



2020 WINNERS

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Federal: Matt Whitbeck, Supervisory Wildlife Biologist, Chesapeake Marshlands National Wildlife Refuge Complex

Matt Whitbeck is a primary contributor to the comprehensive marsh adaptation strategy called Blackwater 2100 with The Conservation Fund and Audubon Maryland-DC. This guides Blackwater National Wildlife Refuge's (NWR) proactive strategy to reduce marsh loss into the future. This is critical since the refuge has lost over 5,000 acres of marsh since its establishment in 1933. The full suite of adaptation strategies is comprehensive, ranging from land protection for future marsh migration corridors, habitat management to facilitate transition of uplands to high-quality tidal marsh, and habitat management to slow the rate of marsh loss and increase tidal marsh resilience to sea level rise. This strategy led to the first ever thin-layer restoration demonstration in the Chesapeake watershed, over \$2 million in leveraged funding, and a detailed Implementation Report to encourage replication by others. Matt led both the implementation and monitoring of the thin-layer restoration effort. Matt utilizes the academically rigorous research of numerous scholars conducting their work on the refuge for the past decades. This work is compelling because it is predicted that sea level will rise within the Chesapeake Bay by about two and a half feet by 2050, and 5-6 feet by century's end. Matt also has led several other major restorations at Eastern Neck and Martin NWR's to stabilize shorelines. Their successes have led the way for additional efforts by the Army Corps of Engineers. Matt has been on the forefront of Blackwater's efforts- and that of land managers everywhere- to adapt in a changing climate. He is regularly featured in dozens of national articles, videos, and films as an ambassador to share a message of hope for the importance of conservation and forward-thinking science in a changing world.

State or Local: Climate Adapted Culverts Project Team, Washington Department of Fish & Wildlife and the Climate Impacts Group, University of Washington

This project was initiated by Washington Department of Fish and Wildlife and grew to become a partnership with the Climate Impacts Group (CIG) at the University of Washington. The project's goal is to make projections of future changes in stream flows and channel widths due to climate change available to engineers designing culverts. That goal has been achieved through an internet site that enables engineers to obtain site-specific information for designing climate-adapted culverts. This is critical information because Washington State is currently investing billions of dollars to repair fish passage barriers that hinder the recovery of imperiled salmon stocks. The team created an internet application so that any engineer could click on any stream-road intersection and obtain a report containing projected changes in bankfull width, bankfull flow, and 100-year peak discharge. In the project's current phase, WDFW and CIG are collaborating to update the projections, and to develop better ways of conveying information to the user. The team is also currently working with a user group that is providing feedback



on how to improve this internet tool. The team has also conducted substantial outreach regarding climate-adapted culverts and their internet tool for designing climate-adapted water-crossing structures. They have given numerous presentations to government agencies, NGOs, and tribes, and they also created a tri-fold brochure on climate-adapted culverts. This outreach has led to considerable interest in Washington State regarding regulatory requirements for climate-adapted culverts, and consequently, a state rule-making process was initiated earlier this year.

Tribal: Office of Environmental Resource Management and the Communications Team, United South and Eastern Tribes, Inc.

The United South and Eastern Tribes (USET) is a non-profit, inter-Tribal organization representing 30 federally recognized Tribal Nations in the north and southeastern United States dedicated to improving the capabilities of Tribal governments in effectively dealing with public policy issues. USET recognizes that Tribal Nations directly control 100 million acres, or 4%, of the land area of the U.S. Additionally, they participate in critical environmental stewardship programs on their larger ancestral homelands beyond reservation boundaries. Yet Tribal Nations remain underfunded and understaffed to address the magnitude of the impacts of climate change. One of the areas that Tribal Nations in the southeast have lacked in recent years has been staff capacity in managing natural resource impacts from climate change. To meet this ubiquitous need, USET applied to the BIA for a Tribal Climate Liaison position to serve specifically with advancing climate technical capacity among Tribal Nations. This employee has been working for USET for the past two and half years and should be credited with bringing awareness, climate science resources, planning tools, and bridge-building with other organizations to leverage financial and expertise resources to Tribal Nations. One of the metrics of success can be documented by the increased level of Tribal engagement in the southeast among federal agencies, universities and the Climate Adaptation Science Centers (CASCs). In short USET's Office of Environmental Resource Management has filled an important void in the last three years with respect to building the capacity of Tribal Nations in the eastern U.S. with planning for conservation to their lands, water, fish and wildlife while building important bridges with universities, NGOs, and state and federal agencies. Lastly, USET has kindly offered to connect with our graduate students who plan careers in conservation management, so they understand how to ethically and constructively work with Indigenous peoples and Tribal Nations.

Non-Governmental: Adaptive Reefscapes, Coral Reef Alliance

In 2015, the Coral Reef Alliance (CORAL) launched a pioneering research project to understand what actions we can take today to help corals adapt to climate change. The results, published in *Nature Climate Change*, show that evolution can help rescue reefs from the effects of climate change. The research shows that when we conserve a diverse portfolio of coral reefs species, variable environmental conditions and significant connectivity, we enable the necessary conditions for nature's survivors to spread their genes to future generations. The research also shows that adaptation is possible when local stressors are reduced across a network of sites. The result is an Adaptive Reefscape: a network of healthy reefs in which corals can adapt to climate change. A vitally important component of CORAL's Adaptive Reefscape approach is that the reefs within the network are healthy. This means that reducing direct threats to reefs,



particularly unsustainable fishing and land-based pollution, is essential. Well-managed reefs serve as sources of repopulation over the long term, enabling coral survivors to rescue other reefs across a region. As a leader in coral conservation, CORAL is turning the peer-reviewed scientific results into action locally and globally to give reefs the best chance to survive the coming decades.

Broad Partnership: Sea-Level Rise Resilience, Northern Gulf of Mexico Sentinel Site Cooperative

The Northern Gulf of Mexico Sentinel Site Cooperative (Cooperative) is a partnership working together to increase sea-level rise resilience. The Cooperative has over 35 partners, spanning four Gulf states. These include state and federal agencies and organizations, non-profits, researchers, municipalities, and regional associations. Since 2014, partners, staff, and stakeholders have worked together to secure almost \$4 million to address sea-level rise and inundation gaps and needs in the northern Gulf of Mexico. Cooperative efforts generally fall into the following categories: enhancing access to available data and research, supporting application of the data and data products, facilitating conversations about sea-level rise and sea-level rise impacts, and obtaining funding so partners can take adaptive action based on the best available science. Project examples include synthesis of technical reports, a web resource to sift through available climate change resources, open house community forums, one-on-one technical support, training workshops and lunch 'n' learns, vulnerability analyses, applied research projects, and data collection efforts. As a result of these efforts, large scale coastal restoration efforts include locally-specific sea-level rise rates, sea-level rise scenarios utilized for community planning and design are intentionally selected based on risk and needs, and sea-level rise resilience has become a more common and informed conversation across the northern Gulf. Northern Gulf communities are more aware of risks, better able to take adaptive action, and have integrated accurate, local rates of sea-level rise into infrastructure, planning, and conservation activities due to the Cooperative's efforts.

Individual Achievement: Cat Hawkins Hoffman, Chief, National Park Service Climate Change Response Program

Cat Hawkins Hoffman is recognized for her sustained body of work to advance climate change adaptation (CCA) in resource management. She has done this through developing innovative and pioneering approaches, working to operationalize and extend adaptation planning methods into natural resource management, and continually pursuing strategic opportunities to incorporate CCA considerations into myriad resource management decision making arenas. Her efforts have consistently sought to improve on-the-ground conditions for our nation's natural (and cultural) resources in the face of directional change, either directly through improved natural resource management in light of the plausible range of climate futures, or indirectly through reducing other stressors (current and future) on those resources. Her work demonstrates efforts on-the-ground, and at regional, national, and international scales. While she has predominantly focused on advancing CCA throughout the U.S. National Park Service, she has involved myriad partners to target approaches in adjoining land management units, as well as developing CCA techniques that are reproducible in other settings. Cat has done this work as a true leader with a sense of purpose and humility, focusing on results rather than recognition, and fostering a true sense of partnership among her staff and her many external collaborators. Her depth and breadth of experience,



combined with her leadership style, have earned her a level of respect and trust among her peers and staff that enables her to cultivate collaborative efforts critical to CCA , fostering experts to come together to address the very challenging problems (scientific, administrative, or policy-related) that must be resolved to meet the goals of the National Fish, Wildlife and Plants Climate Adaptation Strategy.

HONORABLE MENTIONS

Federal: Kevin James and the Mount Baker-Snoqualmie National Forest, Climate-Smart Travel Management

The Mount Baker-Snoqualmie National Forest (MBSNF) utilized a climate change vulnerability assessment (developed through the North Cascadia Adaptation Partnership) and subsequent analysis to determine potential effects of climate change on the forest road system. Individual road segments were evaluated for climate change hazard; factors evaluated included projected increase in 100-year floods, increases in soil moisture, change in rain- or snow-dominant subwatershed regime, and projected date of snowmelt. Results allowed managers to see how proposed changes in road maintenance levels may be impacted by future changes in climate, identify vulnerable riparian areas near infrastructure and road crossings, as well as changing patterns in visitor access to higher elevation recreation area (with increasing snow-free days). This information was used by the forest to evaluate the potential impacts of climate change on the proposed actions of two access and travel management National Environmental Policy Act (NEPA) projects. Specifically, the information was used to make decisions about road decommissioning, maintenance, and downgrading. Roads projects are being integrated with broader scale terrestrial and aquatic habitat restoration projects on the forest. Currently, climate change adaptation approaches from the original travel management plans have been incorporated into several large-scale (>100,000 acre) restoration projects across the forest. Implementation of some of these climate-smart restoration projects is expected to begin in the summer of 2020.

Non-Governmental: Cathy ‘Cat’ Techtmann, Environmental Outreach Specialist, Community Development Institute, University of Wisconsin, Madison, Division of Extension

For over twenty years Cathy ‘Cat’ Techtmann has been instrumental in bringing innovative and effective place-based, culturally relevant climate change education and climate adaptation to the Northern Great Lakes region. Cat is the driving force behind both the Gikinoowizhiwe Onji Waaban (G-WOW) Changing Climate, Changing Culture Initiative and the Climate Strong! Educator Professional Development Institute as well as numerous other climate education and outreach projects. Cat has also created interactive outreach and environmental education curricula for the UW Extension and Northern Great Lakes Visitors Center that teach students and visitors to the Lake Superior basin about climate change impacts to tribal and non-tribal communities and the resources they rely upon for subsistence, recreation and ecosystem services.

Broad Partnerships: Oregon Coordinating Council on Ocean Acidification and Hypoxia, Oregon’s Ocean Acidification and Hypoxia Action Plan



Oregon's Ocean Acidification and Hypoxia Action Plan will guide Oregon's efforts and become Oregon's submission to the International Alliance to Combat Ocean Acidification. Because Oregon is one of the first states to feel the impacts of ocean acidification and hypoxia, these actions can serve as a model for others to apply to their own geographical and political context. This work will also help demonstrate that local actions are meaningful in fighting the global challenges of climate and ocean changes. Implementation of the plan will be achieved by state agencies and local governments on the front lines of this issue by incorporating funding needs for ocean acidification and hypoxia into 2021-2023 budgeting and through intra-agency communication and collaboration on projects and actions identified in the action plan. Completion of the plan is an important milestone in Oregon's commitments to broader partnerships, but one of the key values that the Coordinating Council's work is that it has been elevating the issues of a changing ocean in to the discourse in Oregon surrounding excess greenhouse gas emissions (GHG) in the atmosphere. Changes in the ocean are among the most direct impacts of excess GHG emissions, but also among the least understood and least discussed. The Oregon Coordinating Council on Ocean Acidification and Hypoxia has helped solve that problem in Oregon and provides the state a more holistic look at GHG emissions and the need to reduce emissions and respond to changes.

Individual Achievement: Jim Vose, Senior Research Ecologist, Southern Research Station, USDA Forest Service

Jim Vose is a senior research ecologist and project leader with the Southern Research Station of the Forest Service. He is leading the Agency with research related to ecohydrology, forest climate-land use interactions, science and policy syntheses, fire ecology, hemlock woolly adelgid impacts on ecosystem structure and function and much more. Jim was nominated for his leadership in multiple science management partnerships and syntheses related to drought and climate change. In 2012, Jim co-led the development of a scientific assessment focused on the current and future condition of forest resources related to climatic variability and change. This report was part of the National Climate Assessment. In 2016, Jim and others developed a state of the science synthesis on the current and future impacts of drought in the United States. And in 2019, he built on that synthesis and developed region-specific management options for increasing resilience to drought for Alaska and the Pacific Northwest, California, Hawaii, Interior West, Great Plains, Northeast and Midwest and Southeast. These strategic actions will help institutionalize awareness of drought effects and drought responses in public and private land management by: (1) establishing and maintaining relationships with providers of drought information, (2) including drought in collaborative efforts among agencies and stakeholders, (3) revising best management practices as needed, (4) implementing drought in relevant planning processes, (5) establishing long-term monitoring of drought effects, and (6) sharing information on effectiveness of drought responses. Jim's leadership in developing a synthesis geared to the management community is a model for others in the research community. He has demonstrated strong tech-transfer and science delivery skills and deserves recognition for his contribution to advance the impacts of drought on forests and rangeland systems.