

## Research permits at Acadia in 2022 (updated December 31, 2022)

\* includes research at Schoodic

<b>Wildlife &amp; Biodiversity (24)</b>			
Scott Weidensaul	Project SNOWstorm	Alpine Wintering Ecology of Snowy Owls in Acadia National Park	
Wriley Hodge	College of The Atlantic	Winter and Spring Waterbird Counts Around Acadia National Park	The waters around Acadia National park are a very important area for wintering and migrating seabirds and sea ducks; however, not much is known about the distribution and abundance of these birds during the winter and spring. The purpose of this survey is to get a baseline dataset of the seabirds that call Acadia home during the winter and spring.
* Abigail Muscat	University of Maine (Orono)	A pilot test of a long-term nearshore bird community monitoring program in Acadia National Park	The goal of this research project is to investigate how nearshore bird communities are using the rocky intertidal zone and to do this, I will be conducting bird surveys in Acadia National Park during the winter and late-summer. This project also serves as a pilot test of a long-term monitoring protocol for nearshore bird species in Acadia National Park.
David Yates	Biodiversity Research Institute	Hg trends in Acadia National Park	
* Seth Benz	Schoodic Institute	SeaWatch: A Citizen Science Monitoring Project of Fall Seabird Migrations off Schoodic Point in Acadia National Park	This study is designed to count migratory seabirds during daylight hours using optical aids such as binoculars and spotting scopes. Public participation is invited.
Seth Benz	Schoodic Institute	Long-term Monitoring of Fall Raptor Migrations in Acadia National Park (using standard data collection protocol as defined by the Hawk Migration Association of North America)	This is a coordinated data collection and interpretation-driven direct observational study of diurnal raptor migration during autumn from a predetermined site on Cadillac Mtn. in Acadia National Park. Public participation is invited.
* Tasman Rosenfeld	Yale University	Physiology and population genetics of a salt-tolerant subpopulation of spotted salamanders ( <i>Ambystoma maculatum</i> ) in Acadia National Park, Maine, USA	We are investigating the degree of salt tolerance and reproductive isolation in a population of spotted salamanders that breeds in rockpools just meters from the ocean in Acadia. These findings may help us to predict whether and how coastal amphibians will be able to adapt to sea level rise due to climate change, and to formulate strategies to better protect these animals in the future.
Stephen Ressel	College of The Atlantic	Breeding by the Sea: Coastal Vernal Pools in Acadia National Park as Breeding Habitat for Spotted Salamanders	Amphibians have long been thought to be intolerant of saline environments, which potentially leaves them highly vulnerable to salt intrusion within their respective habitats. My research on salt tolerance in a salamander population that breeds along Maine's

		( <i>Ambystoma maculatum</i> )	coast will provide important insight into the physiological and behavioral response of amphibians to rising sea levels associated with climate change.
Emma Damm	College of The Atlantic	Investigating Spring Amphibian Migration Activity on Duck Brook Road	My research investigates spring amphibian migrations on Duck Brook Road: one of the park's roads that amphibians cross to access their wetland breeding sites. I aim to identify peak migration times and locations so the NPS can effectively monitor amphibian migrations and prevent roadkill in the future.
* Seth Benz	Schoodic Institute	Schoodic Institute Biodiversity and Phenology Citizen Science Observations	SI staff and/or technicians will be using iNat, Nature's Notebook, and eBird to document the presence of all taxa in the watersheds of Cromwell Brook, including the Great Meadow, and Bass Harbor. There is a specific Winterberry phenology data collection in the Cromwell Brook Watershed with observations of 12 plants that is part of this permit.
* Laura Sebastianelli	n/a (but project founder/director for "Schoodic Notes: Bird Sounds of Acadia")	Bird Sound Recording to Enhance Bird Ecology Research at Acadia National Park	Schoodic Notes, is a citizen science research initiative led by volunteer, Laura Sebastianelli, in collaboration with Schoodic Institute's Bird Ecology program, to build a "library" of the bird sounds of Acadia National Park. Audio recordings of birds preserve important natural history records of a species, validate visual observations for bird surveys and population studies, and are used to help us understand more about which, what, where and why birds sing.
Christina Murphy	US Geological Survey, Maine Cooperative Fish and Wildlife Research Unit	Impact of invasive fishes on lake foodwebs in Acadia National Park	We are using chemistry to determine who eats what in lakes. The goal is to examine how the different fish species assemblages (who lives in the lake) changes what each fish eats.
* Greg Shriver	University of Delaware	Saltmarsh Habitat & Avian Research Program resurvey (Avian/vegetation surveys)	
Aaron Weed	National Park Service, Northeast Temperate Network	Forest Bird Monitoring at Acadia National Park	Breeding Landbirds are one of the Northeast Temperate Network's (NPS I&M) "Vital Sign" indicators for long-term natural resource monitoring. Monitoring under this protocol occurs at 240 bird points at 6 parks (51 points at ACAD) throughout the 6 northeastern states. Monitoring objectives include detecting long-term trends in species composition of native and non-native bird species in dominant, forested habitats during the breeding season and improving parks' understanding of bird/habitat relationships and the effects that management actions may have on bird occupancy and relative abundance.
Allyson Jackson	Purchase College, SUNY	Cross-system subsidies in Acadia National Park: bird component of larger study on	Many terrestrial songbirds in Acadia eat bugs that start their life stages in the water (emergent aquatic insects), creating a link between aquatic and terrestrial ecosystems. As part of a larger study

		cross-ecosystem subsidies	working with Dr. Christina Murphy, I will use stable isotopes to understand how differences in aquatic food webs can impact the surrounding songbird community.
* Bik Wheeler	Acadia National Park	Protecting WNS Affected Bat Populations in Acadia National Park: Monitoring and Mitigation	
Evan Graham Hegeman	University of Connecticut	Threespine stickleback and cestode parasites in Maine waters	The Bolnick Lab at the University of Connecticut focuses on the evolution and immunology of stickleback fishes. Their work at Acadia focuses on how different populations of threespine stickleback from Maine lakes respond to infection by a tapeworm parasite.
Wriley Hodge	College of The Atlantic	A Survey of Acadia National Park's nesting Seabirds	
* Pooja Panwar	Dartmouth College	Quantifying food resource available to Bats and Birds at Acadia National Park	
* Gillian Bowser	Colorado State University	3dNaturalist/Pollinator Hotshot Inventory Study	
* Melenia Giakoumis	City University of New York	Population dynamics and conservation of Asterias sea stars in the north Atlantic	
* Emma Albee	Schoodic Institute at Acadia National Park	eBird observations in Acadia National Park	Many observations are recorded on eBird inside Acadia National Park each year. This will help to capture this data.
* Emma Albee	Schoodic Institute at Acadia National Park	Nature's Notebook observations in Acadia National Park	Many observations are recorded on Nature's Notebook inside Acadia National Park each year. This will help to capture this data.
* Emma Albee	Schoodic Institute at Acadia National Park	iNaturalist observations in Acadia	Many observations are recorded on iNaturalist inside Acadia National Park each year. This will help to capture this data.
<b>Freshwater &amp; Air (9)</b>			
James Pagano	State University of New York at Oswego	Ambient Levels of Persistent and Emerging Air Toxins in Acadia National Park	Atmospheric pollutants such as polychlorinated biphenyls (PCB), polybrominated diphenyl ethers (PBDE), pesticides, and dioxins/furans are transported globally. Understanding the source regions (urban, agricultural, and industrial), as well as the deposition of these pollutants is of importance to protecting the wildlife and natural resources of Acadia National Park.
Julie Kelso	US Environmental Protection Agency	Streamflow Duration Assessment Method	
* Jamie Kilgo	National Park Service, Water Resources Division	Rapid Response Strategy for Potential Toxin Exposures from	Harmful algal blooms (HABs) occur when algae grows rapidly or excessively and can produce toxins that may be harmful to natural resources and to human

		HABs in Coastal and Shoreline Areas of National Parks	and wildlife health. To address critical management needs related to HAB monitoring and response in national parks, NPS and USGS scientists developed a nationwide project to monitor for marine and freshwater algal toxins in 18 parks nationwide, including Acadia National Park.
Jeremy Deeds	Maine Department of Environmental Protection	Regional Lake Monitoring Network	We are collecting hourly temperature data for two lakes in Acadia National Park to monitor how water temperature changes over time, and to get better information about how these lakes mix and stratify. Collecting data from pristine lakes like these help researchers separate changes in lake condition caused by regional factors (like climate change) from local factors (like erosion) in lakes all across Maine.
* Kathryn Miller	National Park Service, Northeast Temperate Network	Freshwater Wetland Monitoring at Acadia National Park	The overall goal of this monitoring program is to monitor status and trends in permanent freshwater wetland vegetation, hydrology and water quality in ACAD using a combination of sentinel sites and rapid assessment sites.
Glen Mittelhauser	Maine Natural History Observatory	Assess water levels in Great Meadow - 2022	Maine Natural History Observatory will be studying water quality, soils, and water levels at 6 permanent plots in Great Meadow on Mount Desert Island during the summer of 2019. This project continues the vegetation work that began in Great Meadow in 2015.
William Gawley	NPS - Acadia National Park	Jordan Pond, Seal Cove, and Witch Hole Pond Water Quality Monitoring	The Jordan Pond Water Quality Project, implemented by the Acadia National Park Air-Water Resource team and researchers from the University of Maine's Climate Change Institute, investigates changes occurring in Jordan Pond's water chemistry and physical properties in response to improving air quality, extreme weather events, long-term climate shifts, and increasing park visitation. A high-resolution monitoring buoy is deployed annually in the deepest part of Jordan Pond, and data from this buoy are compared to and analyzed with data collected from other park lakes through the NPS Northeast Temperate Network (NETN) water monitoring program.
Colleen Emery	US Geological Survey	The Dragonfly Mercury Project – engaging citizen scientists in monitoring mercury contamination in National Parks	Mercury is a global pollutant that threatens resources the National Park Service (NPS) is charged with protecting. Efforts by resource managers to focus conservation work in areas of highest risk to humans, fish, and wildlife are hampered by significant variability in mercury concentrations from site to site—even among neighboring lakes, streams, or wetlands. This project is evaluating how dragonfly larvae might be used as bio-sentinels for mercury nationwide.
* Peter Nelson	Schoodic Institute at Acadia National Park	Schoodic climate station	
<b>Intertidal &amp; Marine (18)</b>			

Eliza Oldach	University of California, Davis	Managing the Intertidal: An Evaluation of Acadia National Park's Community Workshop Process	Acadia National Park is engaged in a multi-year process of collaborating with harvesters, scientists, managers, and other local communities around the management of intertidal ecosystems. In her research, Ellie Oldach uses Park archives and interviews to assess the process and outcomes of this community-engaged management approach.
* James Lynch	National Park Service - Northeast Region	Elevation monitoring of salt marsh habitats at Acadia National Park	In the summer of 2011, long-term elevation monitoring stations using the SET (Surface Elevation Table) were established at 4 salt marsh sites on Acadia National Park and Maine Coast Heritage Trust property. SETs measure the very small changes in elevation that occur from year to year in these wetlands.
* Catherine Matassa	University of Connecticut	Intertidal community assembly and dynamics: Integrating broad-scale regional variation in environmental forcing and benthic-pelagic coupling (NSF Award OCE-1458150)	Rocky intertidal communities throughout in the Gulf of Maine consist generally of the same species but in markedly different abundances, and the Acadia Region is particularly interesting because it lies in the transition zone between the seaweed-dominated communities Downeast and the invertebrate-dominated communities in the south (mussels and barnacles). At 20 field sites spanning Boston to Cobscook Bay, 4 of which are within Acadia NP, experiments are underway to understand the population dynamics and connectivity of mussels and barnacles and how these population-level processes interact with latitudinal differences in consumer pressure and thermal stress to ultimately dictate community structure.
* Alexa Pezzano	NPS - Acadia National Park, Schoodic Education Adventure Program	Schoodic Education Adventure, Intertidal Exploration	The Schoodic Education Adventure (SEA) Program Inter tidal research project focuses on students exploring the inter tidal zone and learning how to identify organisms and learning about the adaptations that make these organisms successful in the inter tidal environment. In addition, students develop and practice observation and data recording skills related to distributions of organisms and algae populations in the inter tidal system of the Schoodic Peninsula in Acadia National Park.
Chris Petersen	College of The Atlantic	Clam recruitment and predation, and pH in intertidal mudflats	We are studying the effects of predation on clam recruitment in Otter Creek as part of a town and statewide project. In late spring we put out screened boxes that exclude predators, but allow for clam recruitment, then collect them in the fall, with higher densities in the boxes than in the natural habitat showing the extent of recruitment and predation at sites across the state.
* Adam Kozlowski	NPS, Northeast Temperate Network	NPS Northeast Temperate Inventory and Monitoring Network (NETN) Rocky Intertidal Monitoring Program	The rocky intertidal zone is one of the Northeast Temperate Network's (NPS I&M) "Vital Sign" indicators for long-term natural resource monitoring. Monitoring under this protocol occurs at 7 sites at ACAD and 3 sites at Boston Harbor Islands. Monitoring objectives include detecting long-term

			changes in population-level and individual-level parameters for target invertebrate and macroalgal species and correlating them with changes in disturbance factors (e.g. water temperature, sea level human trampling).
Morgan Simms	EA Engineering, Science, and Technology, Inc., PBC	Improving Coastal Resiliency on St. Croix Island, Maine	We are evaluating environmental conditions to determine what is causing erosion along the southern bluff of St. Croix Island, which is threatening international archaeological cultural resources. We are focused on developing nature-based mitigation alternatives and are partnering with ERDC, NPS, and local entities for this work.
Nathan Dorn	MDI Biological Laboratory, Community Environmental Health Laboratory	Comparing eelgrass meadow health between restored and undisturbed sites	We will be monitoring the health and water quality of eelgrass beds at Ship Harbor and Wonderland and comparing it to eelgrass beds that were restored in Upper Frenchman Bay. Understanding how eelgrass beds are doing in and outside of Acadia National Park may help us understand the conditions that this marine grass grows best in.
* Susan Brawley	University of Maine (Orono)	Experimental Evolutionary Cell Biology Using the Porphyra Model System	The red algae are one of the most ancient groups of organisms on Earth. For example, the fossil Bangiomorpha (1.03 billion years old) is the oldest taxonomically resolved, multicellular, eukaryotic organism. It is very closely related to two red algae in the rocky intertidal zone at Schoodic Point: Bangia (closest living relative) and Porphyra umbilicalis. Brawley and colleagues discovered that Porphyra has very few of the cellular motor proteins needed for growth and development, and this project is using spores and germlings from wild material to study their motility and growth to answer this question: "How do they do so much with so few of the expected cytoskeletal proteins?"
* John Cigliano	Cedar Crest College	Marine microplastics in Acadia National Park	
* John Cigliano	Cedar Crest College	The effects of ocean acidification and climate change on temperate marine rocky intertidal communities	The increased concentration of atmospheric carbon dioxide (CO <sub>2</sub> ) from the burning of fossil fuels is not only causing global warming and climate change, it is also causing ocean acidification, which is a decrease in the pH of the ocean. This goal of this study is to determine how ocean acidification and rising sea temperatures from global warming will effect marine organisms and intertidal communities in Acadia National Park.
* Hannah Webber	Schoodic Institute	Marine-to-land subsidies in Acadia National Park's Big Moose, Little Moose, and Pond Islands	Marine-to-land subsidies occur when nutrients are transferred from marine to terrestrial ecosystems. The Schoodic peninsula provides a natural study area to understand the nature and extent of upland mammal use of intertidal prey. The goal of this study is to collect data on cross-system subsidies on three islands of the Schoodic peninsula—Big Moose, Little Moose, and Pond Islands.

* Madelaine Pelletier	Schoodic Institute	Project ASCO (Assessing Seaweed via Community Observations)	Project ASCO (Assessing Seaweed via Community Observations) is a citizen science initiative with the goal of getting interested participants out into the intertidal zone to collect data about rockweed to help answer the question, "How much rockweed is there?" while exploring the beauty of the rocky coast between the tides. The data collected by Project ASCO participants will be analyzed and shared by scientists at Schoodic Institute to inform resource management.
* Hannah Webber	Schoodic Institute	Phenology of Jonah crab ( <i>Cancer borealis</i> ) appearance on Schoodic Peninsula	We are studying the phenology of an annual, curious 'wash-up' of Jonah crabs ( <i>Cancer borealis</i> ) on the western side of Big Moose Island.
Laura Katz	Smith College	Biodiversity of Microbial Eukaryotes in Acadia National Park: Testate (Shelled) Amoebae at Big Heath and Ciliates in tide pools	We are studying the biodiversity of shell-building amoebae (Foraminifera, Arcellinida) at Big Heath and in tide pools at ANP. We will photodocument diverse species and then characterize their genomes for evolutionary analyses.
* Hannah Webber	Schoodic Institute	Biodiversity of select soft sediment habitats of Acadia National Park	
* Kaitlin Van Volkom	University of New Hampshire	Changes in Slipper Limpet Populations across New England	Slipper Limpet populations in the Gulf of Maine are thought to have increased in the past thirty years due to rapidly warming waters. This research quantifies the population abundance of slipper limpets and evaluates their role as a food items for crab and lobster predators.
Chris Petersen	College of The Atlantic	Historical Ecology of Tide Pool Flora and Fauna at Acadia National Park	
<b>Plants (17)</b>			
* Christopher Nadeau	University of Connecticut	Does Enhancing Genetic Diversity Increase the Long-term Success of Subalpine-Plant Restorations Under Climate Change	Much like a diversified stock portfolio, populations of plants with a diversity of individuals might be healthier and better able to deal with change. So, when restoring degraded plant communities, like those on many rocky mountain summits in the northeastern US, it might be best to plant mixtures of plants from different locations and environments. I am planting three-toothed cinquefoil plants from various locations in the northeast in common gardens on Cadillac Mountain in Acadia National Park to test whether diversifying our plant portfolio will increase the long-term success of plant restorations.
* Alexa Pezzano	NPS - Acadia National Park, Schoodic Education	Schoodic Education Adventure, Soil Exploration	Schoodic Education and Research Center campus, areas off of the Sundew trail (a hiking trail on the Schoodic Education and Research Center campus),

	Adventure Program		areas off the Schoodic Head hiking trail, the Anvil hiking trail and the Alder hiking trail, Phenology Trail
Jeff Licht	University of Massachusetts, Boston	Investigating Genetic Properties of Jack pine (Pinus banksiana) Located At A Sympatry On South Cadillac Trail	Fire suppression has been ongoing at MDI since the destructive conflagration in 1947. A group of researchers from three Universities are studying possible biological, geological and chemical remnants at fourteen small pitch pine populations on the western and eastern sides of the Island with which to inform conservation strategies for this globally rare tree.
* Caitlin Littlefield	Conservation Science Partners, Inc.	Coastal spruce-fir dynamics in the face of sea-level rise and salt marsh migration	Caitlin Littlefield is investigating how the inland movement of salt marshes, as caused by sea level rise, may affect the abutting coastal forests. To do so, she will be collecting tree and soil field data as well as analyzing satellite imagery.
Matthew Duveneck	New England Conservatory	Future Forest Trajectories in Acadia National Park: Identifying Management Priorities	Matthew Duveneck will model forest change to study how climate change and other disturbances will interact and shape Acadia's future forests. With collaboration from ANP and Schoodic Institute scientists, they will address questions about the fate of red spruce, which is threatened by warming temperatures.
Richard Vachula	Auburn University	Using the past to inform modern and future wildfire in Acadia National Park	By measuring how the number of ash particles preserved in the sediments of Sargent Mountain Pond have varied through time, we will reconstruct wildfire activity in the Acadia NP region. We will then compare this wildfire history with climate conditions of the past to understand how wildfire activity in the area responds to climate change.
Aaron Weed	National Park Service, Northeast Temperate Network	Forest Health Monitoring at Acadia National Park	
Christopher Monz	Utah State University	Spatial distribution of recreation disturbance on Sargent Mountain summit, Acadia National Park, ME	Mountain summits are unique ecologically and are under high demand for visitation worldwide including in Acadia National Park. My research is examining long term trends of visitor impacts to vegetation on mountain summits and will examine changes in that have occurred on Sargent Mountain since preliminary data were collected in 2013. The study will also examine the effectiveness of the designated trail in confining impacts to a limited spatial area on the open summit.
William Brumback	Native Plant Trust	The New England Plant Conservation Program (2020-2024)	Native Plant Trust manages the New England Plant Conservation Program, which coordinates professional botanists and trained volunteers to collect and share information about rare plant species across the region. At Acadia National Park, we monitor populations of rare plants and collect seeds for seed banking to prevent extinction and support species recovery. To learn more or get involved, visit



			<a href="https://www.nativeplanttrust.org/conservation/rare-and-endangered/">https://www.nativeplanttrust.org/conservation/rare-and-endangered/</a>
Jeffrey Harriman	Maine Forest Service	Northeast Forest Inventory and Analysis	FIA is a national program of the Forest Service, U.S. Department of Agriculture, that conducts and maintains comprehensive inventory of the forest resources in the United States, and the Maine Forest service is conducting the field data collection. A field plots consists of four subplots approximately 1/24 acre in size with a radius of 24.0 feet, and data is collected about the general land use, individual trees, shrubs, etc.
Stephanie Spera	University of Richmond	Climate Change, Fall Foliage, and Leaf-Peepers: Effects of Precipitation and Temperature on Senescence and Visitation in Acadia National Park	October has seen the greatest uptick in visitors in Acadia National Park. This research project seeks to understand how changes in temperature and precipitation have affected and might continue to affect when fall foliage starts, how long it lasts, and how vibrant the colors are, and how visitors think about trip-planning to Acadia based on fall-foliage (if at all).
* Nicholas Fisichelli	Schoodic Institute at Acadia National Park	Impacts of extreme climate events on tree regeneration in the Northern Forest	
Peter Nelson	Schoodic Institute at Acadia National Park	Develop Climate Change-Resilient Restoration Techniques on Cadillac Mountain, Acadia National Park	
Peter Nelson	Schoodic Institute at Acadia National Park	Acadia Bio-Crust Study / Acadia Summit Restoration Assisted biological soil crust revegetation on Acadia summits	
Peter Nelson	Schoodic Institute at Acadia National Park	Forest health and composition mapping in Acadia and Katadhin Woods and Waters	
Christopher Nadeau	Schoodic Institute at Acadia National Park	A Seed Bank Germination Study to Predict Future Wetland Vegetation in Great Meadow	
<b>Pests, diseases, &amp; invasive species (5)</b>			
Nicole Kollars	Northeastern University Marine Science Center	Using population genetics to inform invasive species management: A case study with glossy buckthorn at Acadia National Park	Dr. Nicole Kollars is using genetic tools to study how populations of glossy buckthorn, an introduced species to Mt Desert Island, are connected. Her research will ultimately help park staff target management strategies for reducing glossy buckthorn populations across Acadia.

Jesse Wheeler	NPS - Acadia National Park	Southern pine beetle monitoring	In collaboration with the Maine Forest Service, Acadia NP is part of a state-wide effort to detect southern pine beetle, a forest pest native to areas south of Maine. We are installing a trap in a stand of pitch pine trees on the north ridge of Cadillac Mountain to capture beetles that may be in the area. Late summer and early fall are a good time to capture adult southern pine beetles.
Jesse Wheeler	NPS - Acadia National Park	Emerald Ash Borer surveys using girdled trap trees in Acadia National Park	In cooperation with Maine Department of Agriculture, Conservation, and Forestry, we are monitoring for the presence of the invasive insect, Emerald Ash Borer (EAB) in Acadia National Park. Using the method of "trap trees", girdled ash trees will attract adult EAB insects to lay their eggs enabling us to find their larvae in the wood during the winter months.
Jesse Wheeler	NPS - Acadia National Park	Emerald Ash Borer Survey and Outreach	Acadia National Park is deploying purple prism traps to capture emergent Emerald Ash Borer (EAB) beetles at several sites in Acadia. Though EAB has not been found in ash trees at Acadia National Park, we are monitoring for their presence in areas that could see hitch-hiking beetles in firewood, such as picnic areas and campgrounds.
Angela Mech	University of Maine	Lure efficacy trial for the invasive browntail moth ( <i>Euproctis chrysorrhoea</i> )	We have set up browntail moth monitoring traps in Acadia NP, and other locations in Maine, to compare the efficacy of different types of lures. The number of male moths captured will be compared between lures to ensure that future monitoring and research use the best possible lure.
Camilla Seirup	NPS, Northeast Temperate Network	Stand dynamics and climate sensitivity of Maine's coastal spruce-fir forest	This research aims to improve our understanding of spruce-fir forest dynamics by resurveying historical forest plots established in Acadia National Park in 1959. We will also use climate monitoring and tree growth analysis to inform long-term sustainable management of these forests in a changing climate.
<b>Geology (1)</b>			
Sarah Hall	College of The Atlantic	Impacts of intense rain events: Geomorphic assessments of two Acadia National Park watersheds	Given ongoing and future climate change forecasts for more frequent intense rainfall events in the Coastal Maine region, we can expect rapid landscape evolution such as that resulting from debris flows due to beaver dam ruptures and carriage road washouts due to flooded culverts and ditches. In this study, we document examples of post-rainfall landscape change in Acadia National Park watershed to aid and inform future resource management decisions.
<b>Visitor Studies (9)</b>			
Frederick Bianchi	Worcester Polytechnic Institute	Optimization of the Cadillac Mountain Reservation System	
Jill Weiss	State University of New York College of Environmental	Managing the New Hiker: Characteristics, Perceptions, and	The purpose of the study is to confirm or refute activity trends and characterize hikers of the 2020s through a survey of recreation goals, demographics,

	Science and Forestry	Behavior Trends among Trail Users in the Northeast	and perceptions of experience at six sites across the Northeast U.S., including Acadia National Park. Findings will inform and support the work of park managers and educators in the Northeast, but also fill a gap in scholarship regarding hiker attributes and motivations in this decade.
Lucy Martin	University of Maine	Acadia National Park, Tourism, and the COVID-19 Pandemic: Impacts to Risk Perception and Behaviors	We are seeking to understand how the COVID-19 pandemic has affected the ways in which visitors are behaving and recreating in Acadia National Park. We are hoping that the results will help strengthen and inform the park and Maine overall in recovering from the pandemic and preparing for possible future crises.
Frederick Bianchi	Worcester Polytechnic Institute	Cadillac Reservation System	
Frederick Bianchi	Worcester Polytechnic Institute	Bass Harbor Lighthouse Reservation System	
Frederick Bianchi	Worcester Polytechnic Institute	Maple Spring Trail GIS layers	
Frederick Bianchi	Worcester Polytechnic Institute	e-Bike Research	
* Joseph St. Germain	Downs & St. Germain Research	Visitor Profile & Economic Impact Analysis Research for the State of Maine	Downs & St. Germain Research is interviewing visitors to Maine so that they can measure the economic impact of tourism in Maine. This research will help the Maine Office of Tourism make well-informed decisions regarding the future development and management of tourism within the state.
Adam Gibson	Acadia National Park	Visitor Perceptions with Lighting and Night Skies in National Parks	
<b>Cultural resources (2)</b>			
Bonnie Newsom	University of Maine	Old Collections, New Analyses: Examining Archaeological Materials to Enhance Coastal Site Stewardship in Acadia National Park, Maine	Through this study, Dr. Newsom and her graduate assistants will analyze artifacts recovered previously from Native American archaeological sites in Acadia National Park. Information generated through this study will support the Park's ongoing efforts to partner with Maine's Indigenous peoples to manage and protect archaeological sites threatened by sea level rise and human activity.
Michelle Baumflek	USDA Forest Service, Southern Research Station	Protect Natural Resources by Developing Plant Gathering Protocols with Indian Tribal Gatherers	

