PROCEEDINGS OF THE 2021 SOUTHWEST FLORIDA CLIMATE SUMMIT

Session 2 – State of Climate Change in Southwest Florida

"Southwest Florida Sea-level Rise and Storminess"

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Impacts of climate change is felt across the globe including in Southwest Florida with sea-level rise and increased storminess. Sea-level rise is impacted by regional and global pressures including increased ocean temperatures. Southwest Florida follows the global average of sea-level rise which has led to beach erosion and habitat shifts. Not only is sea-level rise an increasing threat to coastal communities, but the frequency and intensity of storms are on the rise. This presentation discusses the dynamics of sea-level rise and storms in the face of climate change.

"Implications of Climate Change on Florida's Water Resources"

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The Florida Water and Climate Alliance (FloridaWCA) is a stakeholder-scientist partnership committed to the co-development of locally relevant and actionable climate science to support informed decision-making in water resource management, planning and supply operations in Florida. This presentation will present the results of a FloridaWCA climate change assessment project which 1) Assessed the accuracy of Global Circulation Models (GCMs) to reproduce retrospective temperature and rainfall in the Tampa Bay Region; 2) Evaluated the ability of GCMs to reproduce historic hydrologic behavior when used with the calibrated Integrated

Northern Tampa Bay (INTB) Model; 3) Quantified changes in hydrology resulting from GCM future climate projections; and 4) Investigated the potential to meet future water demand, and comply with current environmental regulations, under alterative future climate and water use scenarios in the Tampa Bay region. Challenges and opportunities for using future climate projections from for hydrologic impact assessment in Florida will be discussed.

"Habitat Shifts and Migration in Response to Climate Change in Central and Southwest Florida"

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The Coastal & Heartland National Estuary Partnership (CHNEP) is uniquely positioned as a collaborative of governmental, non-profit, and community partners pooling resources to research, plan and implement regional projects related to water resource, wildlife, and habitat protection efforts in Central and Southwest Florida. Together the partnership developed a Restoration Vision: A diverse environment of interconnected, healthy habitats that support natural processes and viable, resilient native plant and animal communities. The Habitat Restoration Needs (HRN) project was created to plan and outline implementation of the habitat restoration in support of this vision. It specifically focuses on habitat restoration, conservation, and effective management, seeking to increase the acreages of native habitats both strategically and opportunistically. Using a landscape-level approach, the plan maps wildlife and habitat corridors that span uplands, freshwater wetlands, and coastal habitats while balancing other land use needs.

In the process of building the final Habitat Restoration Needs targets and maps, several types of information were considered including: habitats status and trends analysis, existing preservation and conservation lands, proposed land acquisition priorities, listed species critical habitats and migratory corridors, river floodplain functions, long-term trends in freshwater flows, and historical soils distributions. Finally, the additive hybrid approach took into consideration the importance of planning for the future of restoration into final maps and quantitative target development, including habitat shifts in response to climate change impacts and continued development. This involved modeling of projected sea level rise and corresponding coastal habitat migration as well as considering climate change factors in non-coastal areas (specifically the freshwater Caloosahatchee watershed upstream of the Franklin Lock) and how future hydrological conditions and increased drying may influence non-tidally connected habitats targeted for restoration.

Session 3- The Policy and Legal Framework for Climate Action

"The State of Climate"

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Climate change is a top priority for the new Administration and the Congress has actively engaged as well. This speaker will discuss the top three ways that the Biden White House is taking action on climate change. This includes his personnel line-up, his administrative actions, and his steps to re-engage with the international community. She will outline the key legislative opportunities on Capitol Hill such as transportation electrification, natural climate solutions, and innovation. Finally she will touch on the issue of Environmental Justice and how that is impacting the federal debate in Washington, DC.

"Working Together to Create More Resilient Florida Communities"

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The State of Florida has taken several recent steps in the evolution of resilience policy. The addition in 2011 of the optional Adaptation Action Area strategy to comprehensive planning policy marked the first time sea level rise was addressed in state statutes. The 2015 "Peril of Flood" statute made planning for sea level rise mandatory in the comprehensive plans of coastal communities. Then in 2020, the "SLIP" statute began to require that state-funded coastal construction be analyzed for potential impacts from sea level rise. Concurrently, local and federal partners have contributed to the body of knowledge, advancing the state's ability to develop resilience policy that truly helps coastal communities.

"Legal and Policy Issues Driving Local Government Climate Response"

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This session provides an overview of various state and Federal, laws, policies and cases that may influence a local government to act on future vulnerabilities to climate change through resiliency planning. Liabilities for infrastructure maintenance, comprehensive planning requirements and various cases on how local governments may face liability, or have discretion regarding, climate response will be presented. A case study in Monroe County on road elevation will also be provided including an initial process for prioritizing adaptation planning activities and making priority-exposure decisions. Numerous evolving aspects of Federal and State law and policy may also drive local government response to climate change. Tort and takings theories and pivotal cases will be summarized which provide a foundation in understanding local government's

desire or obligation to continue to maintain infrastructure impacted by sea level rise-based tidal flooding and this represents a confluence of these issues used to demonstrate legal v. discretionary political response to climate change.

Session 4- Growing Climate Awareness in Southwest Florida

"Regional Climate Change Vulnerability Assessment"

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The Coastal and Heartland National Estuary program conducted a Climate Vulnerability Assessment to identify climate risk factors that could inhibit achievement of the CHNEP Comprehensive Conservation & Management Plan (CCMP) Objectives, disconnects between the public and climate experts about climate risks, and where additional research is needed when there is not a consensus amongst experts. Participants of the study included five experts and over 50 public members that were asked to rate each risk on a qualitative scale for likelihood of occurring and the level of impact it would have in regards to fish and wildlife habitat loss, water quality degradation, and hydrological alternation. This presentation will highlight what disconnects exist between experts and members of the public, as well as the educational and research needs in the face of a changing climate.

"Climate and Health"

Melissa Meehan Baldwin, FCCAStaff@Ms2ch.org
Director, Florida Clinicians for Climate Action

The Lancet medical journal has called climate change "the biggest global health threat of the 21st century," but it also presents an opportunity to improve public health by transitioning away from polluting fossil fuels. Climate change is harming our health right now - through more intense heat waves, extreme weather, prolonged allergy seasons, infectious disease, and the mental health challenges associated with those threats.

Florida Clinicians for Climate Action is a group of doctors, nurses, and other health professionals concerned about climate-health impacts. Climate change is harming our health now. Everyone is at risk, but some people are more vulnerable than others. If we do nothing to reduce pollution, these health threats will increase. The good news is that climate solutions are health solutions. Many of the actions that we take to improve our health - like exercise, and eating fruits and vegetables, are also good for the planet. Learn more at www.FloridaClinicians.org

"Excuse Me, Can We Talk Climate Change"

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It is a commonly held belief that climate change is a controversial topic in southwest Florida, something we shouldn't talk about with casual company. In fact, data from an American Climate Metric Survey in 2018, Florida Atlantic University's Center for Environmental Studies Survey, and from the Yale Program on Climate Change Communication reveal that more than 55% of local stakeholders believe climate change is happening and primary a result of human activity. Conversely, about 1/3 of residents do not believe it is occurring, and others attribute the changing climate to natural causes. In an effort to avoid uncomfortable confrontations and to keep discourse polite, only 30-35% of residents report that they discuss the topic of climate with friends and family.

However, to tackle climate challenges we must talk about it. Data suggests that about 38% of Floridians believe that government isn't doing enough to address climate change, and 1/3 of the population is neutral on government's level of engagement. The systemic change needed to mitigate GhG emissions arises when we elevate the public discourse and thus create support for public sector actors to take action, and for markets to identify demand and respond with sustainable and restorative products and development. To educate the public about climate we must understand which climate impacts concern and resonate with citizens. Data suggests that residents are worried more water supply and impacts on natural system, than flooding and sea level rise. Effective climate communication relies on connecting with stakeholders on these issues and then demonstrating how multiple impacts are interrelated. Likewise, we have learned that presenting actionable solutions inspires engagement. The goal of an effective climate education initiative is to inspire changes in personal behaviors that lead to engagement on systemic issues. The techniques used by Growing Climate Solutions to advance climate awareness and action are described as a role model for replication.

Session 5- Actions to Move Resiliency Forward in Southwest Florida

"Economic Impacts of Climate Change and Statewide Climate Policy Initiatives"

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Florida is on the front lines of climate change. Yet, discussions of climate change trigger fear, which can lead to us to avoid the topic or feel too overwhelmed by solutions to step into action. In this presentation, you will hear from Environmental Defense Fund's Florida Director Dawn Shirreffs who will walk us through the evolution of public opinion in the sunshine state and offer a clear eyed look at short term costs of climate change to residents and businesses in SW Florida. She will provide a perspective on this year's state legislative session and a look ahead at

data-led actionable policy opportunities that can help make climate action a political imperative for Florida's state and federal leadership.

"Climate Change Preparedness in Southwest Florida: Regional Resiliency Compact & Tools for Vulnerability Analysis"

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The municipal and county governments throughout the 3-county southwest Florida region (Charlotte, Lee, and Collier) are in various states of climate-change preparedness, with many just beginning to consider their resilience to future effects. In this presentation, two ongoing efforts are reviewed: Collier County's development and implementation of tools for vulnerability analysis; and a region-wide effort to form a resiliency alliance to more efficiently address adaptation planning and implementation. Collier and its 3 cities begin vulnerability analysis this summer using ACUNE (Adaptation of Coastal Urban and Natural Ecosystems), a collection of computer modeling tools that predict future inundation due to sea-water flooding from sea-level rise and storms. ACUNE's application will be demonstrated in the Summit presentation. From a regional perspective, Southwest Florida's 3 counties, 10 incorporated municipalities, and 1 erosion prevention district just recently unanimously ratified an MOU supporting the Southwest Florida Regional Resiliency Compact. The coalition of local governments, agencies, NGOs, and civic groups will permit the sharing of best practices, information, and limited resources to tackle climate change's effects. The group will co-produce assessments, design policy interventions, and more effectively compete for state, federal, and private resources. The Compact will operationalize over the next few months. In anticipation of the Compact's initiation, a proposal, currently under review, was prepared for NOAA's consideration and, if funded, will provide the entire Compact region with vulnerability tools comparable to ACUNE's.

Thank you for participating in the 2021 Southwest Florida Climate Summit. Please visit our website at www.CHNEP.org to find materials created as part of the Climate Summit, including the Citizen Climate Change Action Guide, the Proceedings, and links to videos on YouTube.

Uniting Central and Southwest Florida to Protect Water and Wildlife.

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