Andrews Forest LTER8 Annual Report Template

Year 4 (Nov 1, 2023 – Oct 31, 2024)

*You may use this template to organize your report on your activities and research associated with the last year of the Andrews Forest LTER8 grant. This template covers what is required of NSF via the Research.gov reporting system.*

***Upload your information to the*** [***online form***](https://forms.gle/15oq67wxRSgPWChG9)***.***

Accomplishments

TITLE OF YOUR PROJECT:

**Major Activities:** *(please keep this section short. Mention impact of Lookout or Ore Fire, here, if relevant)*

**Things i did over the summer and the last six monrhs eg assembling dendro and climate sata and working through iut whichh goes beyond collection**

Much of my major activities over the past academic year revolved around statistical analyses in R. The HJA Provisional Data Portal contains annual spreadsheets of site-specific microclimate data taken every 5 minutes. The spreadsheets I am working with go back to 2014. Through course curricula and personal practice, I have learned R sufficiently enough to start combining and analyzing these data in one space, which has not yet been done with these specific data. In these analyses, I have created functions to convert calendar dates to water year dates and have visualized trends in the data in the endeavor to find patterns and compare them with tree growth based on dendrometer data also found in the HJA provisional portal.

The Lookout and Ore Fires both affected my work in that they caused partial data losses in the microclimate sensors. The Ore Fire prevented me from accessing the HJA for summer site visits. Similarly, the fire slowed my work due to lack of access to information that was only accessible via my mentor Mark Schulze, who was occupied with coordinating evacuations and fire personnel.

**Specific Objectives:** *(please keep this section very short: just a sentence or two)*

My objectives over the next academic year are to collect, prepare, and analyze tree core samples taken from sites at HJA but mainly near the Discovery Tree. I plan to continue analyzing microclimate data and plan to finish writing and defending my thesis by spring or summer of 2025.

**Significant Results (including major findings, developments, or conclusions):**

N/A

**Key outcomes or other achievements:**

N/A

What opportunities for training and professional development has the project provided? (From NSF "For NSF purposes, please summarize the contributions to the research and teaching skills and experience of those who have worked on the project, including undergraduate students, graduate students, post-docs, college faculty, and K-12 teachers. If your project supported postdoctoral researchers, then you must include a summary of the mentoring activities conducted.")

I have received formal academic training of R via two classes through OSU: "Methods of Data Analysis" and "R Programming for Data Analysis." These classes have been essential for me in my ability to analyze microclimate data from HJA for my project. Similarly, I have taken or am currently taking two classes that have helped my research endeavors more broadly: "Communication Skills for Scientists" and "Interdisciplinary Approaches to Problems." Outside of my academic studies, I attended a 4-day eco-physiology workshop in October 2023 called PhysFest. There, I received short yet detailed lessons in a variety of topics including plant hydraulics and field measurements using Li-Cor instruments. Lastly, I attended HJA's field safety training day in June 2024.

How have the results been disseminated to communities of interest? (From NSF: "Describe how the results have been disseminated to communities of interest. Include any outreach activities that have been undertaken to reach members of communities who are not usually aware of these research activities, for the purpose of enhancing public understanding and increasing interest in learning and careers in science, technology, and the humanities.")

I have shared my research in three oral presentations over the last year. Firstly, I presented at OSU's Biology Graduate Student Symposium in April 2024. The following month, I presented at the 2024 Pacific Northwest Water Research Symposium, which was also hosted at OSU. Lastly, that same month, I shared my work to my class as my term project for my aforementioned communications class. Moving forward, I am slated to share my work with the attendees of the December monthly HJA meeting.

What do you plan to do during the next reporting period to accomplish the goals?

(From NSF: "Describe briefly what you plan to do during the next reporting period to accomplish the goals and objectives.")

Over the next reporting period, I will continue learning and working in the same way I have been. As mentioned, I am currently enrolled in a class to develop skills in interdisciplinary problem solving. Future classes I will take to help my project include "Natural Resource Data Analysis," in which I will be able to use my own data with the mentorship of a university statistician.

**Products**

Please send your Andrews Forest LTER related publications (as PDFs) to [hjapubs@lists.oregonstate.edu](mailto:hjapubs@lists.oregonstate.edu)

List any products resulting from your project during the specified reporting period, such as:

**Journals:**

**Books:**

**Book Chapters:**

**Thesis/Dissertations:**

**Conference Papers and Presentations:**

**Other Publications:**

**Technologies or Techniques:**

**Websites:**

**Other Products:**

Participants

You must list participants who have worked one month or more for the project reporting period. There are no limits on the number of participants you list for this section.

What individuals have worked on the project?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Email** | **Most senior project role** | **Nearest person month worked** | **Contribution to project** | **Funding support** |
| **Gabhriel John** | [**johnga@oregonstate.edu**](mailto:Johnga@oregonstate.edu) | graduate research assistant |  |  |  |
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**What other organizations have been involved as partners?**

* Type of Partner Organization (choose from: academic, nonprofit, industrial or commercial, state or local government, schools, other)
* Name
* Location
* Partner’s contribution to the project (choose from: facilities, personnel, In-kind, collaborative, other)

**Have other collaborators or contacts been involved?**  (Some significant collaborators or contacts within the recipient's organization may not be covered by "What people have worked on the project?" Likewise, some significant collaborators or contacts outside the recipient's organization may not be covered under "What other organizations have been involved as partners?" For example, has there been any:

* collaborations with others within the recipient's organization; especially interdepartmental or interdisciplinary collaborations;
* collaborations or contact with others outside the organization; and
* collaborations or contacts with others outside the United States or with an international organization

Impact *From NSF: "This component will be used to describe ways in which the work, findings, and specific products of the project have had an impact during this reporting period."* Do the best you can. Brief is encouraged.

**What is the impact on the development of the principal discipline(s) of the project?** (From NSF: "Describe how findings, results, techniques that were developed or extended, or other products from the project made an impact or are likely to make an impact on the base of knowledge, theory, and research and/or pedagogical methods in the principal disciplinary field(s) of the project. Provide postdoctoral mentoring or other mentoring.")

**What is the impact on other disciplines?** (Describe how the findings, results, or techniques that were developed or improved, or other products from the project made an impact or are likely to make an impact on other disciplines.)

**What is the impact on the development of human resources?** (For purposes of NSF, this should address "all efforts to broaden participation in science and engineering." How has the project provided opportunities for research, teaching and mentoring in science and engineering areas?

**What was the impact on teaching and educational experiences?** (Describe how the project made an impact or is likely to make an impact on teaching and educational experiences. For example, has the project: developed and disseminated new educational materials; led to ideas for new approaches to course design or pedagogical methods; or developed online resources that will be useful for teachers and students and other school staff?

**What is the impact on physical resources that form infrastructure?** (Describe ways, if any, in which the project made an impact, or is likely to make an impact, on physical resources that form infrastructure, Including physical resources such as facilities, laboratories, or instruments.)

**What is the impact on institutional resources that form infrastructure?** (Describe ways, if any, in which the project made an impact, or is likely to make an impact, on institutional resources that form infrastructure, such as establishment or sustenance of societies or organizations.)

**What is the impact on information resources that form infrastructure?** (Describe ways, if any, in which the project made an impact, or is likely to make an impact, on information resources that form infrastructure. Include information resources, electronic means for accessing such resources or for scientific communication. Information resources should include data services and preservation.)

**What is the impact on technology transfer?** (Describe ways in which the project made an impact, or is likely to make an impact, on commercial technology or public use.)

**What is the impact on society beyond science and technology?** Describe how results from the project made an impact, or are likely to make an impact, beyond the bounds of science, engineering, and the academic world.