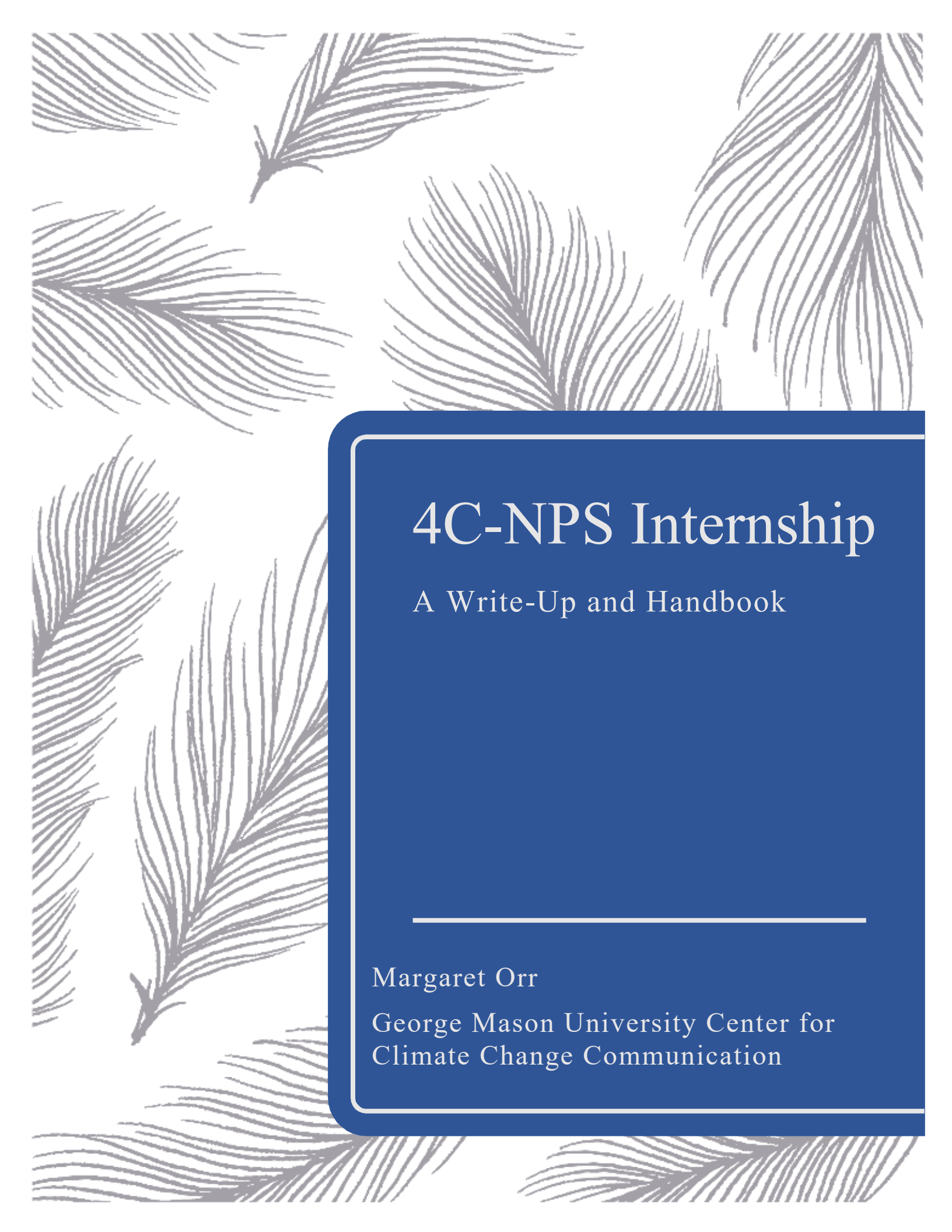




4C-NPS Internship

A Write-Up and Handbook

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Introduction

In Summer 2012, the National Park Service Capital Region's Urban Ecology Research Alliance (NPS UERLA) and the George Mason University Center for Climate Change Communication (4C) teamed up to offer a climate communication summer internship program geared towards junior/senior undergraduate students and graduate students training in fields relevant to climate change communication in the Park Service. The program ran for nine summers, resulting in effective communication materials for the Capital Region parks, a strong partnership between UERLA and 4C, and many quality interns who have gone on to important careers in climate and environmental communication.

Much of the value of this internship program comes from the collaborations that happen between interns and their mentors within the NPS Capital Region and 4C. While host park staff set out broad goals, topics, and desires for the summer's work, interns have the freedom to explore different approaches to tackling their project(s) under active guidance from NPS mentors, host parks, and 4C. These mentors provide feedback throughout the process of developing communication materials and collaborate with interns to create useful deliverables. The fairly short time span of a summer internship allows interns to be uniquely exposed to a fast-paced and intense work environment, developing new collaborative relationships with mentors and peers and working quickly towards a common goal.

This handbook documents the internship and its process, describes the roles of program leaders, and provides a resource for the revival of the internship should funding become available. It is divided into two parts. First, we describe the research-backed principles of climate change communication that inform the internship and the products created by summer interns, featuring examples of work from past summers. Second, we provide an overview of how the internship was run, from the start of the recruitment process to the end of the summer. This overview focuses on the responsibilities of the Project Manager, with brief mention of roles historically played by members of the 4C team and the NPS/UERLA team.

Internship Description from 2021 Advertisement Materials

The National Park Service (NPS) cares for special places saved by the American people so that all may experience our heritage. In this capacity, NPS is in a unique position to observe changes brought about by global warming and to engage park visitors in conversations about climate change. George Mason University's Center for Climate Change Communication (4C) conducts research on and teaches about climate change public engagement strategies. In this internship program, up to eight interns (including two multimedia interns) will have the opportunity to work with 4C, NPS, park staff, and the NPS's Urban Ecology Research Learning Alliance on climate change communication projects at National Capital Region Parks (Greater Washington, D.C.). Examples of previous years' projects can be found on our website (nps4c.org). The 10- to 12-week internships are open to graduate students, or exceptional rising junior or senior undergraduate students. The internship program seeks to create teams of students with interdisciplinary backgrounds and interests in a combination of biology, environmental science, sustainability, natural resources, sociology, communication, psychology, graphic design, filmmaking, videography, and other disciplines related to the communication products desired by

staff of partner parks. Ideal applicants will have a strong interest in National Parks and a positive attitude and interest in learning, thinking creatively, and working as a member of an interdisciplinary complex-science communication team. Students must be attending a U.S.-accredited college or university and must be legally allowed to work in the U.S. Interns may be required to pass a federal government background check. Internships are full time (40 hours per week) for ten weeks, with an optional 2-week extension for the graphic design and filmmaking interns to finalize their work. All work will take place in the Washington, DC metro area. Housing is not provided.

Part 1: Climate Communication Research

In this section, two guiding heuristics from decades of social science research are outlined. These are some of the core ideas taught to 4C-NPS interns, forming the foundation on which communication materials are designed throughout the summer. The first heuristic, for effective communication is *simple clear messages, repeated often, by a variety of trusted and caring sources*. The second, geared towards helping people change their behavior, is *make the recommended behavior(s) easy, fun, and popular*. The information presented in this section is condensed from Maibach et. al. (2023), which we recommend as further reading for those interested.

Simple, Clear Messages

When audiences are presented with too much complicated information, it undermines the effectiveness of that information for communication and learning. As described by Daniel Kahneman in his 2011 book *Thinking Fast and Slow*, people generally have two systems of thinking. System 1, which is fast and automatic processing of information; and System 2, which involves slower, more effortful processing. When presented with complex information, most people tend to rely more on System 1. Instead of considering all the information available, audiences rely on pre-existing knowledge and mental models of how the world works which may not be correct or accurate.

Information about climate change is often complex and detailed. When it comes to climate change, audiences hear about changes in temperature, changes in precipitation, health hazards, statistics, records, models, solutions, and more. In the words of Baruch Fischhoff, given all this information, “people simplify. Our job (as science communicators) is to help them simplify appropriately” (Fischhoff, 1989). Helping audiences “simplify appropriately” means distilling information down to its key takeaways and presenting only those most important aspects, without the use of jargon and technical terms.

Drawing on the idea of helping people simply appropriately, 4C-NPS interns created rack cards for Kenilworth Park and Aquatic Gardens with simple messages about the health effects of climate change. While climate change has numerous health consequences, this rack card focuses on three that are concrete and relevant to the geographic area of Washington D.C., where Kenilworth is located. The information in the card is straightforward and provides the most important takeaways without getting in to complex technical and scientific information. An example of text from this rack card is below.

How Does Climate Change Impact Human Health?

Heat Related Illnesses

Increasing temperatures, especially during the summer months and during the night, will lead to an increase in heat-related illnesses such as heat stroke. Those who are most vulnerable to heat related illnesses are children under five, the elderly, and the homeless.

Respiratory Illnesses

Increasing temperatures will also lengthen pollen season as plants bloom earlier, which can increase the frequency and severity of allergic illnesses. Additionally, increased flooding as a result of increased precipitation events and storm surges will also lead to increases in allergens and asthma, specifically from water damage that can lead to undetected mold.

Increase in Vector Borne Diseases

Increasing temperatures, more precipitation, and higher humidity leads to a favorable climate for the development and survival of ticks, which carry the bacteria that leads to Lyme disease. Additionally, more mild winters in this region allows for more ticks to survive the winter.

Repeated Often

When audiences are exposed to a message repeatedly, the message is more effective. This occurs because it is more persuasive cognitively (i.e. the information is more available in people's minds) and affectively (i.e. the audience feels more positively about the message) (Chong & Druckman, 2013; Pechmann & Stewart, 1988). Message repetition also engages both the fast and slow thinking processes previously mentioned. It makes messages more available in audience members' minds which helps the message to be recalled quickly and easily, while also allowing the audience to think repeatedly about the message's content, enabling slower thinking. Additionally, repetition of a message combats the tendency of message effects to wear off quickly (Nyhan et. al., 2022; Palmgreen et. al., 2001). Previous research has shown that the optimal frequency of message repetition is approximately 80 exposures per month (Marshall & Lu, 2022). These repeated messages do not need to be identical to be effective; the themes can vary to reduce audience message fatigue (Kim & So, 2018).

National Parks provide a unique opportunity for repeated messaging, as similar messages can be reiterated across different contexts and parks. For example, interns created Climate Connections pieces for various monuments around Washington, DC. Each piece details a connection between climate change and the subject of the memorial—such as Dr. Martin Luther King Jr.'s fight for social justice and the environmental injustices of climate change or Jefferson's mention of a changing climate in his Notes on the State of Virginia and the effect of sea level rise on the Tidal Basin area. While not repeating the exact same message, these pieces emphasize the ubiquity of climate change and expose visitors to repeated messages about climate change.

National Capital Region

National Park Service
U.S. Department of the Interior



Climate Connections: Jefferson Memorial

Jefferson's Notes on a Changing Climate

Climate Change Connection: Thomas Jefferson was a Renaissance man who had many ideas that were ahead of his time. He discussed the issue of a changing climate in his Notes on the State

is the result of water vapor gathering around tiny dust particles called condensation nuclei. These individual droplets then condense to form clouds. Acid rain is formed when the condensation nuclei are created with dust from emissions of sulfur dioxide or nitrogen oxide. More greenhouse gas

National Capital Region

National Park Service
U.S. Department of the Interior

Climate Connections: Martin Luther King Jr. Memorial

Remaining Awake Through a Great Revolution

Climate Change Connection: The Dr. Martin Luther King, Jr. memorial is often associated with justice. MLK, Jr. referenced the notion that "injustice anywhere is a threat to justice everywhere." The changing climate

Yoshino cherry blossoms and the pink of the granite create a vibrant display of color. The projections of bloom dates for the cherry blossoms of a week to month earlier would change the timeline of the imagery of blossoms for visitors at this memorial.

By a Variety of Trusted Sources

People tend to take advice and believe messages from sources that they find credible. It is important to note that a source is only as credible as the audience believes it to be. Audiences assess credibility on three broad, interconnected dimensions. The first is trustworthiness, perceiving that a messenger has truthful intent (Hovland et. al., 1953). The second is benevolence, where a source is perceived as caring about the audience and having the audience's best interests in mind (McCroskey & Teven, 1999). Finally, perceived expertise means that a source has the knowledge, skills, and competency necessary to provide accurate information about the topic at hand (Pornpitakpan, 2004).

Previous research by the George Mason University Center for Climate Communication and Yale Program on Climate Communication (2011) has shown that Americans trust the National Park Service for information about climate change. This is an important opportunity to capitalize on this trust and make climate change messaging a part of the visitor experience in National Parks. Additionally, audiences tend to perceive a source as more trustworthy when they are not being lectured but rather engaged in a discussion (Martin & MacDonald, 2020; Vraga, 2019; Zeng et. al., 2021). NPS Interpretive Rangers are well-trained in conversational presentation skills—they can leverage this to build public trust and have climate-related conversations with park visitors.

Make Behaviors Easy

Even though a fairly large segment of Americans think climate-friendly behaviors are important, a much smaller number engage in these actions. This phenomenon is known as the Attitude-Behavior Gap, where people do not always behave according to their values or intentions due to obstacles that prevent them from performing those behaviors (Ajzen et. al., 2019; ElHaffar et. al., 2020; Ballew et. al., 2024). These barriers come in a few forms. Personal barriers are individual-level and include factors such as lack of knowledge or the mental energy required to perform a non-routine task. Social barriers are related to what peers are or are not doing and the desire to conform to what society deems appropriate (we elaborate more on this in the "Make Behaviors Popular" section). Finally, situational barriers are external, non-social factors such as a lack of time or money or the inaccessibility of a behavior. The Attitude-

Behavior Gap can be addressed by helping audiences overcome these barriers, which can involve providing resources, demonstrating behaviors, and/or making desired climate-friendly behaviors the default option.

Interns in 2015 developed recycling infrastructure to make it easier for visitors at Harper's Ferry to separate recyclables from trash and properly dispose of both. In 2012, C&O Canal interns created reminder stickers to help visitors engage in climate-friendly behaviors such as turning off lights upon leaving the room and conserving water. Both are examples of ways to break down personal barriers—they decrease the mental energy required to properly dispose of recyclables and engage in other climate-friendly behaviors by providing reminders so that people don't have to remember on their own.



Make Behaviors Fun

“Fun” here is used to encompass things that people find beneficial or rewarding. Often with climate mitigation and adaptation actions, people feel that they are incurring costs for benefits that they themselves will not see and will instead apply to people elsewhere in time and space. Such “pay now, benefit later” situations rarely attract participation (Rothschild, 1999). Therefore, it is important to highlight ways that climate-friendly behaviors can immediately benefit those performing them.

Social Cognitive Theory reveals three motivations that people have for taking an action: physical benefits (i.e. physical pleasure, reduced risk of harm), social benefits (i.e. enhanced social standing, rewarding social interactions), and self-evaluative benefits (i.e. thinking highly of oneself after having done the right thing) (Bandura, 1986). More specifically, recent work has revealed that receiving positive or encouraging feedback, feeling part of a community, and feeling that one is behaving according to their own values are all powerful motivators of pro-environmental action (Crompton, 2011; Grilli & Curtis, 2021; Handgraaf et. al., 2013; Vine & Jones, 2016). Highlighting the present, local, and personal benefits of climate actions is important for changing people's behaviors.

Other work by 4C-NPS interns has demonstrated benefits that the NPS has seen after adopting climate-friendly behaviors. The example below from Summer 2017 at Monocacy demonstrates energy and monetary savings. While individuals will likely not see savings of this magnitude in their own homes, this graphic demonstrates the benefits of climate-friendly behaviors at Monocacy.



Make Behaviors Popular

The more popular a behavior is perceived to be, the more likely people are to engage in it (Cialdini et. al., 2006). One way people assess a behavior’s popularity is through the presence or perceptions of social norms or what their peers are thinking, doing, or believing to be right. Social norms are especially influential when these peers are held in high regard. There are three types of social norms that can be used in messaging to highlight a behavior’s popularity: descriptive norms, injunctive norms, and dynamic norms. Descriptive norms refer to the prevalence of an attitude or behavior in a population. They can be either actual (the true prevalence of the behavior/attitude) or perceived (people’s perceptions of how many of their peers engage in a behavior or attitude). It is important to note that audiences often underestimate the prevalence of attitudes and behaviors that are perceived as rare but are more common than people think, so descriptive-norms-based messaging can increase their perceived popularity. Next are injunctive norms, which are perceptions of the degree to which peers approve or disapprove of a given attitude or behavior—not whether they perform it, but whether they approve of it. Finally, dynamic norms are perceptions of changing popularity of an existing behavior, attitude, or norm. The table below provides examples of what messaging based on each norm type might look like. These examples are fictitious and were created to provide parallelism to highlight differences in norms messaging.

Descriptive Norms	85% of people in your area bring reusable bags to the grocery store.
Injunctive Norms	85% of people in your area support a single-use plastic ban.
Dynamic Norms	In 2019, 30% of people in your area brought reusable bags to the grocery store. Today, 85% of people do so.

One way to use norms in messaging, beyond the above examples, is to highlight “bright spots,” or people and places where a behavior or an attitude is prevalent and having a positive impact. In 2015, 4C-NPS interns developed the “Humans of Harper’s Ferry/Caught Green-Handed” social media campaign highlighting climate-friendly behaviors that Harper’s Ferry employees take place in. An example post from this campaign is below.



At Harpers Ferry NHP, we encourage our staff who live locally to bike to work instead of driving. Here is ranger David Fox riding his bike into Lower Town. David is doing his part to lower his carbon footprint! See what else Harpers Ferry is doing to be more climate friendly, and how you can join the effort. (link to climate landing page).
Alt Text: An NPS ranger rides a bike down an old-fashioned street in Harpers Ferry

For more in-depth information about these guidelines, see:

Maibach, E. W., Uppalapati, S. S., Orr, M., & Thaker, J. (2023). Harnessing the Power of Communication and Behavior Science to Enhance Society's Response to Climate Change. *Annual Review of Earth and Planetary Sciences*, 51(1), annurev-earth-031621-114417.
<https://doi.org/10.1146/annurev-earth-031621-114417>

Part 2: Running the Internship

Leadership Team

The 4C-NPS internship leadership consists of a program coordinator from NPS UERLA, two representatives from the 4C administration team, and a Project Manager (historically, a PhD student who works with 4C). The Project Manager takes on most of the tasks involved with running the internship, and their responsibilities will be detailed in a later section. Below are descriptions of the roles played by UERLA and 4C coordinators.

The NPS/UERLA Coordinator:

- Helps review applications and conduct interviews
- Facilitates connections with host parks for the summer
- Selects yearly topics for interns to work on (with host parks)
- Obtains funding for the internship with NPS National Capital Region
- Ensures superintendent sign-off
- Recruits and manages subject matter experts' participation
- Obtains permission from park units, in writing, for intern activities
- Obtains all required permits for all intern activities (i.e. filming, etc.)
- Coordinates all formal meetings between intern teams and park staff
- Provides feedback at each stage of the internship
- Distributes final materials to park staff
- Ensures products meet all accessibility standards
- Reworks materials for online distribution via the UERLA website
- Communicates proactively throughout NPS

Historically, this role has been filled by Ann Gallagher, UERLA Science Education Coordinator.

The 4C Administration Representative(s):

- Help with management of funds on the 4C side
- Recruit the Project Manager
- Onboard interns into George Mason University's employment system
- Complete and file all relevant GMU HR paperwork

Historically, Dan Reed (Associate Director of 4C) and Mohamed 'Moe' Ahmed (Operations Manager of 4C) have filled these roles, with Moe [or Mohamed] handling HR and paperwork and Dan assisting with bigger picture items such as long-term plans and funding.

The Project Manager position is a year-long role that has historically paid \$10,000 during the summer for work completed throughout the year as well as funds to support one 3-credit summer course. Responsibilities by semester are as follows:

- Fall

- Gain access to all internship materials (currently stored on OneDrive?) and the nps4c@gmu.edu account
- Update internship announcement with dates for upcoming summer, make any other changes as dictated by NPS and 4C leadership partners
- Advertise the internship via e-mail contacts, listservs, job boards, and similar avenues
- Meet with NPS and 4C partners to determine budget and timeline for the upcoming year
- Spring
 - Review applications (e-mailed to nps4c@gmu.edu)
 - Schedule and conduct interviews with select applicants (interviews are conducted by the Project Manager and NPS Coordinator)
 - Meet with NPS Coordinator to make final intern selections
 - Send out offer/non-offer letters to applicants via e-mail
 - Send onboarding and HR information to interns who accept the position
- Summer
 - Orientation: cover logistics of the internship
 - Intern onboarding with GMU HR
 - How to reserve GMU library rooms
 - How to fill out PatriotWeb timesheets
 - Weekly outlook/syllabus schedule
 - Employee expectations
 - NPS guidelines
 - Meet with key members of the NPS climate science, communications, and park management divisions, dependent on the specific needs of that year's project topics and goals
 - Describe the project(s) for the summer
 - Interns submit project preferences and UERLA and Project Manager make final decisions on project assignments
 - Teaching Climate Communication
 - Help interns engage with research on climate communication
 - Provide readings and facilitate discussions based on those readings
 - Example internship syllabus attached in the Appendix
 - All-Hands meetings: all interns meet 2-3 times a week in June and 2 times per week in July for "class" on climate communication (see above) and to provide updates and/or request support on their projects
 - Exit Interviews
 - Conducted the final week of the internship by UERLA and the Project Manager

General Tips/Guidelines for Project Manager

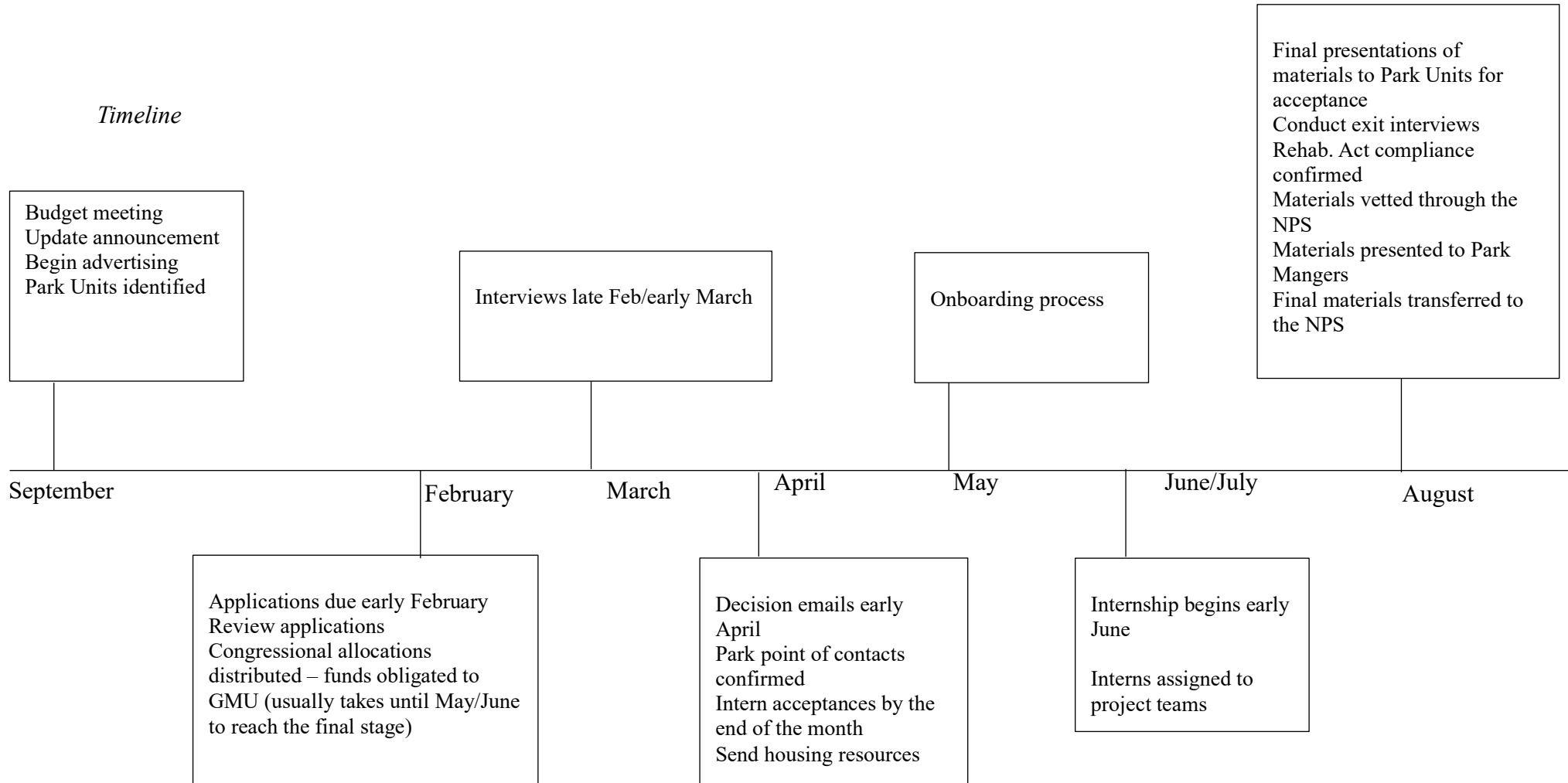
- [OneDrive link](#): contains past projects and all administrative materials
- A common e-mail has been passed down through Project Managers: nps4c@gmu.edu.
 - This can be used for program advertising, application collection, decision letters, and other official internship business

- Due to the current discontinuation of the program, this e-mail may no longer be active. However, George Mason University IT staff would likely be able to reactivate it should the program continue
- Resources for outreach and recruiting include:
 - Handshake, LinkedIn, the American Meteorological Society's Intern Board, the National Communication Association Job Board, other professional societies
 - E-mail contacts for the following academic departments: communication, atmospheric science, English/writing, environmental science, graphic design, journalism, science writing, public relations, sustainability, videography, landscape architecture, and other similar fields/majors
 - The living document of department contacts from the internship can be found in OneDrive
 - The Project Manager sends e-mails to these contacts and/or fills out webforms for job postings
- Required materials for the application include a resumé/CV, unofficial transcripts, a cover letter, a writing sample, and contact information for two references
 - Applicants merge these into one PDF and email to nps4c@gmu.edu
- The internship does not provide housing, but it is helpful to keep a list of resources to send to interns (i.e. Facebook roommate/sublet groups, GMU off-campus housing websites, etc.)

Budget

Historically, undergraduate interns have been paid \$4,000 for the summer and graduate student interns have been paid \$6,000 for the summer. As previously mentioned, the Project Manager is paid \$10,000 during the summer for work completed throughout the year and receives support for one 3-credit summer course. The number of interns accepted per year will depend on how much money is available—this is discussed with the 4C and NPS leadership team as well as the Project Manager.

Timeline



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Appendix

Interview Questions for NPS/4C 2018 Internship Applicants

Introduction

Project Manager: Who I am, what is my role in the program

NPS UERLA: I am the region's science education coordinator for the National Park Service. I look for opportunities to convert scientific findings into useful items for the parks within this region. I create presentations, coordinate researchers, develop educational projects and more to allow park staff to be able to bring scientific findings to visitors. For this program, I represent NPS's interests. I apply for, monitor, and administer the funding from the NPS side of the project. I recruit the NPS staff who will be working with the interns and serve as a park service mentor to interns offering scientific subject matter expertise.

Project Manager: Overview of internship program

NPS UERLA: Most years we have two projects. This summer we anticipate projects centered on _____. We have a number of investigations describing the specific natural resources in the National Capital Region. Now we are in need of science communication as those resources are challenged by climate change. We will be facilitating our rangers' public engagement to share our knowledge with visitors so the visitors can understand how communities might change and in what ways they will remain the same.

****Alternate who asks the questions, but BOTH need to be taking notes during interviews**

****All intern candidates are required to be asked the same questions for fairness. If you want an individual to explain something they said more, that is fine, but all base questions must remain the same. Also, remember you only have 30 minutes per interview.**

Questions for ALL intern candidates:

Why would you like to participate in this internship? What do you hope to get out of it? What would you contribute to the team?

Among the projects described, where do you see yourself fitting in the best or what project interested you the most? Why?

What can you tell me about climate change? [note this is to gauge their knowledge & awareness of the issue & how to best communicate]

Follow-up: If a park ranger of a national park in the DC region asked you to explain what climate change is and how it affects his/her work, what would you say?

Follow-up: Discuss an experience you have had communicating about climate change.

[Go to page 2 if intern candidate is for comm OR page 3 if intern candidate for multimedia.]

Questions for COMM intern candidates ONLY:

Discuss an experience you have had working on a project that required **independence** and self-directed work? What challenges did that present and how did you deal with them? Strategies, techniques?

Discuss an experience of problematic work as part of a **team** or group? What challenges did that present and how did you deal with them?

*Will you have a car this summer? What background do you have in navigating transportation in a large metropolitan area [Discuss transportation logistics for internship; travel reimbursements] – **always the last question***

Multimedia ONLY:

****Depending on videographer or graphic design, tailor questions to those (i.e., don't ask a graphic design intern about film unless it is on their resume or they bring it up themselves in the interview.)**

Overall, how confident are you in producing a project from start to finish? How much experience do you have with meeting deadlines for such a project?

How much experience do you have producing a project **independently**? Can you describe one such project? What challenges did that present and how did you deal with them? Strategies, techniques?

How much experience do you have producing a **team** project? Can you describe one such project? What were the challenges of working with a team?

How confident are you in your abilities and equipment to be completely independent in doing:

- Audio/podcast production, editing
- Video production, editing
- Photography shooting, editing
- Visual:

What tools/software do you use for editing in these three media? Will you have your own computer and software?

- Graphic design (InDesign, Illustrator, Photoshop, and other web and interactive media)
- Photography
- Videography
- Audio production

Graphic Design: NPS has a very well-defined visual identity and set of design standards for print materials. How confident are you in your abilities to do layout, design work in such an environment?

Videography: NPS has a very well-defined visual identity. How confident are you in your abilities to produce videos in such an environment (i.e., to produce work that follows the standards of the NPS)?

Will you have a car this summer? What background do you have in navigating transportation in a large metropolitan area [Discuss transportation logistics for internship; travel reimbursements] – always the last question

Exit Interviews

1. What were your expectations/goals?
2. Did this internship help you meet your own goals/expectations?
3. Did your project enhance your interests and support your educational background?
4. Did the park staff and the program mentors provide you with enough support to accomplish your goals for the internship?
5. Did you find personal differences were valued by this program?
6. What was the biggest takeaway or new skill developed?
7. Do you have any suggestions to improve the internship?
8. What advice can you give NPS in sharing the NPS mission with more people?
9. What do you think worked well? Please share one of your favorite experiences with this program.
10. You had access to many resources over this summer. Were there any that you thought were very useful? Were there any other resources we should consider providing to the interns next summer?
11. Select as many of the following as apply to your experience*.
 - ☐ I solved a problem with my peers.
 - ☐ I provided a service to park visitors.
 - ☐ I learned a new skill.
 - ☐ I did something I never thought I could do.
 - ☐ I had fun.
 - ☐ I learned new ways NPS employees serve the public.
 - ☐ I learned more about parks in my own backyard.
 - ☐ I was a park caretaker.
 - ☐ I understand the range of different careers required to run NPS.
 - ☐ My innovation and creativity helped NPS achieve their mission.

* This list is derived from the internal funding source most frequently used to fund the internship program.

Individualized Feedback I am writing a letter for them to have as a letter of commendation or recommendation.

1. We observed you doing this very well...
2. I think you have these personal characteristics that...
3. Area(s) that we think you could improve...

Syllabus



GEORGE MASON UNIVERSITY
**CENTER for CLIMATE CHANGE
 COMMUNICATION**

4C-NPS Climate Change Communication Internship

Summer 2020

Project Manager: Eryn Campbell

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Office: Commerce Building, Center for Climate Change Communication (3rd Floor)

Internship Description and Objectives

This internship is a partnership between the National Park Service and George Mason University's Center for Climate Change Communication. The National Park Service (NPS) works to protect and preserve America's cultural and natural resources, presenting the opportunity to observe changes caused by global warming. The National Capital Region (NCR) of the NPS spans across areas of Virginia, Maryland, and Washington D.C. and is home to national monuments, battlefields, and diverse natural landscapes. George Mason University's Center for Climate Change Communication (4C) researches climate change public engagement strategies. The partnership between NPS and 4C creates a unique platform to educate and engage park visitors with climate change impacts and solutions.

As an intern, you will work with 4C, the NPS, park staff, and the NPS's Urban Ecology Research Learning Alliance to develop climate change communication materials for National Capital Region Parks (greater Washington, D.C. area). In the past, the products developed during the internship have ranged from interpretive resources for park rangers

to videos to digital and print brochures and maps. Summaries of previous year's projects can be found at http://climatechangecommunication.org/internship_program/

This internship has been designed with three purposes in mind: (1) to introduce you to the best practices in climate change communication, (2) to allow you to apply those practices in the context of the NPS and guide you in developing climate change communication materials, and (3) to provide you with skills and knowledge that are applicable to your future endeavors. Because of this, we will be reading a mix of literature that addresses a variety of communication and climate change topics, and your final products will give you an opportunity to put what you are learning into practice and cater to the needs of the NPS. By the end of the internship, you will be able to:

- Synthesize research on a specific topic and apply it appropriately
- Understand the best practices for climate change communication
- Apply communication strategies to a variety of products
- Assess which communication strategies are most effective for accomplishing your goals
- Evaluate communication products for their effectiveness based on the campaign needs
- Work comfortably in a professional setting
- Give clear presentations and enhance your public speaking skills
- Understand how to work with the NPS and under their restrictions and standards
- Plan, develop, and assemble professional-grade climate change communication materials for the NPS

Expectations and Attendance

You are expected to be on time every day and should come prepared and ready to participate in activities and discussion. Attendance and engagement are crucial to the success of the internship and your experience. You are expected to work full 8-hour days, 5 days a week and to pull your weight in your group. Additionally, you are expected to behave and dress in a professional manner and to listen and respond appropriately to what your project manager asks of you. If you are underperforming or behaving inappropriately, you will be dismissed from the program.

We understand that emergencies, illnesses, the death of loved ones, professional conferences, and important religious observances sometimes make it impossible for you to attend work. For these excused absences and emergencies, you are expected to provide written third-party documentation in advance whenever possible. Examples of third-party documentation include a calendar of religious observances, a conference program that includes your presentation, an obituary or funeral program, or a note from your doctor. In the case of illnesses or emergencies for which it is impossible to notify your manager in advance, you should contact your manager as soon as possible via email and then provide documentation as soon as you are able to return.

Readings

All assigned readings for the summer will be posted on the internship's Blackboard page. Any additional readings or resources will be posted or emailed by the project manager.

Federal Holidays and Workday Changes

The NPS observes July 3rd as the federal holiday for July 4th and you will not be required to work on that day. The project manager will contact you directly in the event of any workday changes.

Diversity

George Mason University promotes a living and learning environment for outstanding growth and productivity among its students, faculty and staff. Through its curriculum, programs, policies, procedures, services and resources, Mason strives to maintain a quality environment for work, study and personal growth.

An emphasis upon diversity and inclusion throughout the campus community is essential to achieve these goals. Diversity is broadly defined to include such characteristics as, but not limited to, race, ethnicity, gender, religion, age, disability, and sexual orientation. Diversity also entails different viewpoints, philosophies, and perspectives. Attention to these aspects of diversity will help promote a culture of inclusion and belonging, and an environment where diverse opinions, backgrounds and practices have the opportunity to be voiced, heard and respected.

The reflection of Mason's commitment to diversity and inclusion goes beyond policies and procedures to focus on behavior at the individual, group and organizational level. The implementation of this commitment to diversity and inclusion is found in all settings, including individual work units and groups, student organizations and groups, and classroom settings; it is also found with the delivery of services and activities, including, but not limited to, curriculum, teaching, events, advising, research, service, and community outreach.

Acknowledging that the attainment of diversity and inclusion are dynamic and continuous processes, and that the larger societal setting has an evolving socio-cultural understanding of diversity and inclusion, Mason seeks to continuously improve its environment. To this end, the University promotes continuous monitoring and self-assessment regarding diversity. The aim is to incorporate diversity and inclusion within the philosophies and actions of the individual, group and organization, and to make improvements as needed.

Employment Information

Please refer to the GMU employee handbook: <https://hr.gmu.edu/handbook/>

Intern Concerns

All questions, concerns, issues, etc. should be brought to the attention of the project manager. If it is a sensitive or personal matter, please set up a time with the project manager to discuss it. All issues or concerns will be addressed as the project manager deems is appropriate for the situation and will follow all GMU guidelines.

Intern Contact Information

Name	Email	Phone Number

Tentative Schedule

	Date	Topic	Readings	Due
Week 1	6/1	Orientation and Expectations; Working in the NPS; Meet Ann	-Climate Change and the Government: https://www.nytimes.com/2018/01/10/climate/climate-change-trump.html	-HR Paperwork
	6/2	Individual workday		
	6/3	Meet 4C; Ed Maibach 2:30-4:30 pm	-Engaging Diverse Audiences with Climate Change: Message Strategies for Global Warming's Six Americas -TV Weathercasters	
	6/4	NPS Communication Meeting 10:30-11:30 am Crash course in climate science	-Executive Summary on consequences of climate change: https://science2017.globalchange.gov/chapter/executive-summary/ -Earth's Climate: Past and Future Ch. 1 Overview of Climate Science	
	6/5	One-on-one intern meetings		-Submit project preferences -Submit Weekly Update -Submit timesheet trackers -Submit timesheets
Week 2	6/8	Introduction to Climate Change Communication pt. 1 Group assignments	-CRED Guide	-observations due
	6/9	Group Workday		
	6/10	Climate change impacts and why the national parks	-Climate Change and Impacts for the National Parks of Washington, DC, USA	

		matter; Place-based engagement	-National Landmarks at Risk -Changing the Conversation about CC: A theoretical framework for place-based CC engagement	
	6/11	Climate change and national parks—what they are doing; meeting client needs	-Climate Action Plan -An NPS Framework for Addressing Climate Change with Cultural Resources -Explore https://www.nps.gov/subjects/climatechange/index.htm	
	6/12	Group workday		-Submit Weekly Update -Submit timesheet trackers
Week 3	6/15	Introduction to Climate Change Communication pt. 2 Presentation: NPS's digital identity	-Climate change in the American mind April 2019 -Increasing public awareness and facilitating behavior change: Two guiding heuristics -Improving Public Engagement With Climate Change: Five "Best Practice" Insights From Psychological Science Perspectives -Explore https://skepticalscience.com/	
	6/16	Group Workday		
	6/17	Project Topic Overview; ideas forum; Past product evaluations		-Broad research on your topic
	6/18	Group Workday		
	6/19	Group Workday		-Submit Weekly Update

				-Submit timesheet trackers -Submit timesheets
Week 4	6/22	Message crafting	-Made to Stick -Switch Ch. 1 and 11 -Six min summary of Switch -Analogies in science and science teaching	
	6/23	Group workday		-Research papers
	6/24	Research presentations; product idea workshop		-Research presentations -Come prepared to explain your initial product ideas
	6/25	Understanding your audience (and what this means for NPS) Interpretive tours presentation from Dorene Ruffing 1-2 pm ANTI practice pitch 4 pm EST	-Activation point	
	6/26	Group workday		-Submit Weekly Update -Submit timesheet trackers -Submit timesheets
Week 5	6/29	KEPA practice pitch 11 am EST; Pitch prep; ANTI pitch at 1 pm EST		
	6/30	Group workday		-Pitch Presentations

	7/1	KEPA pitch between 1:30pm EST and 5 EST		
	7/2	Climate change and graphic design; Debrief from the pitch presentations	-From Photos to video: 10 principles to communicating CC https://www.resource-media.org/from-photos-to-video-10-principles-to-communicate-climate-change/ -Images of damage from extreme weather may lower political support for climate action https://www.eenews.net/stories/1059994756 -Graphic Challenges	-Submit timesheet trackers -Submit timesheets -Submit Weekly Update
	7/3	Observed July 4 th Holiday		
Week 6	7/6	Social norms Pollinator Presentation at 1 pm EST	-Harnessing the science of persuasion -Managing social norms for persuasive impact -Social norms and efficacy beliefs drive the Alarmed segment's public-sphere climate actions	
	7/7	Group workday		
	7/8	Group workday		
	7/9	Framing; choose topics of interest	-Why Frames Matter for Public Engagement Environment -The Ethics of Framing Science Ch. 4 -Framing and communicating climate change: The effects of distance and outcome frame manipulations. -A public health frame arouses hopeful emotions	

			about climate change	
	7/10	Group workday		-Submit Weekly Update -Submit timesheet trackers -Submit timesheets
Week 7	7/13	Group progress check-ins; Inoculation Theory	-Neutralizing misinformation through inoculation: Exposing misleading argumentation techniques reduces their influence -Inoculation Theory: Using misinformation to fight misinformation -Understanding and countering misinformation about climate change	
	7/14	Group workday		
	7/15	Group workday		
	7/16	Topic of interest 1, 2	-Readings will be assigned based on interns' choice	
	7/17	Group workday		-Submit Weekly Update -Submit timesheet trackers -Submit timesheets
Week 8	7/20	Group progress check-ins; Topic of interest 3	-Readings will be assigned based on interns' choice of topics	-Come prepared to show project progress
	7/21	Group workday		
	7/22	Group workday; Ash borer webinar for those interested at 12 pm EST https://forestadaptat.ion.org/learn/forest-		

		adaptation-webinar-series		
	7/23	Topic of interest 3, 4	-Readings will be assigned based on interns' choice of topics	
	7/24	Group workday		-Submit Weekly Update -Submit timesheet trackers
Week 9	7/27	Group progress check-ins; Topic of interest 5	-Readings will be assigned based on interns' choice of topics	
	7/28	Practice final presentations—4C and NPS versions at 1 pm EST		-Final presentations
	7/29	Presentations for 4C		
	7/30	Presentations for NPS		
	7/31	Group workday		-Submit weekly update -Submit timesheet trackers -Submit timesheets
Week 10	8/3	Exit interviews; Group progress check-ins		
	8/4	Group workday		
	8/5	Exit interviews; Tying up loose ends—what do you still need?		
	8/6	Product reviews; product packet compilation		
	8/7	Closing housekeeping; final product submission/transfer		-Submit final product portfolios

				-Submit timesheet trackers -Submit timesheets
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Description of Assignments

1. Timesheet Trackers

Timesheet trackers are forms that broadly detail what you spent your time doing and should be uploaded to Blackboard on the day we submit timesheets.

2. Weekly Update Forms

Weekly update forms detail (1) what work was completed that week and (2) what resources and/or assistance is needed in the following week. These are due on the Friday of each week, including the final Friday of the program. The forms can be found on Blackboard. Please email upload them on Blackboard.

3. Broad Topic Research

Once you have been assigned to your topic for the summer, we ask that you conduct broad research on the science behind the topic and how it connects climate change and its impacts. This assignment is due on June 15th and should be presented in the form of a 1-2 page handout that the group can discuss. Please upload them to Blackboard.

4. Past Product Evaluations

On June 16th, we will be looking at past products designed during the internship and evaluating them for their (1) communication strategies, (2) visual appeal, (3) what they did well, (4) what could have been done better, and (5) where we can expand on them. Come prepared to use what we have learned thus far!

5. Research Paper and Presentation

As you are researching your topic and how it applies specifically to the National Capital Region of the NPS, we ask that you write a short researcher paper that synthesizes your work. This should be 8-10 double spaced pages and include all references cited in APA format. Note: this does not have to be extremely eloquently written—we are simply looking for the content—however please be mindful of grammar and the flow of the paper. Additionally, we ask that you create and give a 20 minute presentation for the group to (1) inform us of what you have found through your research and (2) give you the opportunity to work on your presentation skills prior to the pitch presentations. This assignment is due on June 23rd. Please upload the paper (word doc) and presentation (in PDF form) to Blackboard.

6. Pitch Presentations

The pitch presentations for the NPS are scheduled for July 1st, but we will be practicing them the day before (June 30th). These presentations should give a brief overview of the informative research for the projects, highlight the communication strategies employed by the proposed products, and give 3-4 possible product options for the NPS staff to evaluate and choose from. Examples of past pitch presentations can be found on Blackboard. Please upload them to Blackboard in PDF form.

7. Reading Presentations

Each intern will give 1 reading presentation over the course of the summer. Interns must select a reading from the optional readings list found on Blackboard and sign up for a day to present. This should be a detailed presentation (~20 min) about the purpose of the reading, any methodology used, and the main points or key findings of the

reading and should involve discussion questions. Additionally, this should detail how the reading applies to the products being developed and how it could be applied in other ways involving climate change communication. Please upload to Blackboard in PDF form.

8. Final Presentation

The final presentations for 4C and the NPS are scheduled for July 29th and 30th, respectively, but we will be practicing them the day before (July 28th). These presentations should give a brief overview of the project topic, highlight the communication strategies employed and why you chose to use them, and show nearly finished examples of your final products (walking the audience through their components). Examples of past final presentations can be found on the Blackboard. Please upload to Blackboard in PDF form.

9. Product Portfolios

On August 7th, the final day of the internship, product portfolios should be submitted directly to the project manager and uploaded to Blackboard. This should include:

- A table of contents detailing exactly what can be found in the portfolio
- A brief memo to the NPS describing how you envision the products being used
- Copies of all references used in the products in the NPS's preferred format
- The broad research handouts (Assignment 3)
- The research paper (Assignment 5)
- A list of all of the final product materials, their format, and the communication strategies utilized in each (I.e. are they a pdf file? a Storymap? a video? etc.)
 - There should be 2-3 communication strategies used in each product
- All written final product materials in word doc *and* pdf form with indication of any associated pictures or other materials and where they can be located
- Links to any product websites or Storymaps with exact instructions on how to access the materials (I.e. logins, links, navigation instructions, editing instructions, etc.)
- Any other supplementary material needed (I.e. pictures, audio files, video files)
 - Pictures should be in labeled folders
 - If audio and video files are too large, please alert the project manager.
- Individual reflections of your experience with the internship (~1 page single spaced) (send these individually as a PDF and I will compile them into the portfolio)
 - What did you think of the internship?
 - What did you learn?
 - What was your favorite experience?
 - What worked well?
 - What can be done better in the future?
 - How did it help you move closer to your future goals?