

U.S. Department of Interior

Bureau of Indian Affairs

Office of Trust Services

Tribal Resilience Program

2017 / 2018 Resilience Funding Awards Summary



Bureau of Indian Affairs Tribal Resilience Program's 2017 / 2018 Resilience Funding Awards Summary

Total Number of Awards: 138 **Total Amount Funded: \$12,699,059**

Category 1: Trainings and Workshops

To Design and Host Opportunities to Build Skills and Coordinate Adaptation Planning Processes

Number of Awards: 18 **Amount Funded: \$2,302,228**

Tribe: Blackfeet Tribe **Amount Funded:** \$137,880

Title: *Blackfeet Nation Adaptation Workshops to Build Resilience*

Project Description: This funding will create a series of workshops to integrate the Blackfeet Adaptation Plan into the Tribe's existing work and to create monitoring and evaluation goals to measure progress towards building resilience. In addition to workshops, we will post the tools and monitoring goals built from the workshops to the Blackfeet Adaptation website to inspire our community and inform resilience-building efforts by tribes across the United States.

Tribe: Confederated Salish and Kootenai Tribes **Amount Funded:** \$147,456

Title: *Confederated Salish and Kootenai Tribes Resilience Planning for Extreme Events and Harmful Environmental Trends*

Project Description: This funding will enable a series of trainings and workshops that build on CSKT's Climate Change Strategic Plan. Tribal Stakeholders and participating experts will plan and develop implementation actions to address threats and develop monitoring and evaluation metrics to assess progress towards adaptation planning using best management practices.

Tribe: La Jolla Band of Luiseno Indians **Amount Funded:** \$149,015

Title: *2019 Southwestern Tribal Climate Change Summit*

Project Description: Funding will create an event that will bring together Tribal leaders, resilience coordinators, planners, program managers, scientists, communications experts, educators, and students to build off key topics from a 2017 Summit, that brought together 190 attendees from 48 tribes, to share new resources and develop skills and capacity to advance Tribal resilience planning. The summit will focus on how we move beyond discussions of impacts and focus on advancing solutions and will feature insightful plenaries, breakout groups, an interactive field trip experience, a leadership panel, a community forum, interactive demonstrations from leaders/teachers from Idyllwild Arts Academy Native American programs, and a youth component.

Tribe: Nez Perce Tribe **Amount Funded:** \$98,269

Title: *Nez Perce Tribe Workshop on Wetland and Riparian Restoration: Planning for Change and Culture Resilience*

Project Description: This funding will provide workshops to demonstrate the development and use of the Restoration Toolkit for Cultural and Ecological Resilience for guiding wetland and riparian restoration planning and implementation projects that are resilient and culturally relevant.



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Tribe: Nooksack Indian Tribe **Amount Funded:** \$17,957

Title: *Develop and Present Training Workshop and Webinar on the "Tribal Interests in Addressing Dry Season Low Stream Flow and Extreme Events through Innovative Watershed Management"*

Project Description: This funding will support the development and presentation of a workshop and webinar for Tribes in the Pacific Northwest on the final results and outcomes of Nooksack's Climate Change/Extreme Event project through June 2018 as well as the results of the research conducted under the BIA's Category 2 proposal. It will also provide training for other tribes in similar watersheds.

Tribe: Pala Band of Mission Indians **Amount Funded:** \$149,957

Title: *PBMI Tribal Health and Adaptation Planning National Training Project*

Project Description: This funding will provide human health focused adaptation planning training, resources, and support for Native American Tribes at a Tribal Health Adaptation Planning Workshop, a Tribal Health Adaption Summit, plus a Tribal Health Adaptation Planning webinar series, and presentations. Events will provide in-depth guidance on: Understanding Extreme Events, Harmful Environmental Trends, and Impacts, Extreme Events and Harmful Environmental Trends – Human Health Impacts and Strategies, Assessing Vulnerability to Extreme Events and Harmful Environmental Trends, Preparing an Adaptation Plan for Extreme Events and Harmful Environmental Trends, and Implementing an Adaptation Plan for Extreme Events and Harmful Environmental Trends.

Tribe: Quapaw Tribe of Oklahoma **Amount Funded:** \$119,665

Title: *Quapaw Tribe Hazard Adaptation Workshop Project*

Project Description: Native American Tribes at a Tribal Health Adaptation Planning Workshop, a Tribal Health Adaption Summit, plus a Tribal Health Adaptation Planning webinar series, and presentations. Events will provide in-depth guidance on: Understanding Extreme Events, Harmful Environmental Trends, and Impacts, Extreme Events and Harmful Environmental Trends – Human Health Impacts and Strategies, Assessing Vulnerability to Extreme Events and Harmful Environmental Trends, Preparing an Adaptation Plan for Extreme Events and Harmful Environmental Trends, and Implementing an Adaptation Plan for Extreme Events and Harmful Environmental Trends.

Tribe: Sac and Fox Nation of Missouri **Amount Funded:** \$127,860

Title: *Sac and Fox Nation of Missouri Resilience Training and Workshops*

Project Description: This funding will provide trainings and workshops for the nine tribes of Kansas, Nebraska, and Iowa that will assist Tribal leaders, program coordinators, planners and managers develop and utilize skills that will allow them to competently address the threat of extreme events and harmful environmental trends their communities face on both a local and regional basis. Key components in the trainings and workshops will be providing tribes with information needed to create Drought Early Warning Systems along with adaptation strategies, and flooding threats as extreme events promise more precipitation over a shortened period of time.

Tribe: Saint Regis Mohawk Tribe **Amount Funded:** \$150,000

Title: *The Akwesasne Cultural Restoration Program: Tsionkwaia'tahni:rats/To Strengthen Us Again*

Project Description: This funding will combine Traditional Ecological Knowledge (TEK) with Scientific Environmental Knowledge (SEK) for a holistic approach to increasing tribal resiliency through training and workshops that transfer



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knowledge through generations, with an emphasis on harvesting, preparing, and storing natural resources in the specific areas of fishing, trapping, traditional medicines and horticulture, and combine it with scientific data, field surveys, monitoring and preservation techniques. The community will then be informed on best practices for capacity building and future development of management options, in the face of extreme events and harmful environmental trends, based on results of the combined disciplines.

Tribe: Tuolumne Band of Me-Wuk Indians **Amount Funded:** \$100,764
Title: *Tuolumne GIS Adaptation Planning Training*

Project Description: This funding will address vulnerability to extreme events and harmful environmental trends through development of regionally focused training, adaptation planning, and data development, while providing travel to access training to build skills and capacity in GIS applications.

Tribe: Zuni Cultural Resource Enterprise, Inc **Amount Funded:** \$140,104
Title: *Pueblo of Zuni Workshop and Adaptation Planning for Challenges Presented by Extreme Events and Harmful Environmental Trends - Component I*

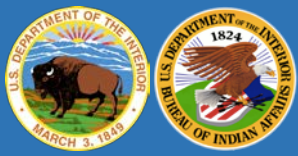
Project Description: This funding support collaboratively developed workshops and trainings between Western scientists and Zuni traditional knowledge holders and practitioners to address the short- and long-term concerns and needs of the Zuni Tribe in confronting the challenges presented by extreme events and harmful environmental trends by providing a culturally appropriate and scientifically sound path to developing adaptation and resilience, the delivery of data and tools, and tribal capacity building.

Tribal Organization: Affiliated Tribes of Northwest Indians **Amount Funded:** \$149,286
Title: *Affiliated Tribes of Northwest Indians (ATNI) NW Regional Climate Resilience Project*

Project Description: This funding will provide climate change training, workshops, and travel support to elected Tribal leaders, tribal management, climate change coordinators, planners and technical staff of the 61 Tribes of ATNI. As part of a collaborative effort among Tribal Governments, Universities, and Federal Cooperators, ATNI will coordinate design and host the 3rd Annual Tribal Climate Camp and the 4th Annual Tribal Leaders Summit on Climate Change.

Tribal Organization: Aleutian Pribilof Islands Association, Inc. **Amount Funded:** \$145,065
Title: *TRP Prop 1-Looking Forward, Looking Back: Building Resilience Today*

Project Description: This funding will build resilience to extreme events and harmful environmental trends by engaging multiple tribal leaderships and environmental staff through trainings and workshops. Initial trainings will create a common understanding between western scientists and traditional knowledge of tribal participants in regards to historical, current and future environmental trends and key adaptation concepts. Following on-site workshops are aimed at documenting Indigenous Knowledge of 1) a traditional use area, 2) a list of priority subsistence species and, 3) and Indigenous Knowledge of environmental changes and impacts. A final training will be held for tribal participants to practice using a variety of online tools developed for resilience and adaptation planning in Alaska.



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Tribal Organization: Learning Center at the Euchee Butterfly Farm, Inc. **Amount Funded:** \$149,500

Title: *Tribal Alliance for Pollinators: Building Tribal Capacity for Native Plant Restoration to Prevent Top Soil Erosion and Preserve Culturally Significant Plants During Drought*

Project Description: This funding will enable the Learning Center at the Euchee Butterfly Farm to conduct training and workshops for Oklahoma's 39 tribes on methods of restoring native plants, which play important roles in ceremonial, medicinal, and culinary traditions, to grassland ecosystems on tribal land. Instruction will cover identification and harvest of native plant seeds, native plant propagation, site preparation, planting at restoration sites and long-term site management. Education and technical assistance will be provided on how grassland restoration practices can support agricultural production through pollinator enhancement and improve pasture quality for grazing.

Tribal Organization: Tolani Lake Enterprises, Inc. **Amount Funded:** \$150,000*

Title: *Building Resiliency with Native Seeds: A Restoration Training Model for Southwest Tribes*

Project Description: This funding will support Tolani Lake Enterprises to directly address environmental hazards of increasing aridity and soil erosion on Navajo Nation, Yavapai-Apache Nation, and the Hopi Reservation by creating a replicable training and demonstration model that builds tribal capacity to use native seeds to restore degraded tribal lands. The program integrates Western science with traditional ecological knowledge. *Project partnering with USGS.

Tribal Organization: Tulalip Foundation **Amount Funded:** \$71,445

Title: *Tulalip Foundation Training for a Changing Environment*

Project Description: This funding will build tribal resilience through enhancing understanding about the environmental changes on the Tulalip Indian Reservation for tribal leadership, membership, and youth with targeted presentations. It will build on participant's insights to inform strategies to adapt to changes, and increase capacity for all to advocate for and implement environmentally sustainable practices.

Tribal Organization: United South and Eastern Tribes, Inc. **Amount Funded:** \$150,000

Title: *United South and Eastern Tribes Eastern Tribal Resilience Summit*

Project Description: This funding will allow the United South and Eastern Tribes to host the 2019 Eastern Tribal Resilience Summit. The goal of the Summit is to engage Tribal leadership and professional staff in building resilience to Extreme Events and Harmful Environmental Trends impacting eastern Tribal Nations. USET will partner with the Northeast and Southeast Climate Adaptation Science Centers to design and host the Summit to provide scientific information, examples of applied traditional knowledge, and case studies of Tribal resilience and adaptation planning.

Tribal Organization: Upper Snake River Tribes Foundation, Inc. **Amount Funded:** \$148,005

Title: *Foundation Tribal Community Outreach and Engagement Workshop and Youth Tours to Build the Resilience of the Aquatic, Terrestrial, and Tribal Enterprise Resources in the Upper Snake River Watershed of Idaho, Nevada, Oregon, and Wyoming*

Project Description: This funding will develop education/outreach materials using adult and youth learning techniques and be used to conduct engagement workshops for tribal leadership, tribal staff, tribal membership and tribal youth. This will disseminate climate-based knowledge, support actions that reduce the risk that extreme



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weather events and harmful environmental trends pose to the member tribes, and inform tribal members of USRT's Climate Adaptation and Resilience projects.

Category 2 : Adaptation Planning

To Develop Climate Adaptation Plans, Vulnerability Assessments, Data, and Data Analysis

Number of Awards: 42

Amount Funded: \$5,633,651

Tribe: Capitan Grande Band of Diegueno Mission Indians of California:
Viejas (Baron Long) Group of Capitan Grande Band of Mission
Indians of the Viejas Reservation, California

Amount Funded: \$46,958

Title: *Viejas Environmental Adaptation Planning Program (VEAPP)*

Project Description: This funding will allow the Tribe to use the priorities set forth in its Vulnerability Assessment to develop a comprehensive, holistic Adaptation Strategy. This strategy would use scientific evidence to support its recommendations while maintaining a heavy focus on the preservation of Traditional Ecological Knowledge and cultural resources.

Tribe: Chippewa Cree Indians of the Rocky Boy's Reservation, MT

Amount Funded: \$146,872

Title: *Chippewa Cree Tribe Resilience and Emergency Management Project (CCTREMP)*

Project Description: This funding will create the Chippewa Cree Tribe Resilience and Emergency Management Project which will address vulnerability and needs to extreme events and responses to harmful environmental trends. It will focus on the coordination of emergency response activities for the Rocky Boy's Reservation, including the facilities, staff and standard operating procedures to facilitate coordination of emergency management activities, to facilitate policy formulation, establish priorities, analyze information, incident planning and plan execution.

Tribe: Confederated Tribes of the Umatilla Indian Reservation

Amount Funded: \$150,000

Title: *CTUIR Huckleberry Phenology & Soil Moisture Supplemental Data Development Study*

Project Description: This funding will develop a huckleberry data development pilot protocol for use in adaptation and resilience planning. The project will acquire and deploy scientific equipment necessary to establish long term data collection sites and will produce data for use in verifying and revising USFS and CTUIR predictive modeling efforts for Columbia River Treaty tribes.

Tribe: Council of Athabascan Tribal Governments

Amount Funded: \$150,000

Title: *Council of Athabascan Tribal Governments Adaption Planning and Data Development Single village complete indoors and outdoors data on PM2 aerosol*

Project Description: Funding for this project will assess the vulnerability of communities in the Yukon Flats due to climate-change related air pollution and develop the basis for a first step in creating climate adaptation plans. The project will deploy four air quality monitors and meteorological measuring sites strategically around Ft Yukon. It will locate 20+ indoor aerosol monitors within homes and businesses. It will conduct a survey of home construction type and heating. It will analyze data using GIS for visual comparison of the gradient between indoor and outdoor aerosol concentrations and publish results.



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Tribe: Eastern Shoshone and Northern Arapahoe Tribes **Amount Funded:** \$48,598*
Title: *Wind River Reservation Drought Adaptation Planning*

Project Description: This funding will extend the Wind River Reservation Drought Preparedness Project. It will support a full-scale drought planning process to engage stakeholders across multiple departments, sectors, and communities to develop the Plan. This will also include continued outreach and capacity building for tribal natural resources staff, students, and the greater community. *Project partnering with Colorado State University.

Tribe: Flandreau Santee Sioux Tribe **Amount Funded:** \$150,000
Title: *Developing Drought Adaptation Plans for the Flandreau Santee and Standing Rock Sioux Tribes*

Project Description: This funding will develop Drought Adaptation Plans for the Flandreau Santee Tribe (FST) and the Standing Rock Sioux Tribe (SRST). This project is unique in that it is being sponsored in part by the Great Plains Tribal Water Alliance (GPTWA). The drought plan will serve as a platform to improve resilience where possible and as a framework to connect other planning/resilience efforts like Multi-Hazard Mitigation Plans and Agricultural Resource Management Plans. This plan will build off of the Drought Vulnerability Assessment done in BIA 2016 Tribal Climate Resilience Grant Category 1 and 2.

Tribe: Igiugig Village **Amount Funded:** \$80,241
Title: *Igiugig Village Adaptation Assessment Project*

Project Description: This funding will develop an Adaptation Assessment for the Igiugig Village. The Adaptation Assessment will identify vulnerable infrastructure and assets and map out a strategy to mitigate the impact of adverse climate-related events. The project will address extreme events and harmful environmental trends that impact Village resources, economy, infrastructure, health and welfare. The Project includes planning strategy, objectives, milestones, outcomes, measurements of success, timeline, and deliverables. Science and Traditional Knowledge will be integrated into the process. The project is an Adaptation Assessment that hires a part-time Project Coordinator to take the lead, forms a planning team that meets regularly and works through the steps outlined in U.S. Climate Resilience Toolkit and the Tribal Climate Change Adaptation Planning Toolkit, seeks technical assistance as needed and implements the completed assessment plan.

Tribe: Lac du Flambeau Band of Lake Superior Chippewa **Amount Funded:** \$150,000
Title: *Lac du Flambeau Vulnerability Assessment Project*

Project Description: The project for this funding will build off of the Tribe's resilience initiative and develop a comprehensive resilience management plan that supports the Tribe's preparedness and response to extreme events and harmful environmental trends. It will expand upon ongoing work to gain a better understanding of the vulnerabilities of key food and cultural resource species and to increase the capacity of Lac du Flambeau tribal program/department managers to incorporate resource resiliency into their everyday management. The Tribe will conduct traditional ecological knowledge (TEK) interviews to assess the vulnerability of animal and plants and fish species, including medicinals, which will assist in the development of a traditional food pyramid which incorporates the harvests during the four seasons. The results will be presented at a symposium for tribes and tribal organizations in the region.



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Tribe: Native Village of Chefornak **Amount Funded:** \$131,587

Title: *Downscaled Environmental Modeling and Risk Assessment for the Native Village of Chefornak*

Project Description: This funding will provide for the hiring of an environmental modeling consulting firm to develop a downscaled risk assessment for our community and its relocation site. The project will use science to assess risks, increase capacity to develop effective adaptation strategies, enable engineers to design resilient infrastructure, demonstrate the severity of environmental risks to agency and elected decision-makers, and will help us secure funding to protect our community from harmful environmental trends.

Tribe: Native Village of Georgetown **Amount Funded:** \$150,000

Title: *Native Village of Georgetown's Middle Kuskokwim Adaptation Plan*

Project Description: This funding will enable expansion of Georgetown's Vulnerability Assessment to include regional concerns, a Middle Kuskokwim Adaptation Plan, and the collection and preservation of traditional ecological knowledge (TEK) for the Middle Kuskokwim Region of Alaska. Funding will build capacity through training and job development.

Tribe: Native Village of Napakiak **Amount Funded:** \$131,586

Title: *Downscaled Environmental Modeling and Risk Assessment for the Native Village of Napakiak*

Project Description: This funding will provide for the hiring of an environmental modeling consulting firm to develop a downscaled risk assessment for our community and its relocation site. The project will use science to assess risks, increase capacity to develop effective adaptation strategies, enable engineers to design resilient infrastructure, demonstrate the severity of environmental risks to agency and elected decision-makers, and will help us secure funding to protect our community from harmful environmental trends.

Tribe: Newtok Village Council **Amount Funded:** \$149,736

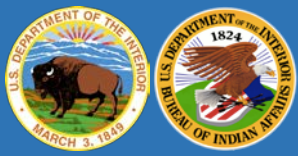
Title: *Downscaled Environmental Modeling and Risk Assessment for the Native Village of Newtok Relocation Site*

Project Description: This funding will provide for the hiring of an environmental modeling consulting firm to develop a downscaled risk assessment for our community and its relocation site. The project will use science to assess risks, increase capacity to develop effective adaptation strategies, enable engineers to design resilient infrastructure, demonstrate the severity of environmental risks to agency and elected decision-makers, and will help us secure funding to protect our community from harmful environmental trends.

Tribe: Nez Perce Tribe **Amount Funded:** \$68,557*

Title: *Resiliency planning for extreme events, harmful environmental trends, and land cover impacts to salmon, wetlands, and prairies on the Nez Perce Tribal Reservation*

Project Description: This funding will support development of a dataset and tools to inform decision making for vulnerabilities to tribal enterprises, natural resources, and food sovereignty resulting from increasingly extreme cycles of drought, heat waves, wildfire, extreme precipitation, and erosion, and will assist r resilient land use planning. Baseline data will be collected a model developed to evaluate the outcome of land management scenarios on hydrologic dynamics, wildlife habitat/biodiversity, and fisheries. Funding will support data acquisition, preliminary



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forest and agricultural modeling, and identification of locations and management practices for pilot studies. *Project partnering with University of Idaho.

Tribe: Nooksack Indian Tribe **Amount Funded:** \$150,000

Title: *Evaluating the Impact of Commercial Forestry on Streamflows and Species in the Nooksack River Watershed to Facilitate the Nooksack Indian Tribe's Resilience and Adaptation Planning*

Project Description: This funding will support the Tribe to conduct public outreach and stakeholder engagement of the commercial forestry community on voluntary actions that could be implemented that would reduce the impact of forestry on late-season flows. They will adapt lessons from other relevant watersheds and help integrate the findings in the evaluation of forest cover with a transaction framework. The Tribe will act on the vulnerability information from previous work by preparing an adaptation plan for targeted species and plant communities of particular importance to the Tribe. This work supports the ability of the Tribe to promote and rely on sustainable surpluses of salmon in the Nooksack River for ceremonial, cultural, subsistence, and commercial uses.

Tribe: Northern Cheyenne Tribe **Amount Funded:** \$119,939

Title: *Northern Cheyenne Tribe's Adaptation Planning #2: Adaptation Planning*

Project Description: This funding will be used to implement the Northern Cheyenne Drought Resiliency Plan Update. The Drought Resiliency Plan Update will be comprised of six components centered around the concept of resilience. These components will include improvements in drought monitoring; improved understanding of cultural and natural resources key vulnerabilities; mitigation activities that can minimize the Tribe's exposure to drought; and response actions that can limit the impacts of an ongoing drought. The final two components will involve a process to administer the plan and an approach to evaluate and update it on an ongoing basis.

Tribe: Pueblo of Laguna **Amount Funded:** \$150,000

Title: *Pueblo of Laguna Vulnerability Assessments for Adaptation Planning*

Project Description: This funding will initiate adaptation planning with regards to vulnerability assessments on the effects of extreme events and harmful environmental trends, specifically extreme weather, on human health and safety, and on infrastructure and the built environment. The project will include contracting with a consultant; holding a kickoff meeting; describing a comprehensive concept of Pueblo of Laguna health & safety values and concerns; developing a comprehensive understanding of concerns regarding infrastructure and the built environment; preparing a vulnerability assessment analyzing exposure, sensitivity, and adaptive capacity; prioritizing future adaptation planning; and developing a final document.

Tribe: Pueblo of Santa Ana **Amount Funded:** \$149,998

Title: *Extreme Drought Adaptation Planning: Phase I, Data Development on the Pueblo of Santa Ana*

Project Description: This funding will help the Pueblo mitigate and overcome the impacts of expected future extreme droughts to its resources, and, ultimately, to its cultural persistence through data development and adaptation planning and training for Department of Natural Resources staff.



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Tribe: Quapaw Tribe of Oklahoma **Amount Funded:** \$141,963

Title: *Quapaw Tribe Flood Hazard Adaptation Planning Project*

Project Description: This funding will hire a qualified engineering contractor to develop a Watershed Mitigation Plan (WMP) that addresses storm water runoff and its effects on the impaired water quality and sediment in the Tar Creek Superfund site that has plagued the Tribe and downstream users (including multiple other tribes) for many decades. The WMP will include design criteria for future projects that will improve water drainage and sediment quality along Tar Creek near Highway 69 and the Douthat Bridge area.

Tribe: Quinault Indian Nation **Amount Funded:** \$100,000

Title: *Surviving the Future: Adapting Quinault Indian Nation Ocean Fishery Management*

Project Description: This funding will create an Adaptation Plan to forecast and manage for impacts from a changing environment on culturally and economically important ocean resources including marine fish, shellfish, salmon, steelhead and the habitats that support them. The Plan will serve as a cornerstone for the Quinault Indian Nation to maintain access to its treaty reserved fisheries in the face of an uncertain future. Information and recommendations from this plan will be shared with and benefit all fellow ocean managers on the Washington coast including neighboring Olympic Coast treaty tribes.

Tribe: Red Lake Band of Chippewa Indians **Amount Funded:** \$116,572

Title: *Red Lake Band Midwest Regional Resilience Planning and Data Management Project*

Project Description: Funding for this project provides a platform to develop data management and analysis tools and guidelines to support long-term monitoring related to resiliency and adaptation and to increase capacity for tribes in the region. It will build on an effort to assess current and future data usage needs with specific attention to continuous data and traditional ecological knowledge (TEK) at a regional scale. The data management tools developed will improve resolution of climate change effects and may provide valuable information about “tipping points” or “triggers” that may indicate the need to take a particular adaptive step in management. Tribal staff will receive training in the use of tools associated with the outcomes of the strategy.

Tribe: Rosebud Sioux Tribe **Amount Funded:** \$150,000

Title: *Developing Drought Adaptation Plans for the Rosebud Sioux Tribe and Oglala Sioux Tribe*

Project Description: This funding will develop Drought Adaptation Plans for the Rosebud Sioux Tribe (RST) and the Oglala Sioux Tribe (OST). This project is unique in that it is being sponsored in part by the Great Plains Tribal Water Alliance (GPTWA). The drought plan will serve as a platform to improve resilience where possible and as a framework to connect other planning/resilience efforts like Multi-Hazard Mitigation Plans and Agricultural Resource Management Plans. This plan will build off of the Drought Vulnerability Assessment done in BIA 2016 Tribal Climate Resilience Grant Category 1 and 2.

Tribe: Sac and Fox Nation **Amount Funded:** \$145,571

Title: *Sac and Fox Nation One Water: Drought Vulnerability and Response Plan*

Project Description: This funding will develop a Drought Vulnerability and Response Plan. The plan will include an analysis of drought vulnerabilities, determination of potential response and mitigation strategies, and ongoing tribal



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outreach activities. The plan will provide tools to water managers to respond to and reduce the risk of drought conditions and will also be used to guide ongoing public education, management and drought mitigation activities.

Tribe: Saint Regis Mohawk Tribe **Amount Funded:** \$131,908

Title: *Developing Resiliency Tools and Policies to Prepare the Saint Regis Mohawk Tribe for Flood Related Impacts*

Project Description: This funding will address issues related to coastal development and adaptation planning on the St. Lawrence River. The project will address the barriers to overcome in the development of adequate tribal policy response to these challenges involves: 1. access to accurate information, 2. the means to adapt the information (and tools) to address local issues, 3. funding to develop tribal policies, standards and protocols to build tribal resilience, and 4. increasing the public's understanding of the available tools and resources. The project will bring together applicable data and tools into one report and make recommendations for future tribal policy.

Tribe: Samish Indian Nation **Amount Funded:** \$130,000

Title: *Samish Indian Nation Adaptation and Resilience Initiative - Phase 3*

Project Description: This funding will expand on the existing adaptation plan by evaluating and prioritizing possible adaptation strategies and mapping a comprehensive path to resiliency that focuses on key vulnerabilities and ensures cultural resources are sustained for the 7th generation. This project would also increase resiliency by integrating findings from the vulnerability and risk assessment into the upcoming Samish Comprehensive Plan as well as other appropriate program level management plans. It will also create a vetted list of adaptation project designs for each of the highest priority adaptation strategies to implement as funding becomes available. Finally, this work will increase Samish Tribal Capacity to engage with other Tribal, Local, State and Federal agencies to ensure that Tribal concerns with regards to extreme events and harmful environmental trends are addressed.

Tribe: Sault Sainte Marie Tribe of Chippewa Indians **Amount Funded:** \$109,230

Title: *Building Ecological Resilience through Inter-agency Adaptation Planning and Adaptive Management of Ishkode (fire) in Boreal Transition Ecosystems*

Project Description: Funding for this project will enable the development of a regional inter-agency adaptation planning process aimed at sustaining and enhancing boreal transition ecological systems. The project builds on and incorporates the Tribe's previous work in resilience and Adaptation Planning, the collection of Anishinaabe Community Knowledge and collaborative regional planning and management of important ecological systems. It will engage and revitalize Anishinaabe Community Knowledge for tribal fire management planning, pre- and post-fire ecological assessments, and development of an Inter-Agency Adaptive Fire Management Plan.

Tribe: Seminole Tribe of Florida **Amount Funded:** \$88,600

Title: *Seminole Tribe of Florida Adaptation Planning*

Project Description: This funding will establish resiliency for extreme weather events and harmful environmental trends that the Tribe faces on its seven reservations and trust lands, by directly supporting the development of a vulnerability assessment, data collection, and analysis. Scientific methods and traditional knowledge will be combined to develop strategic planning to assess and prioritize adaptation options. Funding will increase capacity by supporting training on data collection and analysis, vulnerability and risk assessment, and Geographic Information Systems (GIS).



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Tribe: Shoshone-Paiute Tribes of the Duck Valley Indian Reservation **Amount Funded:** \$55,082
Title: *Shoshone-Paiute Fire Department's Adaptation Planning and Training Program*

Project Description: This funding will enable the assessment of the Tribes infrastructure, training, training needs, agricultural, and disaster preparedness. The Tribe will consult with the public, elders and the membership and integrate all of this information into an Adaptation Plan. The project will provide a basis for its response to changing environmental trends and extreme events and will guide monitoring, public outreach, and education as well as provide a mechanism for the updating and amending of the plan based on new information.

Tribe: Skokomish Indian Tribe **Amount Funded:** \$149,558
Title: *Skokomish Indian Tribe-Adaption planning-Data Development for marine algal toxins in Hood Canal, Washington*

Project Description: This funding will measure marine algal toxin levels during the summer months and inform the tribal council and members of toxin levels if they rise above a critical level set by NOAA. Analytics will be applied to quantify algal toxins in water and biological samples at 11 sites in Hood Canal. Phytoplankton species that are known to produce algal toxins in Hood Canal will be identified. Public health risks associated with measured algal toxin levels will be established. An early algal toxin alert system will be developed and implemented.

Tribe: Snoqualmie Indian Tribe **Amount Funded:** \$149,256
Title: *Assess impacts of climate change on coldwater habitat, and implications for native salmonid populations of the Snoqualmie River to support Snoqualmie Tribal resilience and coastal management planning*

Project Description: This funding will be used to evaluate effects of land management and climate scenarios on fluvial and thermal conditions and on coldwater fish populations in the Snoqualmie basin. The Tribe will develop management scenarios of riparian vegetation and land use, test these management scenarios using an existing physically-based hydrology and water temperature model and compare how well each mitigates predicted future changes to salmon habitats; evaluate population-level salmon responses to these scenarios using an existing individual-based fish model; and develop a guidance protocol for natural resource managers in other Tribes who need to protect/restore salmon and their habitats. The Tribe will produce and publish maps and animations of changes in fluvial and thermal habitat.

Tribe: Stillaguamish Tribe **Amount Funded:** \$130,558
Title: *Stillaguamish Tribal Resilience Planning for Future Generations - Continuing the Work*

Project Description: Funding for this project provides a platform to develop data management and analysis tools and guidelines to support long-term monitoring related to resiliency and adaptation and to increase capacity for tribes in the region. It will build on an effort to assess current and future data usage needs with specific attention to continuous data and traditional ecological knowledge (TEK) at a regional scale. The data management tools developed will improve resolution of climate change effects and may provide valuable information about “tipping points” or “triggers” that may indicate the need to take a particular adaptive step in management. Tribal staff will receive training in the use of tools associated with the outcomes of the strategy.



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Tribe: Suquamish Tribe **Amount Funded:** \$148,998

Title: *Building resilience for the Suquamish Tribe: Integrating changes in streamflow and water temperatures into a vulnerability assessment for salmonids in the Chico Creek Watershed*

Project Description: This funding will produce a detailed impact assessment of projected future changes in the hydrology and water temperature in the Chico Creek watershed to understand the long-term implications for salmon habitat and populations. The assessment will identify cold-water refugia and thermal sources and develop a high-resolution hydrological and water temperature model, which will allow the Suquamish Tribe to quantify changes in streamflow and water temperature in the future. A thermal infrared remote sensing survey will produce spatially continuous water temperature data, and the hydrologic and water temperature model will simulate hourly, daily, monthly and annual streamflow, summer water temperature, and high- and low-flow extremes.

Tribe: The Navajo Nation **Amount Funded:** \$150,000*

Title: *Integrated watershed risk assessment for wildfire, floods, and debris flows on the Navajo Nation*

Project Description: This funded project will conduct an integrated watershed risk assessment to evaluate and map the probability and potential impacts of extreme fire-flood-debris-flow events in watersheds of the Navajo Nation using computer simulation models and the experience of resource managers. *Project partnering with University of Arizona.

Tribe: Tulalip Tribes of Washington **Amount Funded:** \$146,023*

Title: *Tulalip Tribes off-reservation Treaty Reserved Resource management capacity planning in light of extreme events and harmful environmental trends*

Project Description: This funding will build resilience through the delivery of data and tools and tribal capacity to manage treaty resources. It will provide an analysis of vegetation to predict changes over the next approximately 80 years and strategies will be developed for management of treaty resources such as fish, wildlife and plants. It will also fund development of an area specific framework for using the Ecosystem Management Decision Support system to relate key vegetation types and species to Tulalip treaty resources as a tool for objective management decisions. GIS layers produced from this project will be shared with participating tribes. *Project partnering with USGS.

Tribe: Upper Skagit Indian Tribe **Amount Funded:** \$150,000

Title: *Upper Skagit Indian Tribe: Tribal Resilience Planning*

Project Description: This funding will address capacity development for gaps, to identify and scope needed improvements, and to develop the Tribal Resilience Plan. The final deliverable of this project will be a document identifying roles, responsibilities and procedures to be followed in emergencies, addressing a variety of possible emergency scenarios and covering multiple Tribal programs, in order to maintain the health and welfare of the Tribe.

Tribe: Ute Mountain Ute Tribe **Amount Funded:** \$106,933*

Title: *Ute Mountain Tribe Adaptation Planning*

Project Description: This funding will go to the development of an adaptation plan that will be integrated across all the tribal programs. It will build on the Tribe's vulnerability assessment. The funding will also be used to host workshops, identify and prioritize adaptation options, create an adaptation plan, and share the work with community



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members. This initiative will build tribal capacity through inter-departmental work and respect the importance of traditional ecological knowledge and science. *Project partnering with Colorado State University.

Tribe: Village of Atmautluak **Amount Funded:** \$62,842

Title: *Native Village of Atmautluak Adaptation Assessment Planning Project*

Project Description: This funding will develop an Adaptation Assessment which will identify important components of our community and determine the risk of harm. The funding will hire a part-time Project Coordinator to take the lead and form a planning team that meets regularly and works through the steps outlined in U.S. Climate Resilience Toolkit, seeks technical assistance as needed and implements the completed assessment plan.

Tribe: Washoe Tribe of Nevada and California **Amount Funded:** \$150,000

Title: *Washoe Tribe Environmental Support for Adaptation Planning*

Project Description: This funding will support a Tribal Resilience Adaptation Planning workshop to build the skills and knowledge of tribal staff, staff capacity, and capacity of surrounding Tribes. The goal is to provide an off-site training and collaboration opportunity for the Tribal Advisory Group (TAG) by working closely with the current resilience project partner (Adaptation International) to design and organize a 3 day off site technical resilience workshop. This event would provide the space for the departmental leadership who have been actively involved in the resilience work to leave their daily office commitments behind and dedicate time to developing effective adaptation and resilience actions.

Tribe: Zuni Cultural Resource Enterprise, Inc. **Amount Funded:** \$137,434

Title: *Pueblo of Zuni Workshop and Adaptation Planning for Challenges Presented by Extreme Events and Harmful Environmental Trends - Component II*

Project Description: This funding will provide a culturally appropriate and scientifically sound pathway to developing adaptation and resilience through delivery of data and tools and tribal capacity building. The project will be a collaboration between Western scientists and Zuni traditional knowledge (TK) holders and practitioners, and will be interrelated to effectively address the long-term concerns and needs of the Zuni Tribe in confronting the challenges presented by extreme events and harmful environmental trends.

Tribal Organization: Bristol Bay Native Association, Inc. **Amount Funded:** \$ 147,838

Title: *Alaska's Eroding Infrastructure: Systematic Approach to Identifying and Prioritizing Coastal Infrastructure at Risk to Erosion*

Project Description: Funding for this project will build the capacity of local tribal governments to collect, analyze, and interpret shoreline change data allowing them to effectively conduct data-driven vulnerability assessments and prioritize adaptation and mitigation strategies.

Tribal Organization: Columbia River Inter-Tribal Fish Commission **Amount Funded:** \$147,544

Title: *Columbia River Inter-Tribal Fish Commission's "Resilient Aquatic Foodwebs for Tribal Communities (RAFT)" (Adaptation Planning - Dataset Development)*



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Project Description: Funding for this project will increase tribal capacity to mitigate climate change impacts to aquatic food webs by identifying field collection efforts of aquatic macroinvertebrates in salmon-bearing tributaries of the Columbia River basin; coordinating field and laboratory procedures among tribal programs so that data can be evaluated using common standards and analytical procedures; using collected data to refine and extend existing food availability and food web metrics; and providing a statistical analysis framework relating food web metrics to climate-related variables as the basis for prioritizing climate change mitigation strategies.

Tribal Organization: Northwest Indian Fisheries Commission **Amount Funded:** \$150,000*

Title: *Coastal Flooding and Extreme Storm Adaptation Planning for the Treaty Tribes of the Northwest Indian Fisheries Commission*

Project Description: This funding will support the treaty tribes in western Washington in identifying and responding to the impacts of coastal floods, extreme storms, and sea level rise to treaty-protected natural resources and local ecosystems. This project will also enhance the capacity and productivity of intertribal collaboration for regional planning. The project will deliver a compendium of the tribal approaches to sea level rise, extreme storms, and coastal erosion as identified in existing vulnerability assessments and adaptation plans; a coastal flooding and storm surge adaptation planning meeting; a data development pilot project memo that describes methods and results, including maps; an information sharing workshop; and a regional intertribal coastal flooding and storm surge adaptation plan.

*Project partnering with USGS.

Tribal Organization: United South and Eastern Tribes, Inc. **Amount Funded:** \$79,349

Title: *United South and Eastern Tribes Adaptation Planning Support Project*

Project Description: This funding will assist Tribal Nations in the completion of their Adaptation Plans. The project will support Tribal professional staff in the completion of their Tribal Nation's adaptation plans, and will include Tribal youth in adaptation planning through work force development opportunities. USET will travel to Tribal Nations to provide onsite technical support for adaptation planning and will support Tribal workforce development by supporting Tribal youth, engaged in community-level adaptation planning, to participate and present at USET's Annual Impact Week in Washington, DC for spring 2019.

Tribal Organization: Yukon River Inter-Tribal Watershed Council **Amount Funded:** \$150,000

Title: *Yukon River Inter-Tribal Watershed Council Adaptation Planning Project: Enhancing Tribal Resilience Through Community-Based Monitoring and Planning*

Project Description: This funding will be used to document Traditional Knowledge (TK) about resilience, including environmental threats. It will establish new permafrost monitoring sites, and establish an erosion monitoring protocol. Subsistence areas, landscape values and threats will also be mapped. New data on water quality, permafrost degradation, and erosion will be collected. The Indigenous Observation Network will be expanded by installing four new grid active layer sites to monitor permafrost, and one regional stationary monitoring site for weather, and by the addition of erosion monitoring using either drone aerial photography or staking. Training will be provided to local Tribal Environmental Professionals to maintain and collect data from these sites. The project will synthesize existing data regarding environmental change and impacts, and compare them to rural community perceptions of environmental risks and vulnerability to traditional ways of life.



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Category 3 : Travel Support for Adaptation Planning

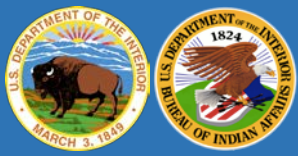
Travel Support for Climate Adaptation Plans, Vulnerability Assessments, Data Development and Analysis

Number of Awards: 30

Amount Funded: \$408,628

Project Description for All Category 3 Awards: Funding to provide travel support and access for tribal leaders, tribal members, and tribal staff to attend workshops, trainings, or meetings associated with building adaptation knowledge and skills for resilience against the impacts of extreme events and harmful environmental trends that impact treaty and trust resources, economies, infrastructure, human health and tribal welfare. This may include training and technical workshops to ensure tribal voices are included and other practitioners benefit from tribal participation in training, research, and cooperative implementation. This does not include salary costs or international travel.

Tribe: Blackfeet Tribe	Amount Funded: \$10,500
Title: <i>Blackfeet Nation Travel Support for Adaptation Planning</i>	
Tribe: Burns Paiute Tribe	Amount Funded: \$14,961
Title: <i>Travel Support for Adaptation Planning for Burns Paiute Tribe</i>	
Tribe: Chignik Bay Tribal Council	Amount Funded: \$15,000
Title: <i>The Chignik Bay Tribal Council Adaptation and Resiliency Travel Support</i>	
Tribe: Chignik Lake Tribal Council	Amount Funded: \$15,000
Title: <i>The Chignik Lake Tribal Council Adaptation and Resiliency Travel Support</i>	
Tribe: Chuathbaluk Traditional Council	Amount Funded: \$12,848
Title: <i>Native Village of Chuathbaluk Travel Support Western Alaska LCC</i>	
Tribe: Confederated Tribes of Grand Ronde Community	Amount Funded: \$14,925
Title: <i>Confederated Tribes of Grand Ronde - Adaptation Planning Travel Support</i>	
Tribe: Confederated Tribes of the Umatilla Reservation	Amount Funded: \$15,000
Title: <i>CTUIR Travel Support for Adaptation Planning</i>	
Tribe: Elk Valley Rancheria CA	Amount Funded: \$10,905
Title: <i>Elk Valley Rancheria Travel Support-Adaption Planning</i>	
Tribe: Georgetown Tribal Council	Amount Funded: \$15,000
Title: <i>Native Village of Georgetown's Middle Kuskokwim Adaptation Plan Travel</i>	
Tribe: Igiugig Village Council	Amount Funded: \$9,178
Title: <i>Igiugig Village Adaptation Travel Support</i>	
Tribe: Iliamna Village Council	Amount Funded: \$12,624
Title: <i>Village of Iliamna Adaptation Assessment Travel Support</i>	
Tribe: Ketchikan Indian Community	Amount Funded: \$14,843
Title: <i>Ketchikan Indian Community Traditional Knowledge and Citizen Science Initiative</i>	



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Tribe: Keweenaw Bay Indian Community	Amount Funded: \$6,130
Title: <i>Training in Adaptation Planning for Air Quality Issues Affecting the Health of the Keweenaw Bay Indian Community of the Lake Superior Region</i>	
Tribe: Native Village of Kotlik	Amount Funded: \$14,248
Title: <i>Native Village of Kotlik Travel Support</i>	
Tribe: Nez Perce Tribe	Amount Funded: \$12,703
Title: <i>Nez Perce Tribe Travel Support for Adaptation Planning</i>	
Tribe: Nooksack Indian Tribe	Amount Funded: \$14,900
Title: <i>Travel Support - Nooksack Indian Tribe Travel to Relevant Adaptation/Resilience Training Workshops, Meetings, and Symposiums</i>	
Tribe: Pueblo of Laguna	Amount Funded: \$15,000
Title: <i>Pueblo of Laguna Travel Support for Adaptation Planning</i>	
Tribe: Quapaw Tribe of Oklahoma	Amount Funded: \$14,505
Title: <i>Quapaw Tribe Flood Hazard Adaptation Planning Project</i>	
Tribe: Quinault Indian Nation	Amount Funded: \$14,682
Title: <i>Quinault - Travel to Increase Knowledge of Ecosystem Resilience</i>	
Tribe: Sac and Fox Nation of Missouri	Amount Funded: \$14,804
Title: <i>Sac and Fox Nation of Missouri Travel Support for Adaptation Planning</i>	
Tribe: Skokomish Indian Tribe	Amount Funded: \$15,000
Title: <i>Skokomish Indian Tribe - Support for Travel and Training for Adaptation and Resilience Planning</i>	
Tribe: Village of Atmautluak	Amount Funded: \$11,048
Title: <i>Native Village of Atmautluak / Adapt Y-K Delta Travel Support</i>	
Tribe: Walker River Paiute Tribe	Amount Funded: \$10,000
Title: <i>Travel Support for Walker River Paiute Tribe</i>	
Tribe: Washoe Tribe of NV & CA	Amount Funded: \$15,000
Title: <i>Washoe Tribe Environmental Travel Support for Adaptation Planning</i>	
Tribe: Wichita and Affiliated Tribes	Amount Funded: \$14,908
Title: <i>Wichita Travel Support Proposal</i>	
Tribal Organization: Affiliated Tribes of Northwest Indians	Amount Funded: \$14,916
Title: <i>ATNI NW Regional Climate Resilience Project</i>	
Tribal Organization: Chugach Regional Resources Commission	Amount Funded: \$15,000
Title: <i>Travel Support - Resilience</i>	



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Tribal Organization: Native American Fish and Wildlife Society- SW Region **Amount Funded:** \$15,000
Title: *Travel Support for Adaptation Planning for the Native American Fish & Wildlife Society - Southwest Region*

Tribal Organization: The Learning Center at Euchee Butterfly Farm **Amount Funded:** \$15,000
Title: *Tribal Alliance for Pollinators: Travel Support for Building Tribal Capacity for Native Plant Restoration to Prevent Top Soil Erosion and Preserve Culturally Significant Plants During Drought*

Tribal Organization: Yukon River Inter-Tribal Watershed Council **Amount Funded:** \$15,000
Title: *Yukon River Inter-Tribal Watershed Council Adaptation Planning Project: Resilience Workshop Travel Support*

Category 4 : Ocean and Coastal Management

To Develop Ocean and Coastal Management Plans for Marine and Coastal Resources

Number of Awards: 31

Amount Funded: \$4,084,232

Tribe: Chilkoot Indian Association **Amount Funded:** \$97,153
Title: *Identify Environmental Vulnerabilities and Prioritize Adaptation Strategies for Saak (Eulachon) Populations in the Upper Lynn Canal of Southeast Alaska*

Project Description: Funding for this project will complete a vulnerability assessment and adaptation plan, and advance the Tribes scientific understanding about local biology that impacts the traditional Chilkoot water reliant lifestyle and applies the economically sustainable method (eDNA) for collecting and monitoring eulachon population data. The project will include training and data collection for local and regional tribes. Academic and federal scientists, as well as tribal members will be interviewed to compare traditional and modern methods of monitoring.

Tribe: Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians **Amount Funded:** \$148,621
Title: *Laboratory and Analytical Capacity Building for Identification of Hazardous Pollutants Facilitating Impacted Resource Inventory, Vulnerability Assessments, and Collaborative Ocean and Coastal Tribe Resource Management*

Project Description: This funding will help protect culturally significant resources from pollution for both environmental sustainability and community health. The Tribe's Department of Culture and Natural Resources' Water Quality Program and Resource Response Program wishes to build on current water quality testing and training capabilities to analyze for hazardous pollutants in water, sediment, vegetation, and fish tissues using state-of-the-art scientific techniques in both chemistry and instrument analytics.

Tribe: Confederated Tribes of Siletz Indians **Amount Funded:** \$150,000
Title: *Marine Spatial Plan Development for the Confederated Tribes of Siletz Indians*

Project Description: This funding will in part be used to gather TEK as well as current cultural resource knowledge (knowledge from those with less TEK experience but who are active harvesters/gatherers) to better define cultural resources and resource areas of importance to the Tribe. These cultural resource data will be placed in a relational database that allows for recognition between various metrics and items in the database – which aids in understanding



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connections between TEK focused information. The information will be used to develop a marine spatial plan for the Tribe. The plan will also enhance the Tribe's current involvement in the West Coast Regional Planning Body, the Oregon Rocky Shores Working Group.

Tribe: Hoonah Indian Association **Amount Funded:** \$141,430
Title: *Inventorying and Mapping Traditional Coastal Resources in Nearshore Subtidal Ecosystems for Tribal Resilience*

Project Description: This funding will provide for the habitat classification mapping and baseline resource inventory of subtidal macro-habitats to assess potential marine subsistence resource-use areas near Hoonah, AK. This information will enable the tribe and community members to understand the vulnerability of traditional marine resource gathering areas and will lend itself to future ocean and coastal management & planning efforts. The project will work through a community-based adaptive management process to engage stakeholders and integrate community knowledge & values, perform a baseline resource inventory, implement community education and outreach, and publish written synthesis and analysis reports that communicate the resilience and vulnerability of traditional subsistence resources.

Tribe: Jamestown S'Klallam Tribe **Amount Funded:** \$54,905
Title: *Jamestown S'Klallam Tribal Planning for Resilience to Harmful Environmental Trends*

Project Description: This funding will improve resilience to extreme changes in the environment and harmful environmental threats by better understanding patterns of variability and trends in marine chemistry that cause ocean acidification in Sequim Bay, WA. This project will place OA sensor packages in Sequim Bay, WA near tribal shellfish aquaculture and shellfish harvest beaches to collect continuous (pH, temperature, salinity, dissolved oxygen and chlorophyll) and discrete (alkalinity) marine chemistry measurements to identify natural variability, investigate long-term trends, and assess future vulnerability to OA.

Tribe: Keweenaw Bay Indian Community **Amount Funded:** \$15,782*
Title: *Keweenaw Bay - Sand Point Sediment Transport and Deposition Assessment: A Long-term Coastal Dynamics Collaborative for Tribal Resiliency Planning*

Project Description: This funding support efforts to address information gaps in the extent of contaminated sands and their impact on aquatic resources of Keweenaw Bay to better understand this dynamic coastal system and plan for future extreme events. Specifically, the project objectives for this proposal are to: 1) enhance knowledge of past, current, and future extent and impacts of stamp sands through historical documentation of Mass Mill operations and ore sources, and supported by the interpretation and analysis of historical cartographic products, aerial photography, orthoimagery, and LiDAR derived topographic models, and 2) increase baseline information about the physical migration, quantity, and chemical characteristics of stamp sands deposited into Keweenaw Bay and L'Anse Bays of Lake Superior. *Project partnering with Michigan Technical University.

Tribe: Knik Tribe **Amount Funded:** \$145,228
Title: *Vulnerability Assessment: Prevalence of Paralytic Shellfish Toxins in the Marine Food Webs of the Cook Inlet and the Alaska Peninsula, Alaska*



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Project Description: This funding supports a vulnerability assessment for a single resource or risk with a product that serves multiple tribes and public health agencies that can be used by multiple coastal Tribes in Alaska. The current study will investigate the transfer of paralytic shellfish toxins (PSTs) from Alexandrium cells to zooplankton, shellfish, forage fish and commercially important predatory fishes in two Alaska ecosystems: Cook Inlet and the south Alaska Peninsula.

Tribe: Makah Indian Tribe **Amount Funded:** \$149,622
Title: *Monitoring, Management, and Planning of the Makah Tribe's Coastal and Ocean Resources*

Project Description: This funding supports the Makah Tribe's GIS Department to incorporate marine spatial planning data into useable digital GIS layers and georeferenced map products. This work will contribute to 1) restoring and increasing resilience of coastal estuaries and nearshore waters of the Makah Reservation by trapping and removing invasive European green crab; 2) monitoring critical indicator species in the intertidal, nearshore, and ocean waters of the Makah Reservation and Makah U&A; and 3) incorporating ecological data into GIS shapefiles and map products that can be incorporated into the Makah Tribe's Marine Spatial Plan and Oil Spill Response Plan.

Tribe: Native village of Karluk **Amount Funded:** \$66,540
Title: *Native Village of Karluk Coastal Adaptation Assessment Grant*

Project Description: This funding will develop an Adaptation Assessment that will identify important components of the community and determine the risk of harm. The project will hire a part-time Project Coordinator to take the lead, form a planning team that meets regularly and work through the steps outlined in U.S. Climate Resilience Toolkit, seeks technical assistance as needed and implements the completed assessment plan.

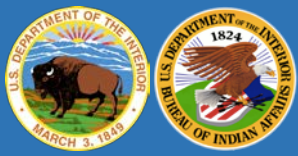
Tribe: Native Village of Kotlik **Amount Funded:** \$83,875
Title: *Native Village of Kotlik Coastal Adaptation Assessment Grant*

Project Description: This funding will develop an Adaptation Assessment which will identify important components of the community and determine the risk of harm. It will hire a part-time Project Coordinator to take the lead and form a planning team that meets regularly and works through the steps outlined in U.S. Climate Resilience Toolkit, seeks technical assistance as needed and implements the completed assessment plan.

Tribe: Native Village of Kwigillingok **Amount Funded:** \$102,843
Title: *Native Village of Kwigillingok Assessment Planning*

Project Description: This funding will develop an Adaptation Assessment which will identify important components within the community and determine the risk from flooding, ice jams and eroding river banks. Funds will be used to hire a full-time Project Coordinator to take the lead, form a planning team that meets regularly and work through the steps outlined in U.S. Climate Resilience Toolkit, seeking technical assistance as needed and implements the completed assessment plan.

Tribe: Native Village of Kwinhagak **Amount Funded:** \$146,243
Title: *Native Village of Kwinhagak Lagoon Assessment Project*



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Project Description: This funding supports the development of an assessment that will identify important community components and determine risk. The project will address extreme events and harmful environmental trends that impact our resources, economy, infrastructure, health and welfare. The project is an Adaptation Assessment for Tununak that hires a part-time Project Coordinator, forms a planning team and works through the steps outlined in U.S. Climate Resilience Toolkit.

Tribe: Native Village of Tununak **Amount Funded:** \$ 85,195
Title: *Native Village of Tununak Coastal Adaptation Assessment Grant*

Project Description: This funding supports the development of an assessment that will identify important community components and determine risk. The project will address extreme events and harmful environmental trends that impact our resources, economy, infrastructure, health and welfare. The project is an Adaptation Assessment for Tununak that hires a part-time Project Coordinator, forms a planning team and works through the steps outlined in U.S. Climate Resilience Toolkit.

Tribe: Native Village of Unalakleet **Amount Funded:** \$133,166
Title: *Native Village of Unalakleet's Feasibility Study to Assess the Establishment of a Regional Norton Sound LiDAR Data Collection Project as a Self-Sustaining Program (Planning for Subsistence Management in Changing Conditions)*

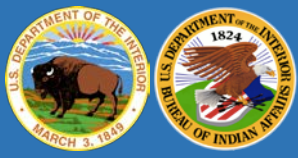
Project Description: This funding will help build local and regional capacity to address future ocean and coastal management planning and long-term resilience through the establishment of a self-sustaining, rigorous, localized and on-going data collection and analysis program. It will research and assess the feasibility of establishing a regional Norton Sound LiDAR data collection program utilizing an aerial drone. The study will include a cost/benefit analysis of a LiDAR system to other aerial data collection and observation options.

Tribe: Point No Point Treaty Council **Amount Funded:** \$150,000
Title: *Point No Point Treaty Council (PNPTC) Estuary GIS Change Analysis and Pilot Vulnerability Assessments for Adaptation Planning*

Project Description: This funding will support a pilot study to map historical stream distributary changes within select estuaries and estimate suspended sediment movement with relation to extreme weather events. This study will serve as a proof of concept which can later be applied to additional critical estuaries where there is concern over habitat changes. It will establish a methodology to map, measure, and analyze approximate sedimentation and sediment movement within estuary habitats to better inform tribal resource managers and planners. Results will be used to produce and update existing fish and shellfish habitat vulnerability assessments.

Tribe: Quileute Indian Tribe **Amount Funded:** \$150,000
Title: *Category 4: Identifying monitoring protocols and critical indicator species/environmental parameters needed to develop marine resource plans needed to support planning efforts to address resilience for the Quileute Tribe*

Project Description: This funding will build capacity through activities such as identify monitoring protocols and critical indicators to advance tribal resilience with improved management tools to manage ocean resources sustainably and



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by default create resilience. This project will shift how we inform management of our marine resources resulting from changing ocean conditions such as hypoxia and ocean acidification. This project will pursue partnerships, develop and access regionally specific data and information to inform our management strategies.

Tribe: Quinault Indian Nation **Amount Funded:** \$110,833

Title: *Quinault - Shorebird and Waterfowl Planning*

Project Description: Funding for this project will document waterfowl occurrence across a variety of habitats, to determine species richness, distribution, abundance, and habitat use across different seasons. It will ensure a robust and statistically significant baseline data set. Funds will be used to conduct an aerial mid-winter waterfowl, seabird, and marine mammal survey of the entire outer Washington coast. The data collected from this survey will be shared with the US Fish and Wildlife Services Migratory Bird Data Center, which is used to set hunting bag limits, hunting seasons and restrictions, as well as guide management and conservation decisions. Funds will be used to train a select group of tribal members on bird identification and standardized surveying techniques.

Tribe: Samish Indian Nation **Amount Funded:** \$150,000

Title: *Samish Indian Nation - Coastal Vulnerability and Risk Assessment*

Project Description: Funding for this project will expand on the work of the Samish Adaptation and Resilience Initiative with a focus on coastal resources. It will develop an in-depth coastal resource vulnerability and risk assessment, and create a Geographic Information Systems (GIS) based Sea Level Rise and Cultural Resource Evaluation Tool that can be used by other Tribes. The increased understanding of impacts to coastal resources will improve the Samish Indian Nation's capacity to engage with Local, State, Federal, and Tribal entities on coastal regulatory and resource management initiatives in the region.

Tribe: Seminole Tribe of Florida **Amount Funded:** \$150,000

Title: *Seminole Tribe of Florida Adaptation Planning - by ERMD*

Project Description: This funding will help give Tribal Government and salient Tribal Departments adequate information to examine their plans for preparedness and reallocate resources as necessary to protect the property, resources and health of its members. Deliverables include climate projections and scenarios, technical report on climate and high resolution hydrodynamic modeling, technical report on critical assets and resources, and a vulnerability assessment report.

Tribe: Shoalwater Bay Indian Tribe **Amount Funded:** \$142,342

Title: *Shoalwater Bay Indian Tribe Adaptation Plan*

Project Description: This funding develops an adaptation plan for tribal lands, adaptation planning related training including travel, and an automated weather station to monitor and record weather data on the reservation. The adaptation plan will address the potential impacts of environmental and natural resource changes on human health, culture, traditions, economy, ecosystems, species, habitat, the coastline, bay and ocean, water resources, agriculture, forests, and infrastructure and the built environment.



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Tribe: Sitka Tribe of Alaska **Amount Funded:** \$150,000

Title: *Ocean and Coastal Management Planning by Assessing Mercury in Subsistence Marine Resources Using the Sitka Tribe of Alaska's Environmental Research Laboratory and the Southeast Alaska Tribal Ocean Research Partnership*

Project Description: Funding for this project will support tribal resilience and adaptation ability by building capacity to analyze subsistence marine foods. The project will integrate established protocols and techniques that will be used to analyze collected samples and to communicate the results via the existing outreach website. This project will focus on tissue samples collected from traditional foods are known to be higher than other harvested species. This project will provide prompt data to communities on mercury levels from recent harvests. We will utilize our existing infrastructure and model used to provide real-time shellfish toxin data to 16 tribal communities in Southeast Alaska to effectively coordinate sample collection and to communicate risk levels to tribal citizens.

Tribe: Skokomish Indian Tribe **Amount Funded:** \$147,799

Title: *Skokomish Indian Tribe-Development of an Ocean and Coastal Management Plan to deal with an emergin environmental and natural resources concern, the coccolithophore blooms, in Hood Canal, Washington*

Project Description: This funding supports the development and implementation of scientific strategies to deal with the coccolithophore blooms in Hood Canal. This objectives will contribute to the development of an ocean and coastal management plan to cope with the environmental challenges caused by coccolithophore blooms in Hood Canal, WA.

Tribe: Squaxin Island Tribe **Amount Funded:** \$150,000

Title: *Squaxin Island Tribes Sea Level Rise Response Plan*

Project Description: Funding for this project will develop a Sea Level Rise Response Plan for shellfish and forage fish habitat to climate change-related impacts on Squaxin Island and Oakland Bay. It will use forecasts and modeling to protect and direct economic investments, opportunities, and revenues; develop and implement adaptation and management actions to reduce impact to the area and protect the vital shellfish/forage fish resource; identify where and how the Tribe could support the natural inland transition of coastal lowlands and estuaries; protect important historical and cultural sites that are at risk of coastal inundation and flooding. Recommended actions will be distributed to local, state, and federal agencies.

Tribe: Tolowa Dee-ni' Nation **Amount Funded:** \$149,873

Title: *Na'ghvth-k'vs (Rising Tides): Using 3D Modeling of Intertidal Areas to Track Sea Level Rise Due to Climate Change*

Project Description: This funding will support documentation of ecological trends and ultimately enable better management for resiliency. The Tribe will work with partners to utilize low-cost and easily transferable methods to create data-rich large-area image archives of intertidal areas from the lowest water line to beyond the splash zone. The ultimate goals of this project are to collect rigorous high-resolution large-area imagery of important rocky intertidal habitats that will enable planning for future changes associated with sea level rise.



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Tribe: Tulalip Tribes of Washington **Amount Funded:** \$150,000

Title: *Tulalip Tribes Shoreline Resiliency Planning*

Project Description: This funding will support coastal storm modeling along Tulalip's coastlines, explore future trends in habitat change, and continue bacterial water monitoring in Tulalip tidelands to support safe shellfish harvest on the Reservation for tribal members. The Tribe will work with partners to implement a modeling system across Tulalip shorelines and explore habitat change to project future trends along the coastline. The tribe will also sample for bacteria in tidelands.

Tribe: Yakutat Tlingit Tribe **Amount Funded:** \$149,314

Title: *Yakutat Tlingit Tribe's Yakutat Baseline Coastal Studies*

Project Description: This funding will build capacity to develop a coastal management plan by informing the Tribe about potential development impacts which could exacerbate rapid landscape changes. This is a pilot project for data collection that will set the groundwork for future monitoring. Water quality data and traditional ecological knowledge (TEK) will be collected as baseline data and erosion will be documented through drone mapping, and measured stream flows and fluctuations. Tribal capacity will also be built through Environmental Sampler training; stream flow measurement training; and drone operation training.

Tribe: Yurok Tribe **Amount Funded:** \$121,675

Title: *Yurok Tribe Coastal Resource Management Planning in McGarvey Creek, California*

Project Description: This funding will assess the effectiveness of coastal resiliency strategies within the Lower Klamath River watershed, use information gained to refine and further develop coastal resiliency strategies and tools to improve the Tribe's ability to restore healthy anadromous fish stocks, and transfer knowledge gained to other Klamath Basin tribes and various stakeholders. The project will also assess the performance of the following innovative practices: installation of beaver dam analogues, off-channel wetland construction, and fish rescue and relocation.

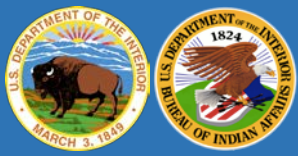
Tribal Organization: Kodiak Area Native Association **Amount Funded:** \$150,000

Title: *Collective Monitoring of Harmful Algal Blooms and Paralytic Shellfish Poisoning on Kodiak Archipelago: Advancing Tribal Resilience and Subsistence Food Security*

Project Description: This funding will support the establishment of four long-term sites on the Kodiak Island Road System where Harmful Algal Bloom (HABs) species will be continuously monitored. Of particular concern is the toxin responsible for Paralytic Shellfish Poisoning (PSP). Project data will be used to create public advisories for shellfish harvesting at sampled locations, in cooperation with other local authorities. The Kodiak Area Native Association and partners will start compiling environmental datasets to statistically examine toxicity levels and presence of HABs, their link to environmental measures of change, and strategic ways that Tribes can adapt to the trends of harmful blooms and toxic shellfish.

Tribal Organization: Northwest Indian Fisheries Commission **Amount Funded:** \$144,325

Title: *Building Marine Resource Management Resilience among the Member Tribes of the Northwest Indian Fisheries Commission*



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Project Description: This funding will support the development of Scenario Plans with Northwest Indian Fisheries Commission member tribes, the production of Marine Condition Bulletins, and the increase of ocean acidification Monitoring Capacity.

Tribal Organization: Norton Bay Inter-Tribal Watershed Council **Amount Funded:** \$149,980

Title: *Norton Bay Inter-Tribal Watershed Council, Norton Bay Watershed Ocean and Coastal Management Plan*

Project Description: This funding supports increasing coastal resilience for the Native Villages and marine habitat of the Norton Bay Watershed by developing strategies that address the Watershed's greatest coastal ecosystem risks. The Council's (NBITWC's) primary objectives are to: 1) Engage Norton Sound Native Villages in a participatory process for ocean and coastal management planning; 2) Apply the North American Marine Protected Area Rapid Vulnerability Assessment Tool (MPARVAT); and 3) Draft a Norton Bay Watershed Ocean and Coastal Management Plan (NBWOCMP) and identify opportunities for implementation in Norton Bay.

Tribal Organization: Skagit River System Cooperative **Amount Funded:** \$128,242

Title: *Salmon Habitat Vulnerability Assessment for the Swinomish and Sauk-Suiattle Tribes*

Project Description: This funding supports an assessment of Skagit Delta tidal marsh vulnerability to erosion, vegetation mortality, and loss of fish access to tidal channel habitat as a result of increased water temperature. This proposed projects scientific results and management recommendations will be incorporated into the Skagit Chinook Recovery Plan.

Category 5 : Travel Support for Ocean and Coastal Management

Travel Support for Ocean and Coastal Management Plans for Marine and Coastal Resources

Number of Awards: 13 **Amount Funded:** \$126,117

Project Description for All Category 5 Awards: These funds will support direct travel costs for tribal leaders or staff participation in, coordination, or training for interagency ocean and coastal management and planning, including meetings of Regional Planning Bodies.

Tribal Organization: Confederated Tribes of Grand Ronde **Amount Funded:** \$7,715

Title: *Confederated Tribes of Grand Ronde - Ocean and Coastal Travel Support*

Tribal Organization: Confederated Tribes of Siletz Indians **Amount Funded:** \$3,385

Title: *Travel Support for Marine Spatial Plan Development for the Confederated Tribes of Siletz Indians*

Tribal Organization: Craig Tribal Association **Amount Funded:** \$5,387

Title: *Travel Support for Craig Tribal Assoc.*

Tribal Organization: Klawock Cooperative Association **Amount Funded:** \$4,915

Title: *Travel Support for Klawock to attend an Ocean and Coastal Management Planning Workshop*

Tribal Organization: Native Village of Kwigillingok **Amount Funded:** \$11,048

Title: *Native Village of Kwigillingok Travel Support*



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Tribe: Native Village of Kwinhagak	Amount Funded: \$13,488
Title: <i>Native Village of Kwinhagak Travel Support</i>	
Tribe: Native Village of Tununak	Amount Funded: \$11,048
Title: <i>Native Village of Tununak Travel Support</i>	
Tribe: Petersburg Indian Association	Amount Funded: \$4,854
Title: <i>Travel Support for Petersburg Indian Association to attend an Ocean and Coastal Management Planning Workshop</i>	
Tribe: Quinault Indian Nation	Amount Funded: \$14,652
Title: <i>Quinault Participation in West Coast Ocean Planning</i>	
Tribe: Skagway Traditional Council	Amount Funded: \$5,528
Title: <i>Travel Support for Skagway Traditional Council Ocean and Coastal Travel</i>	
Tribe: Squaxin Island Tribe	Amount Funded: \$14,110
Title: <i>Squaxin Island Tribes Sea Level Rise Response Plan</i>	
Tribal Organization: Chugach Regional Resources Commission	Amount Funded: \$14,987
Title: <i>Alutiiq Pride Shellfish Hatchery Travel Support - Ocean & Coastal</i>	
Tribal Organization: Norton Bay Inter-Tribal Watershed Council	Amount Funded: \$15,000
Title: <i>Travel Support for Development of Norton Bay Inter-Tribal Watershed Council, Norton Bay Watershed Ocean and Coastal Management Plan</i>	

Category 6 : Capacity Building

To support tribes with limited technical and staffing capacity to carry out risk scoping activities that can lead to more detailed future adaptation planning proposals

Number of Awards: 3

Amount Funded: \$144,202

Tribe: Bear River Band of the Rohnerville Rancheria	Amount Funded: \$ 44,424
Title: <i>Bear River Band of the Rohnerville Rancheria, Capacity Building through develop a Drought Contingency Plan</i>	

Project Description: These funds will support building tribal capacity through development of a Drought Contingency Plan. The plan will identify, evaluate, and prioritize mitigation actions and activities that will build long-term resiliency to drought and that will mitigate the risks posed by drought and will result in the development of proposals for Adaptation Planning (Category 2) funding.

Tribe: Burns Paiute Tribe	Amount Funded: \$ 49,778
Title: <i>Capacity Building Support for Scoping Efforts for the Burns Paiute Tribe</i>	

Project Description: These funds will support hiring of a part-time tribal resilience administrative assistant to complete milestones 1) identify and pursue funding opportunities to implement measures identified in the USRT vulnerability assessment process covering the Tribes ancestral territory, 2) lead community engagement, on progress



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meeting Strategic Plan priorities and how they may change in response to drought, warming stream temperatures, and wildfire, 3) enhance cross-program coordination across Tribal departments in resiliency efforts, and 4) provide support to natural resource programs by integrating resilience measures into Strategic Plan priorities.

Tribe: Chilkat Indian Village **Amount Funded:** \$ 50,000
Title: *Building the Capacity of the Chilkat Indian Village to Develop an Adaptation Plan for the Chilkat River Valley*

Project Description: These funds will support a part-time position over the next year to build tribal capacity by coordinating a tribal adaptation planning process for the Chilkat River Valley and coastal areas. This part time position will work to build the capacity of the Chilkat Indian Village, as well as, the Chilkoot Indian Association. The CIV will develop a Category 2 proposal in the FY19 funding cycle to coordinate the development of a Chilkat River Valley Tribal Adaptation Plan.