as in open versus closed environments.

Standards, Formats and Metadata

Describe the standards to be used for all the data types anticipated, including data or file format and metadata.

Data will be available in raw format in original field data books. These data will be typed into an Excel datafile and converted to a .csv format. Thermo-images will be saved in a .jpg format.

Metadata will include a full behavioral catalog detailing all positional behaviors and behavioral contexts defined in this study, as well as the various habitat types and other parameters. Metadata will be in the form of a “read me” file, and will be distributed in the same storage directory as the data.

Roles and Responsibilities

Describe the roles and responsibilities of all parties with respect to the management of the data (including

contingency plans for the departure of key personnel from the project).

Primary ownership will be shared by the lead graduate student and principle investigators.

Data collection and entry is performed by the lead graduate student on the project. Additionally, the lead graduate student is responsible for generating metadata, as well as further monitoring of the data management plan.

Dissemination Methods

Describe the dissemination methods that will be used to make data and metadata available to others during the period of the award, and any modifications or additional technical information regarding data access after the grant ends.

The results of data analysis will be made available in the dissertation project of Nicole Wackerly, lead graduate student on the project, as well as in any publications in association with this research. Raw data and code used for analysis and processing will be available in the GitHub repository of the lead graduate student.

Policies for Data Sharing and Public Access

Describe the PI's policies for data sharing, public access and re-use, including re-distribution by others and the production of derivatives. Where appropriate, include provisions for protection of privacy, confidentiality, security, intellectual property rights and other rights.

Data and code for processing and analyzing will be available on the GitHub repository of Nicole Wackerly. Data will be free to use as long as they are properly credited and cited.

Archiving, Storage and Preservation

Where relevant, describe plans for archiving data, samples, software, and other research products, and for on-going access to these products through their lifecycle of usefulness to research and education. Consider which data (or research products) will be deposited for long-term access and where. (What physical and/or cyber resources and facilities (including third party resources) will be used to store and preserve the data after the grant ends?)

Data files will be stored on an external hard drive, CyBox and on my GitHub repository. The original field notebooks containing the raw data will be preserved by the lead graduate student (Nicole Wackerly).

Products of the research will be made available through Iowa State University (final dissertation) and any journals in which this study is published.