



**OFFICIAL MEETING OF THE  
NATIONAL AND GOVERNMENTAL ADVISORY  
COMMITTEES  
(NAC/GAC)**

**SUMMARY**

**October 10–11, 2018**

The Sol of Tucson Conference Center  
5655 W. Valencia Road  
Tucson, Arizona 85757  
and Via Adobe® Connect Teleconference

*Note: The U.S. National and Governmental Advisory Committees are federal advisory committees chartered by Congress, operating under the Federal Advisory Committee Act; 5 U.S.C., App. 2. The committees provide advice to the Administrator of the U.S. Environmental Protection Agency (EPA) on the implementation of the North American Agreement on Environmental Cooperation. The findings and/or recommendations of the committees do not represent the views of the Agency, and this document does not represent information approved or disseminated by EPA.*

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# Table of Contents

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<b>Wednesday, October 11, 2018</b> .....	1
Call to Order and Introductions .....	1
Overview of the Agenda .....	1
Opening Remarks.....	1
Update on U.S.-Mexico-Canada Agreement (USMCA) and Meeting Charge .....	2
Working Session I: Extreme Weather Events Overview .....	6
Public Comment Period .....	9
CEC Update on Operational Plan (OP) and NAPECA Grants .....	9
JPAC Report.....	11
Working Session II: Extreme Weather Events—Tribal Government Response .....	12
Summary and Next Steps.....	14
<b>Thursday, October 11, 2018</b> .....	14
Call to Order.....	14
Plenary: Joint Committee Meeting .....	15
Public Comment Period .....	15
Committees Meet Separately .....	15
GAC Separate Meeting.....	15
NAC Separate Meeting.....	16
Committees Reconvene in Plenary Session .....	17
Adjournment.....	18
Action Items .....	18
Summary Certification .....	19
<b>Appendix A: Meeting Participants</b> .....	20
<b>Appendix B: Meeting Agenda</b> .....	22
<b>Appendix C: Charge Letter for October 10–11, 2018 NAC/GAC Meeting</b> .....	25

**Wednesday, October 11, 2018**

**Call to Order and Introductions**

*Oscar Carrillo, National and Governmental Advisory Committees (NAC/GAC) Designated Federal Officer (DFO), Federal Advisory Committee Management Division (FACMD), U.S. Environmental Protection Agency (EPA or the Agency)*

Mr. Oscar Carrillo, NAC/GAC DFO, FACMD, EPA, called the meeting to order and welcomed participants to the 51st meeting of the NAC and GAC committees. He thanked NAC/GAC Chairs and the local NAC/GAC contacts in Arizona for assisting in planning the meeting. Mr. Carrillo also thanked Ms. Jane Nishida, Principal Deputy Assistant Administrator, Office of International and Tribal Affairs (OITA); Luis Troche, Senior North American Advisor, OITA; and OITA staff for their input on the meeting agenda and charge. Mr. Carrillo expressed appreciation to Ms. Monisha Harris, Director, FACMD, for making the in-person meetings possible and the FACMD and contractor staff for their continued support. He announced that Mr. Jeffrey N. Wennberg, who is retiring from the City of Rutland, Department of Public Works, is stepping down as GAC Chair. He conveyed EPA's appreciation to Mr. Wennberg for his hard work and dedication to environmental issues. Mr. Carrillo asked the meeting participants to introduce themselves and then invited Dr. Theresa Pardo (University of Albany, State University of New York), Chair of the NAC, and Ms. Sally Gonzales (Arizona House of Representatives), Acting Chair of the GAC, to provide an overview of the agenda.

**Overview of the Agenda**

*Theresa Pardo, Ph.D., Chair of the NAC*

*Ms. Sally Ann Gonzales, Acting Chair of the GAC*

Dr. Pardo and Ms. Gonzales also welcomed the committee members and other participants attending in-person and remotely and expressed their appreciation to Mr. Wennberg for his work on the GAC. Dr. Pardo remarked on the privilege of conducting this NAC/GAC meeting in Tucson, Arizona, given the theme—extreme weather events—and the charge. The advice from this meeting will inform the Commission for Environmental Cooperation (CEC) U.S. Alternative Representatives (Alt Reps), November 2018, meeting.

Dr. Pardo announced that several of today's speakers are responding to unforeseen emergencies and will not be available to attend the meeting and she noted the agenda changes: Welcome and Opening Remarks will be presented by Mr. Verlon M. Jose, Vice-Chairman, Tohono O'odham Nation on behalf Mr. Edward Manuel, Chairman of the Tohono O'odham Nation, and Mr. Robert Valencia, Chairman of the Pascua Yaqui Nation; Meeting Charge will be presented by Mr. Troche on behalf of Ms. Nishida, OITA; Joint Public Advisory Committee (JPAC) update will be presented by Dr. Octaviana Trujillo, JPAC member, on behalf of Mr. Gustavo Alanis Ortega, the JPAC Chair; Working Session I: Extreme Weather Events Overview will include an additional speaker, Ms. Judy Lynn, Arizona Department of Emergency and Military Affairs (AZDEMA); and Working Session II: Extreme Weather Events—Tribal Government Response will be presented by Mr. Cornelius Antone, Environment Director, Tohono O'odham Nation on behalf of Mr. Paul Mesa, Administrator Office Natural Resources, Tohono O'odham Nation.

**Opening Remarks**

*Verlon M. Jose, Vice-Chairman, Tohono O'odham Nation*

Mr. Jose welcomed participants to the Southwest Desert and extended sincere hospitality. He thanked the committees for their scope of work in protecting the environment and remarked on the long standing relationship between the Tohono O'odham Nation and the nearby Pascua Yaqui Nation. Mr. Jose noted the timeliness of this NAC/GAC meeting given the recent emergency declared after remnants of

Hurricane Rosa devastated the area. He reflected that the forces of nature are well understood in the Native American community, elders have spoken of such events, which are not viewed negatively. Mr. Jose shared on the recent crisis and tribal emergency response. Within hours of the tropical depression reaching Tucson on October 2, 2018, the rain gauges measuring 7 inches were exceeded in the Western Desert of the Tohono O’odham region. The earthen Menagers Dam built by the Army Corps of Engineers, which has been in existence for more than 100 years met its capacity. Seventy-five homes were flooded, and people were evacuated. Due to the high standing water, the stability of the dam was questionable and threatened four other communities. Door-to-door notifications were made to encourage evacuations. Residents who were able to return home on October 9, 2018, found up to 2 feet of mud in some places. Forty residents remain in shelters today. The overall goal for the community was to decrease the water level, which included the installation of pipes to divert the flow away from affected communities.

Mr. Jose emphasized that communication is key on all levels (e.g., local and international). One community, which is located 160 miles (round-trip) from the response center, was hesitant to engage in discussions. Emails and social media were activated, but some residents wanted face-to-face meetings with Nation leaders. The EPA Tribal Council also has been engaged in the relief efforts. The Nation has in place an emergency response manager and a general operating system in which the manager remains at the central location. Mr. Jose remarked on one example of the entire community coming together to resolve an emergent problem. When the Menagers Dam was threatening a breach, locals from across the reservations gathered at 10:00 p.m. on a Sunday and collectively assembled 1,000 sand bags to save one community from flooding. Proactive measures save lives and communication is key. Mr. Jose remarked on how the work of the NAC and the GAC helps to keep the proper lines of communication open.

Ms. Gonzales thanked Mr. Jose for his update. She pointed out that the Tohono O’odham and the Pascua Yaqui are both indigenous Nations who have people living on both sides of the U.S.-Mexico border, of which the new USMCA and ECA are pertinent. Understanding communication and coordination in the tribal government also are important to the NAC/GAC as they develop advice for EPA. Dr. Pardo also thanked Mr. Jose for his update and echoed Ms. Gonzales’ comments on the value of communication.

### **Update on U.S.-Mexico-Canada Agreement (USMCA) and Meeting Charge**

*Sarah Stewart, Deputy Assistant, Environmental and Natural Resources, U.S. Trade Representative (USTR) (via phone)*

*Joe Ferrante, Senior Advisor on Trade and Economics, OITA, EPA (via phone)*

*Luis Troche, Senior North American Advisor, OITA, EPA*

### **USMCA**

Ms. Sarah Stewart provided an update on the USMCA (or Agreement). The United States has been negotiating for 12 months with Canada and Mexico to modernize the North American Free Trade Agreement (NAFTA), which includes the North American Agreement on Environmental Cooperation (NAAEC) and also the North American Agreement on Labor Cooperation.

Since the NAAEC was established, there have been major changes in environmental policies. Congress has introduced specific negotiating objectives that are included in the Trade Promotion Authority (TPA) legislation. The current USMCA negotiations must consider TPA and at the end of the process, Congress will give the Agreement a yes or no vote. From 1994 and beyond, Congress has incorporated expansive

objectives on trade and the environment. In fact, the TPA legislation enacted in 2015, contains the most comprehensive objectives to date, which was the starting point for the U.S. NAFTA renegotiations.

Ms. Stewart summarized the Congressional negotiation objectives on the environment. All environment objectives are to be incorporated in the core Agreement as the other Chapters and not as a side agreement. The dispute settlement mechanism will be the same across the Agreement for all enforceable obligations. The Parties (i.e., the federal environment ministers of Canada, Mexico and the United States) are responsible for enforcing their own environmental laws. The Parties are obligated to adopt and maintain measures for implementing Multilateral Environment Agreements (MEAs) addressing seven areas, including Convention on International Trade in Endangered Species (CITES). The obligations also are to combat illegal fishing and establish rules to prohibit harmful fisheries and subsidies. Regarding climate change, the Congressional objectives state that the Agreement is not appropriate for regulating greenhouse gas (GHG) emissions and are therefore not included.

Other objectives included in the U.S. proposal are wildlife trafficking and marine mammal conservation. Canada and Mexico advocated for those areas they deemed relevant to their countries, including biodiversity and climate change. Mexico proposed an article on air quality. Canada proposed environmental impact assessments. Ms. Stewart noted that the final USMCA text is published on the USTR website and is open for public comments. The Agreement has not yet been signed.

She highlighted components of the USMCA Environment Chapter, which are the most comprehensive enforceable objectives of any such agreement. Issues such as transboundary, air pollution, shared fishery stock and wildlife trafficking are important to all Parties. In the USMCA final chapter, a new article on air quality that leverages prior CEC efforts is included as well as new articles on marine litter and sustainable forest management. The Agreement also contains enhancements on fishing and wildlife and places special emphasis on marine species conservation.

Mr. Joe Ferrante provided an update on the proposed new Environmental Cooperation Agreement (ECA), which aligns with the USMCA Environment Chapter. The institutions and organizations of the current structure are being retained. There has been progress in negotiations with Mexico and Canada and a seamless transition to a new platform in cooperation among the Parties is anticipated. Leveraging the lessons learned from the original NAAEC and NAFTA negotiations is providing a framework for this new mechanism for cooperation. The draft ECA is expected to be released in 1 to 2 weeks. The goal has been to modernize the NAAEC without proposing drastic changes. Mr. Ferrante explained that the original NAAEC side agreement has been separated into two parts. The proposed ECA will focus on the activities of the CEC, NAC/GAC, JPAC and cooperation, whereas environmental issues will now be addressed in the USMCA Environment Chapter.

## **Meeting Charge**

Mr. Troche updated the members on the June 26–27, 2018, CEC Council Session; the CEC Council new initiatives; and the advice letter charge. He conveyed Ms. Nishida's regrets in not being able to attend the meeting. The United States and EPA Administrator, Scott Pruitt, hosted the 2018 CEC Council Session on June 26–27, 2018, in Oklahoma City, Oklahoma. The Council activities included discussions on the progress of the 10 active 2017–2018 CEC Operating Plan (OP) projects, the 1-year North American Partnership for Environmental Community Action (NAPECA) grants, new initiatives and announcing winners of the 2018 CEC Youth Innovation Challenge (YIC). Mr. Troche remarked on the success of the 2018 Council Session that focused on innovation and partnerships for green growth.

EPA implemented the committees' prior advice on establishing an Expert Advisory Committee consisting of private sector and academic representatives from each of the three North American countries—Canada,

Mexico and the United States—to assist in evaluating the YIC proposals for the 2018 YIC. The CEC/EPA also partnered with the University of Oklahoma’s Tom Love Innovation Hub and the Ronnie K. Irani Center for the Creation of Economic Wealth to provide coaching to the YIC winners and assist in marketing strategies for the winning projects. The CEC received 200 creative proposals, and three winning projects were selected: (1) “Stop Eating Your Dirty Laundry: Our Solution to Microplastic Pollution” from Canada; (2) “Management of Wastewater and Organic Waste with the Use of Insects” from Mexico; and (3) “Future Fungi: An Environmental Solution to the Plastic Issue” from the United States.

Three new initiatives were announced at the 2018 Council Session: North American Innovation Hub Network, North American Extreme Events Advisory Group, and Mapping Extreme Events information on the CEC North American Environmental Atlas. Applicable to today’s meeting charge, the Council and Secretariat have identified key experts to collaborate on establishing the North American Extreme Events Advisory Group. The goal is to convene local/regional practitioners to share information, knowledge and capacities relevant to communities and populations on drought/flood, wildfires and extreme temperatures.

The NAC and the GAC are charged to provide to EPA advice on actors and capacities at the local, tribal and private sector level who have expertise, best practices and resources on early warning, preparedness, response and resilience to drought-flood, wildfires and extreme temperatures. Recognizing that preparedness response and resilience is primarily a local effort, these actors may contribute their expertise and best practices through the CEC initiative to help advance capacities across North America. EPA will have until December 2018 to develop a plan, establish a timeline and relay details of the plan to Canada and Mexico.

### ***Question and Answer Period***

Dr. Vincent R. Nathan (City of San Antonio, Texas), GAC member, observed that GHG emissions were not included in the proposed Agreement but that air pollutants were. He asked about the separation of these two issues. Ms. Stewart explained that the initial Congress negotiation objectives elected to not include GHG emissions in the USMCA on trade, but emphasizes the effects of air pollution and air quality and data monitoring within the Parties’ jurisdictions of which they expect cooperation. This does not reflect a decrease in these measurements but an engagement to improve air quality.

Mr. Tracy D. Hester (University of Houston Law Center), NAC member, asked about the desire to submit as a package the USMCA and the cooperation agreement. Mr. Ferrante replied that the cooperation agreement and the USMCA are not a package submission but are aligned and are suggested to be addressed in the same timeframe. Mr. Hester also asked whether a link to the draft agreement could be shared with the committees. Mr. Ferrante will forward a link to Mr. Carrillo of the draft ECA when it has been cleared for public review.

Ms. Nazarat Sandoval (Michigan Department of Environmental Quality), GAC member, sought clarity on the seven areas for MEAs. Ms. Stewart clarified that seven MEAs have been incorporated into the USMCA and they include: CITES, International Whaling Commission, Ramsar Convention on Wetlands, Montreal Protocol, The International Convention for the Prevention of Pollution from Ships (MARPOL),

InterAmerican Tropical Tuna Commission and the Convention on the Conservation of Antarctic Resources.

Dr. Nathan noted that Chevron Phillips Chemical Company and Woodland Plastics are collaborating on a joint initiative focusing on producing recyclable plastics and could potentially be one effort the CEC Expert Advisory Committee could leverage in evaluating future YIC projects.

Ms. Ann Marie Chischilly, Esq., (Northern Arizona University), NAC member, asked whether EPA had plans to coordinate with national alliances already addressing pertinent environmental issues (e.g., climate change) relevant to the CEC such that projects and/or efforts are not duplicated. Mr. Troche replied that on the federal level, engagement with national alliances is limited but could be considered in the CEC.

Ms. Edna A. Mendoza (Arizona Department of Environmental Quality), GAC member, sought clarity on the charge question and the advice letter. Dr. Pardo clarified that the committees are charged to provide advice to EPA on the topic of extreme weather events. Following the presentations, discussions, and individual NAC and GAC deliberations, a draft advice letter will be generated and forwarded to members for comments. A final document will then be forwarded to EPA.

Ms. Marina M. Brock (Massachusetts Department of Health and the Environment), GAC member, noted that All-Hazards plans are most often used by local governments for emergencies and involve resource sharing on the state and federal levels, which include communications. She wondered whether the recent communication issues in the Tohono O’odham Nation were related to cultural differences. Mr. Jose explained that the Tohono O’odham Chairman declares an emergency; the emergency manager leads the operations and will initiate voluntary evacuations, if necessary. Communications and updates are released via the press as well as social media. In the recent incidence, an observer first reported the problem with the Menagers Dam. Some communities are still not receiving the messages or have a preference to receive information from the Chairman rather than state or federal experts. The tribal nation elders are clear on when to evacuate.

Mr. Troche commented on the need for local organizations to be prepared for an emergency. He observed that in the CEC, the best cooperative practices are those identified by the Parties. Establishing a best practice to implement in the event of wildfires that cross the U.S.-Mexico or U.S.-Canada borders is one such example.

Ms. Carolyn L. Green (EnerGreen Capital Management), NAC member, asked how the U.S.-Mexico border affected tribal coordination, communication and emergency response. Mr. Jose pointed out that tribal government emergency forces are organized near the borders and consisted of 31,000 total members, but remote and hard to reach areas remain a challenge. A communication structure exists but the plans and ideas have not been written or formalized.

Ms. Simone Sagovac (Southwest Detroit Community Benefits Coalition), NAC member, wondered whether relief funds were available to rebuild housing in the tribal community after a natural disaster. Mr. Jose was not aware of any relief funds available to rebuild structures. Assessments are performed in the tribal government and Federal Emergency Management Assistance (FEMA) criteria are met in some instances. Unsolicited donations received during the recent crisis have assisted 50 families to date. Over the years, set-aside funds for emergencies have been redirected due to the economic crisis.

## **Working Session I: Extreme Weather Events Overview**

*Dr. Gregg Garfin, Deputy Director, Science Translation Research, University of Arizona*

*Judy Lynn, South Region Coordinator, Emergency Management, Arizona Department of Emergency and Military Affairs (AZDEMA)*

### ***University of Arizona***

In his overview of extreme weather events, Dr. Gregg Garfin presented on observed climate trends and variability, observed impacts (e.g., water or drought) and capacities (e.g., emergency management). Data sources included the U.S. Global Change Research Program's National Climate Change reports and the American Society of Civil Engineers (ASCE) reports. Extreme weather events may be classified as events from a climatological, statistical, frequency of occurrence perspective or events that cause extreme impacts. The U.S. average temperature has been increasing over the past decades since the 1900s and similar trends have been observed in the southwest. Precipitation levels have increased in the northern United States, but to a lesser extent in the southwest. In the United States, the 2-day precipitation events exceeding a 5-year recurrence interval have shown steady increases since the 1990s. At the county level, the Pima County, Arizona average annual temperature from 1981 to 2010 has been variable as have been the total annual precipitation levels. The increased observed trend in temperature and variability in precipitation in Pima County led to an intensified precipitation-evapotranspiration drought index. Also, a statistically significant decrease in soil moisture in the southwestern United States; reduced snow and snow covered areas and early snow run-off; and reduced runoff efficiency, also have been observed. In addition, reservoir volumes have been decreasing such that Lake Mead and Lake Powell combined storage averages 42 percent.

Regarding the impact of extreme weather events across the United States, Dr. Garfin noted that a 2002 drought cost Utah's infrastructure and tourism \$200 million. Of the \$200 million loss in revenue, \$150 million was attributed to agriculture losses. In 2003, it was reported that the 2002 drought ultimately resulted in increased unemployment, a loss of 6,100 jobs and \$120 million loss of income. Because the U.S. water supplies primarily originate in mountain forested areas in the southwestern United States, the future of water and the future of forest cannot be separated. Wildfires, an indirect effect of extreme weather events, have increased and vary in severity. Most of Arizona's fires in previous years were low to mixed severity, but today's extreme fires threaten ecological and economic values. The 2011 Flagstaff, Arizona Schultz fire that consumed 15 acres caused \$150 million in damages. Dr. Garfin emphasized that since 2000, each state in the southwest has reported its largest fire. The average acreage burned in Arizona significantly increased from 2000 to 2012.

Furthermore, heavy participation is increasing following extreme heat based on the observed changed in daily, 20-year return level precipitation data. In 2017, reports indicated that summer precipitation is more intense. The top five most costly flood events occurring in the southwest collectively totaled \$1.93 billion in damages. Remnants of the recent hurricane that produced heavy rain and flooding almost breached the Menagers Dam. The daily precipitation in the Boulder, Colorado region increased by 30 percent. Vulnerability reports published by the ASCE identified deficiencies in bridges and roadways in Arizona, Colorado and New Mexico.

Dr. Garfin remarked on the impact of extreme heat events. More daily record high temperatures are being observed. The number of days with a maximum temperature above 100° Fahrenheit (F) over a 5-year period peaked in Arizona from 2000 to 2004. Also, the number of days with a minimum temperature above 80° F over a 5-year period peaked in Arizona from 2010 to 2014. Similar trends were observed in Utah and New Mexico. In 2013, extreme heat was responsible for several deaths in Las Vegas, Nevada and Phoenix, Arizona; knocked out power in Las Vegas, Nevada; caused an interstate 215 buckling in



Salt Lake City, Utah; caused flight cancellations at the Phoenix, Arizona airport and made heavy demands on emergency rooms at regional hospitals.

Dr. Garfin summarized some aspects of the September 2015 workshop titled “Preparing for High Consequence, Low Probability Events: Heat, Water & Energy in the Southwest” hosted by the University of Arizona in which participants developed scenarios to model climate, vulnerabilities and systems relationship. The model components included drought, decreased water supply, local/regional heat wave, increased energy demand, power grid strain and power outage. The model was tested in the 2011 Arizona-Southern California Outage not due to an extreme weather event, but human error. Nevertheless, this 24-hour widespread power outage resulted in sewage spillage into the ocean and underlying medical issues. Emergency management response identified lifelines that were indirectly related to the outage such as the need for water and waste water management, transportation, community, hospitals, communication and fuel. The Western Electricity Coordinating Council, during that timeframe, estimated that power outages from weather and environmental conditions were highly probable.

Dr. Garfin highlighted examples of capacities for emergency management planning that are available in the Arizona tribal communities. The Gila River Indian Country (GRIC) has community preparedness and public health emergency preparedness capabilities. The University of Arizona Climate Assessment for the Southwest (CLIMAS) works closely with FEMA to perform assessments. Drought planning is supported by the National Integrated Drought Information Management System. Each state has a drought monitoring committee and Pima County also has a mosquito study map. In closing, Dr. Garfin emphasized the need for a systems approach and understanding that includes linkages to risks and authorities for assessing extreme weather. Assessments must be timely and frequent and incorporate lessons on cascading impacts.

## ***AZDEMA***

On behalf of Ms. Wendy Smith-Reid, Deputy Director and Emergency Management Director, AZDEMA, Ms. Lynn described the Arizona state emergency management system. At the state level, an All-Hazards framework is used. This approach is not specific to any one emergency but is flexible to meet the emergent needs in real-time and adopts language common to the region being served. Regarding communication, the AZDEMA leverages partnerships with the National Weather Service and utilizes the Integrated Public Alert Warning System (IPAWS). Communication primarily is bidirectional from the state, county and local levels and involves the use of available technology and crowd sourcing. Direct partners include the local, county and local tribal Nations. The Arizona Emergency Support Function (ESF)/Recovery Support Function (RSF) Operations Dashboard was established in January 2018 and consists of a 24/7 web-based computer application (App) that shares information in real-time and records events in progress. The AZDEMA staff currently manages the AZ ESF/RSF dashboard, which is available to stakeholders at the state and county level, but anticipates each jurisdiction assuming this responsibility in the coming months, pending release of the final version. Ms. Lynn explained that sensitive data is stored in the database and that the AZ ESF/RSF dashboard is therefore not open to the public.

Preparedness includes a hazard mitigation plan. Local jurisdictions perform their own mitigation planning. To qualify for funding after a federal disaster, a local jurisdiction must demonstrate prior implementation of such hazard mitigations. Training is available at all jurisdictions and exercises and tests are conducted. Response involves activities that aim to reduce economic loss and leverages public and private partnerships to assist in the recovery efforts. Investments in pre-disaster mitigation are using sound judgment, and jurisdictions are encouraged to sign up at the DEMA in advance of a disaster.

Ms. Lynn provided a list of entities and initiatives the AZDEMA interacts with that are relevant to North America as well as the Arizona region:

- Arizona-Mexico Commission (Phoenix, Arizona)
- Transportation Commission (Tempe, Arizona)
- U.S.-Mexico Border 2020 Program (EPA)
- CLIMAS (University of Arizona)
- International Boundary & Water Commission (IBWC [El Paso, Texas])
- Toward North American Humanitarian Response Summit (International Federation of Red Cross and Red Crescent Societies)

### ***Question and Answer Period***

In response to a query by Dr. Nathan on the effect of the earlier Colorado River water diversion from the 1940s and the current drought situation, Dr. Garfin explained that El Nino events from the 1980s resulted in flooding that reached the Gulf of California (Gulf). Dams built along the US-Mexico border, in California and Mexico, now diverts water away from the Gulf. Because of this reason, droughts are a concern in this region.

Mr. Andrew P. Carey (U.S.–Mexico Border Philanthropy Partnership), NAC member, sought clarity on the reference to a minimum temperature. Dr. Garfin clarified that the overall minimum temperatures in the United States have been increasing, partly due to the replacement of natural surfaces (i.e., roads) with asphalt resulting in higher water retention and reduced cooling.

Mr. Donald K. Harris (Amerris Consulting, LLC), NAC member, asked whether cities/towns near the US-Mexico border were included in the emergency planning procedures regarding power outages. Dr. Garfin described the multiple coordinating mechanisms, which include water planning, the IBWC, trilateral North American partnership on weather services, and Good Neighbor Environmental Board (GNEB) Reports. Also, informal collaborations are in place to conduct extreme heat evaluations the Joint Advisory Group of the formerly called NAFTA coordinates emergency management. Dr. Pardo requested that a list of extreme weather events coordinating groups be shared with the committees.

In response to a query by Dr. Chischilly on updates on the U.S. Department of the Interior’s (DOI) declarations of water shortages and the Mohave Generating Station. Dr. Garfin replied that US National Laboratories have been addressing the confluence of water management issues. Discussions on the prospects of water sharing in the Colorado River system are ongoing. Regarding generating station issues, Dr. Garfin was only aware that an alternative power source was being considered.

Ms. Sagovac wondered whether policy changes and/or research were being planned to address structural vulnerabilities and health impacts following an extreme weather event, especially damage from strong winds. In her experience, residents located in urban areas are challenged to meet the current U.S. Department of Housing and Urban Development guidelines for financial support. Dr. Garfin explained that various initiatives and reports that assess vulnerabilities, but may not be a scale applicable to all regions. The list includes Tucson mapping/economic assessments, National Climate Assessments, EPA reports and local assessments from universities, which he can compile and forward to committees.

Ms. Green asked about utilities’ access to the AZ ESF/RSF dashboard and database. Ms. Lynn replied that information is shared on a county-to-county level and that county partners included the utility companies. The launch of the new county pages should provide a streamlined data access method. Even then, all utilities will not have access to the new ESF database, but the web-based Emergency Operations Center (EOC) Crises Incident Management System is another tool that can provide information. The objective is to provide a safe and secure system for data sharing among the groups. Ms. Green also

pointed out that the cyber security protocols used by utility companies are stringent to ensure data security is maintained. Ms. Lynn explained that the AZ ESF/RSF dashboard will leverage existing resources and models to add geographical mapping features.

Ms. Brock commented that local concerns are different and reflect the region being served. She noted that the emergency management director is not a specific and dedicated position at the local level and that mitigation grants do not support expert consultants. Ms. Lynn agrees that continuously updating relationships is necessary. Training can be expanded to include other disciplines, but will not negate the high turnover seen in various groups. The state of Arizona has assumed some responsibility for recovery at the local level, but funding to support mitigations remain a challenge. Ms. Lynn suggested that the NAC/GAC consider providing input on ideas for funding.

In response to a query by Mr. Harris on the role of the city of Tucson and its diverse groups in emergency planning, Ms. Lynn explained that all counties have dedicated emergency management systems and each city has an emergency response plan. At the state level, a small percentage of planning is supported for the local jurisdictions. Dr. Pardo asked Ms. Lynn to generate a list of aspirational peers that would be models to emulate in the emergency response community.

Ms. Sagovac commented on identifying policies, small changes and examining the gaps in policies. The FEMA qualifications for recovery after a national disaster may need to be revisited. Ms. Lynn agrees that gaps in policy exist and noted the advantages of leveraging the efforts of the emergency first responders.

## **Public Comment Period**

Tohono O’odham Nation Vice-Chairman, Verlon M. Jose, provided comments in-person at the meeting. The information on extreme weather events discussed in the NAC/GAC meeting is important to the Tribal Nations, is helpful for planning and should be broadly communicated and disseminated. He emphasized the need to advocate for community coordination and establishing a drought contingency plan.

## **CEC Update on Operational Plan (OP) and NAPECA Grants**

*Cesar Rafael Chavez, Executive Director, CEC Secretariat*

Mr. Cesar Rafael Chavez updated members on the 2017–2018 OP cooperative projects, ongoing CEC initiatives, including the FY 2018 NAPECA grants and the new Council initiatives. The 10 active OP projects, which were approved at the 2017 Council Session, are aligned with the three strategic priorities set in the CEC 2015-2020 Strategic Plan. In 2018, the structure of the projects was adjusted to reflect budget and timeline considerations related to CEC’s transition to a new institutional approach that is still being negotiated in the new ECA.

Mr. Chavez detailed the progress to date and future activities of the 10 active 2017–2018 OP cooperative projects.

1. **Monitoring Health Impacts From Extreme Heat Events.** Activities are being conducted by partner health organizations in Arizona, Chihuahua and British Columbia. A workshop to share results is scheduled for December 11, 2018, in Phoenix, Arizona.
2. **Reducing Pollution From Maritime Transport.** A workshop on MARPOL Annex VI/Emission Control Area implementation and enforcement strategies/procedures/technologies/incentive programs is being planned.

3. **Improving Black Carbon Emissions Inventory Data for Small-Scale Biomass Combustion.** Data collection and compilation are in progress in Canada, Mexico and the United States.
4. **Measuring Mitigation of Food Loss and Food Waste (FLW).** The third Food Loss and Waste Measurement Experts Group meeting will be held October 23–25, 2018, in Arlington, Virginia. The Technical Report and Guide are scheduled to be released in early 2019. The draft Educational Toolkit for youth is scheduled to be completed by early October 2018 and the final version released in March 2019.
5. **Increasing Industrial Energy Efficiency Through ISO 50001.** An International Organization for Standardization (ISO) 50001 training program tailored for supply chains was designed and launched, and a team of expert trainers has been selected. The U.S. Department of Energy’s Ready Navigator Tool has been translated into French and Spanish and will be made available to program participants. Energy experts and governmental partners met with key stakeholders, supply chain companies and industry associations in the three countries to promote and recruit for the ISO 50001 Program, which is scheduled to begin in the fall of 2018.
6. **Supporting Sustainable Trade of CITES Species.** A partnership and funding strategy is being developed. A tarantula identification guide and outreach video also are being developed. Two training workshops are scheduled: trinational trade and enforcement to be held October 24–25, 2018, in Miami, Florida, and capacity assessment on wood identification to be held November 6–8, 2018, in Chetumal, Quintana Roo, Mexico.
7. **Conserving Shorebirds Through Community Engagement.** Outreach material to build community capacity for developing ecotourism is in production. The Cornell Lab of Ornithology is developing a video segment on cultural values linking local communities and migratory shorebirds. Conservation monitoring and outreach activities took place at all seven migratory shorebird sites. Also, site exchanges to share knowledge and best practices took place in the summer of 2018.
8. **Science for Monarch Butterfly and Pollinator Conservation.** A study to monitor the presence and habitat of monarch butterflies in northern Mexico is in progress. A study investigating nectar resources in northeastern Mexico in the spring season was completed; a similar study for the fall season is due to begin October 2018. A trinational Monarch Knowledge Network is being established. The Monarch Summit Workshop will be held January 29–31, 2019, in Mexico City, Mexico.
9. **Strengthening Adaptive Capacity of Marine Protected Areas.** The Coastal Mitigation and Adaptation Toolkit is being developed and a Roster of Experts is being assembled. A Coastal Mitigation and Adaptation Toolkit Review is scheduled for October 23–24, 2018, in Victoria British Columbia, Canada. Pacific Northwest Sister-Sites Partnership Workshops are scheduled for October 25–26, 2018, in the Victoria British Columbia, Canada, and La Paz, Baja, California.
10. **Building Community Solutions for Marine Litter.** Pilot studies and environmental education are being implemented in both regions and are expected to be completed in late November 2018. Short outreach videos showcasing the regions are scheduled to be completed in March 2019.

Mr. Chavez highlighted three new Council initiatives.

- **Traditional Ecological Knowledge (TEK) Initiative.** Aims to identify and compile information on communities and experts associated with TEK in North America. The information will include a

comprehensive inventory and summary of relevant frameworks and mechanisms in each of the three countries; an inventory and summary descriptions of examples of TEK-based projects in academia and the private sector partners; and a list of indigenous and local communities that have engaged TEK in practice. A TEK Expert Group consisting of representatives from each of the three countries has been established and three requests for proposals (one in each of the three countries) have been published.

- **Partnerships on Preparedness and Resilience to Extreme Events in North America Initiative.** Complements the current active project on monitoring health impacts from extreme heat events that is scheduled to be completed at the calendar year end. The goal is to improve preparedness and response to extreme events of relevance to communities and populations. The areas of collaboration include building capacities and enhancing preparedness and response to extreme events, and promoting collaboration and supporting communication and data sharing among governmental and academic institutions. An Advisory Group has been established consisting of experts and practitioners representing the three countries. Consultations are being conducted to identify priorities and trilateral actions. A draft 2019 workplan is being developed and is expected to be finalized in November 2018.
- **North American Academic Network for Sustainability and Innovation Initiative.** Aims to enhance collaboration, capacity and engagement of youth on sustainability and innovation for green growth. Participating academic institutions include Simon Fraser University and Concordia University Université Laval (Canada); Universidad Anahuac and Universidad Autónoma de Queretaro (Mexico) and Oklahoma University (United States). A project plan will be developed and a list of resources to leverage has been drafted.

Mr. Chavez reported on ongoing initiatives at the CEC and NAPECA grants. Work on a land coverage map at a 30-meter resolution for the North American Land Change Monitoring System using 2015 data is in progress. The NAEA continues to expand with new map layers and functionalities. The North American Pollutant Releases and Transfers *Taking Stock Report* Volume 15 had been published. Updates to Taking Stock Online was completed in October 2018. The database for the North American Portal on Climate Pollutants needs updating with the most recent data submissions to the United Nations Framework Convention on Climate Change. Mr. Chavez reminded members that the first NAPECA grants were issued in 2011. To date, the CEC has awarded \$4.4 million to support 66 community projects. Of the 66 funded, 20 originated in Canada, 24 in Mexico and 22 in the United States. The CEC funded nine grants for FY 2018 and all are progressing and are on schedule to be completed by the end of 2018.

### **JPAC Report**

*Octaviana Trujillo, Ph.D., Professor, Applied Indigenous Studies, Northern Arizona University, Pascua Yaqui Tribe, Member, JPAC*

Dr. Octaviana Trujillo presented an update on JPAC activities. The June 2018 Council Session and the Meeting of the JPAC were held in Oklahoma City, Oklahoma. The theme of the JPAC public forum focused on the future of trade and environmental cooperation in North America and highlighted two key issues: (1) future areas of trilateral environmental cooperation and (2) expanding private sector engagement in future CEC projects and initiatives. Dr. Trujillo summarized key discussion points and recommendations from the JPAC meeting. The CEC should focus on enhancing partnerships with the private sector and other organizations and leverage existing resources. Efforts also should focus on promoting life cycle thinking within the circular economy. The CEC could be instrumental in helping North American entrepreneurs meet the United Nations Sustainable Development Goals (SDGs). The CEC should strengthen its role as facilitator and continue the dialogue and knowledge sharing between stakeholders across the three countries.

During the Council Session, the JPAC had the opportunity to observe extreme weather events research at the National Weather Center located on the campus of the University of Oklahoma and they also present at the University's Tom Love Innovation Hub for the announcement of the YIC winners. The extended events included an update from the Council on priorities and future directions as well as discussions on productive work. Dr. Trujillo moderated the Council Session roundtable on innovation and partnerships for green growth. The JPAC appreciates the hard work and continued support of the OITA.

In its advice letter from the June 2018 meeting, the JPAC outlined three recommendations: (1) focus the CEC's role in North American environmental cooperation toward promoting and enhancing the implementation of the SDGs in all three countries, (2) utilize existing national and subnational networks to increase the local and regional impact of the CEC and (3) strengthen the CEC's focus on spearheading North America's transition to a low-carbon economy by taking specific actions.

Regarding outreach and visibility of the CEC, the JPAC has always prioritized increasing the visibility of the CEC, outreach and stakeholder engagement. Despite strong efforts by the Secretariat, CEC is not well known in the broader community. To address this issue, consultant, Lu Lu Public Relations, has been contracted to conduct interviews with key stakeholders in North America that the JPAC identified and also to facilitate the upcoming private JPAC working session. The consultant also will compile and synthesize the information from the 2-day meeting and will submit a final report inclusive of recommendations.

The October 25–26, 2018 JPAC meeting will be held in Guadalajara, Jalisco, Mexico, and will be devoted to an expert discussion on enhancing the CEC's communications and outreach efforts in North America and beyond. The meeting format will be revised to reflect a new dynamic. Discussions will focus on communication strategies, enhancing collaborations and outreach. The meeting will be closed to the public and the agenda has been provided to EPA. Dr. Trujillo conveyed that the JPAC appreciates the efforts of the NAC and the GAC and also appreciates the opportunity to present updates on their activities.

## **Working Session II: Extreme Weather Events—Tribal Government Response**

*Cornelius Antone, Environment Director, Tohono O'odham Nation*

*Robert DeLeon, Emergency Operations Director, Office of Emergency Management, GRIC*

### ***Tohono O'odham Nation***

Mr. Antone described the tribal government emergency response to extreme weather events. The response team is challenged to access certain areas due to the after effects of the heavy rainfalls, especially during the Arizona Monsoon season and events such as the recent Hurricane Rosa. Complicating matters is the fact that many of the roads in Tohono O'odham communities are not paved surfaces and are subject to desert wash. Also, residents may live great distances from a main road. The Menagers Dam was threatening a breach and tensions/fears were high during the recent crisis. The Environmental Protection Office emergency response team coordinated with other groups, including the Red Cross, to activate and manage shelters. Evacuations, however, were problematic for the reasons previously noted. The tribal authority began performing assessments for utilities, phone service, structure damage and roads. Other assessments for mold at large facilities also are conducted. Various programs and departments are engaged in the response to an extreme event.

Mr. Antone explained that current efforts are focused on establishing communications in those areas of the reservation in which phone service is still not possible (i.e., dead zones). Aside from heavy rainfall, extreme heat also is a problem. The region experiences microbursts, dust storms and haboobs. Mr. Antone remarked on the changing weather patterns he has observed over the years, including the frequency of

extreme events. Implementing emergency preparedness strategies across the reservation is challenging due to the resistance to change. Increased understanding of the use of TEK would be helpful.

### **GRIC**

Mr. Robert DeLeon described the extreme weather event response in the GRIC. Since 1970, the average U.S. summer temperature has been almost 2°F warmer. In fact, Arizona has been experiencing a dramatic increase in extreme heat. Elevated temperatures have been attributed to the increases in the frequency of wildfires and larger acreages of burning worldwide. The Centers for Disease Control and Prevention (CDC) reports on the impact of extreme heat and severe weather on human health, including heat-related illness and death and mental anguish from the forced migration due to environmental degradation. Emergency response organizations and emergency managers are challenged to find the necessary empirical data correlating extreme events to the health outcomes due to a lack of tracking of these data. Noting that extreme weather is defined as unexpected, unusual, unpredictable, severe, or seasonal weather at extremes of historical distribution, and accounts for 5 to 10 percent of most unusual events, Mr. DeLeon emphasized that these percentages are growing and are a major concern in the emergency response community.

Mr. DeLeon explained that emergency management in the GRIC is a system. The community (GRIC) is at the center and—emergency management, leadership and departments, including programs, and entities—are the three pillars. Subject matter experts in the various departments, programs and entities are charged to assess the conditions from their perspectives and engage in the planning processes. Leadership supports emergency management with funding. Emergency management involves implementation of the program. Planning, the multiagency coordination system collaboration and All-Hazards approach are all components of the GRIC emergency management program.

The GRIC emergency management program ensures EOC readiness, conducts training and exercises across the reservation and utilizes the FEMA National Incident Management System. Planned maintenance, public health emergency preparedness, resources/logistics, and competitive funding mechanisms (e.g., grants) are built into the broader emergency management program. The emergency operations plan defines the program's activities, which also include hazard mitigation and threat hazard assessments. The GIRC's Tribal Emergency Response Commission (TERC) strictly focuses on assessing the chemical aspects (C-TERC) and is responsible for emergency planning for chemical spills. Communication is paramount in the GIRC emergency response. Systems being used include the reverse 911 notification system, IPAWS, Intranet and Internet, television and radio, and door-to-door.

Mr. DeLeon called attention to the online emergency resource catalog, which is accessible from the GRIC website. The necessary supplies (e.g., electrical generators) are available to support and independently respond within the first 72 hours of an emergency. He identified some future resource needs, including increased science, funding, housing and 72-hour kits. In closing, Mr. DeLeon summarized key points for emergency management: support emergency management activities at all levels; prepare for high probability/high consequence events; ensure that partners know their roles during all emergencies; meet regularly, prior to an event; and work and practice collaboratively.

### ***Question and Answer Period***

In response to a query by Ms. Sagovac on local industry engagement in the emergency operations plan, Mr. DeLeon explained that the GRIC participates in the Arizona Tier II chemical reporting system, which is captured via the C-TERC. Industry partners input their Tier II data into a state-sponsored cloud-based system, which is then reported to the GIRC and also can be shared with public health offices. The regional hazardous materials response team also is active in this area. Ms. Brock called attention to the Emergency Planning and Community Right-to-Know system. Ms. Brock also commented that an

environmental health emergency preparedness capability should be incorporated into emergency management programs.

Ms. Gonzales wondered about the older buildings, which may contain asbestos impact emergency response planning. Mr. DeLeon explained that the GRIC Environmental Quality Department performs asbestos and mold testing in residential and commercial building after storm damage. Asbestos remediation cost can be expensive and must be planned and budgeted. Ms. Green observed that structures built prior to 1972 often test positive for asbestos. Mr. DeLeon added that in the GRIC home repairs and assistance depend on the type of home (e.g., community, federal or industrial).

In response to a query by Ms. Gonzales on the impact to Head Start Programs and disruption in service, Mr. Antone explained that each district is responsible for its own program and would be overseeing any relocations to an unaffected area. Head Start Programs on the reservation are not managed through a central base.

Mr. Harris wondered about the tribal community's autonomy regarding electricity generation and/or sewage system maintenance. Mr. Antone pointed out that the Tucson Electric Power maintains the power grid and the Tohono O'odham Nation utility authority distributes the power across the reservation. Power outages are experienced during inclement weather and repairs can be delayed due to problems traversing the desert terrain. Being able to manage without power on the reservation can vary depending on an individual or family's preparedness.

Dr. Pardo asked Mr. Antone his opinion on the critical expertise needed, given the meeting charge. Mr. Antone responded that communications and infrastructure, especially roads, are crucial.

## **Summary and Next Steps**

*Theresa Pardo, Ph.D., Chair of the NAC*

*Ms. Sally Ann Gonzales, Acting Chair of the GAC*

Dr. Pardo explained the logistics for the following day and completion of the meeting agenda. She asked for thoughts on framing and organizing the NAC and GAC charge question discussions.

Ms. Sandoval sought clarity on the scope of the charge. Dr. Pardo clarified that the committees are charged to provide advice on actors (individuals or groups) who are expert and highly effective in responding to extreme weather events. Mr. Troche noted that the U.S. team of advisors who are collaborating on the North America Extreme Events Advisory Group include representatives from the CDC, CLIMAS, DOI's Bureau of Land Management, EPA Office of Research and Development, National Institutes of Health Division of Emergency Management, National Interagency Fire Center and National Oceanic and Atmospheric Administration (NOAA). The meeting was recessed at 4:17 p.m. MST.

## **Thursday, October 11, 2018**

### **Call to Order**

The meeting was called to order by Mr. Carrillo, who noted that the day's agenda focused on the business meeting of the NAC/GAC. He introduced Ms. Geraldine Brown, FACMD, EPA, to provide logistical information regarding travel vouchers and other matters.

On behalf of EPA, Mr. Carrillo recognized the contributions made by members of the NAC and the GAC whose terms of office have expired. He expressed appreciation for their service and dedication over the



course of their terms. The following NAC members are retiring: Dr. Abbas Ghassemi (New Mexico State University); Ms. Carolyn L. Green (EnerGreen Capital Management); Ms. Mary L. Klein (Wildlife Habitat Council) and Dr. Ivonne Santiago (University of Texas at El Paso). The following GAC members are retiring: Ms. Edna A. Mendoza (Arizona Department of Environmental Quality), Gerald M. Keenan (State of Illinois), Ana Maria Cristina Viesca-Santos (El Paso County Attorney's Office) and Jeffrey N. Wennberg (City of Rutland). Mr. Carrillo also acknowledged members who will not be continuing on the committees due to appointments away from the environmental sector or personal reasons and expressed his appreciation for their hard work and dedication. The following members stepping down are: Martha Bohort (formerly of the City of Norfolk); Donald K. Harris (Amerris Consulting, LLC) and Dr. Charles Striplen (North Coast Regional Water Quality Control). On behalf of Ms. Nishida and the OITA, Mr. Troche thanked members for their commitment and service.

Mr. Carrillo informed the committees the NAC and GAC 2-year appointments will expire on October 22, 2018. Members will be receiving their reappointment letters, which they will need to sign and return to EPA. In addition, the future meeting dates have not been selected. Members will be asked via a Doodle Poll for their availability to attend a discussion at the spring/fall 2019 meeting dates.

### **Plenary: Joint Committee Meeting**

Dr. Pardo explained the logistics for the business meeting and remarked on the overview of the proposed USMCA and ECA presented on Day 1 of the meeting. She asked Mr. Carrillo how the modernizing of the NAFTA and NAAEC would impact the NAC and the GAC. Mr. Carrillo explained that NAC and the GAC were re-chartered for 2 years (2018–2020) per the FACA guidelines. The 2017 Presidential Executive Order renewed the committees for 2 years, which will expire in 2019. Mr. Ferrante is representing EPA in the NAFTA renegotiation process and has indicated that guidelines for advisory committee participation are contained within the USMCA Environment Chapter. He reiterated that the Agreement is still under review,

### **Public Comment Period**

No public comments were offered.

### **Committees Meet Separately**

Dr. Pardo explained that the NAC and GAC would meet separately and then reconvene for a report on their individual deliberations.

### ***GAC Separate Meeting***

Ms. Gonzales opened the GAC discussion and noted the charge. She suggested that members identify specific areas relative to the charge that they could, using their environmental expertise and background, address and to provide comments, which would shape the advice letter. Ms. Sandoval observed that most communities are challenged in the area of communications on the state and local levels in responding to extreme weather events. In Michigan, the Department of Environmental Quality convenes the relevant emergency response groups on a more frequent basis to share information and experiences. Members called attention to earlier group discussions that emphasized improving community resilience to withstand a crisis and continuous data collections on extreme heat to inform research as ways to ultimately improve emergency-related communications. Leveraging Dr. Garfin's data on anticipating cascading effects from climate extremes also should be considered in framing the advice letter.

Dr. Nathan shared that the city of San Antonio uses the All-Hazards profiling protocols on building evacuations, relocations and recovery, extreme heat events, ozone alert and emergency preparedness

drills, especially for events involving the U.S. Immigration and Custom Enforcement activities. Dr. Nathan also recommended that public health officials be included as first responders in emergency response plans. Mr. Antone reiterated that lack of clear communications is a gap in the emergency response. Ms. Anna Cristina Maria Viscea-Santos (El Paso County Attorney's Office), GAC member, remarked that broadly addressing the communication infrastructure is important to all communities. Ms. Sandoval called attention to the Michigan Department of Health and Human Services emergency plan App that residents can download during an emergency.

Ms. Brock commented that on the local level, first responders such as the chief fire fighter assumes the role as emergency manager despite other obvious obligations. She suggested that this gap in expertise in local jurisdictions be addressed by recruiting experts to fill the positions of emergency response manager and to provide compensation.

Ms. Gonzales restated the charge and moved the discussion to identifying the actors at the national, state, local, tribal and private sector level who have expertise on early warning and preparedness. Ms. Mendoza noted the necessity to understand the needs in a community such as resources, support systems and emergency inventory. Members noted that details on diversifying emergency response drills, broader participation in exercises and interoperability of resources, all should be considered in framing the advice letter. In addition, they identified early warning experts and/or resources that include FEMA's HazUS, meteorologists, TEK and research.

Members identified groups or entities whom EPA could leverage:

- Environmental Council of States
- FEMA Emergency Management Institute
- First Responder Network Authority
- Local Emergency Planning Committee
- National Association of County Health Officials
- National Association of Latino Elected and Appointed Officials
- National Council of State Legislators
- National Emergency Management Association
- National Public Health Service
- National Tribal Operations Committee
- Texas A&M University Disaster City
- TERC
- U.S. Geological Survey
- U.S.-Mexico Border 2020 Task Force
- U.S.-Mexico Inland Joint Response Team
- U.S. National Response Team

### ***NAC Separate Meeting***

Dr. Pardo opened the NAC discussion by reviewing the charge. She pointed out that EPA is asking for advice on expanding its list of organizations and groups to include direct responders who have knowledge and expertise in extreme weather events. Mr. Harris commented that the definition of extreme weather events is one place to start in framing the advice letter. Given that the definition speaks to events, Ms. Green remarked that in her opinion, drought is a condition not an event. Mr. Hester suggested providing to EPA sources of local information on extreme weather events and also examples of local level events, and Mr. Harris suggested leveraging the resources of EPA Local Emergency Planning Committees.

Dr. Santiago commented on the need to generate a list of safe places to shelter from extreme heat. Developing a database that would be publicly available also would be helpful. Mr. Harris explained that establishing a database could be parlayed into advice on a best practice for extreme events. Dr. Pardo suggested identifying a list of existing entities that are known in the emergency response community, especially those that do not have overlapping capabilities. Identifying those groups or organizations that are best as proactive efforts in responding to extreme weather events would be helpful.

Dr. Aminata P. Kilungo (The University of Arizona), NAC member, pointed out that any effort focused on building resilience in a community would need to consider vulnerable populations and access. Ms. Sagovac remarked on the universal versus differential emergency responses, which would be reflective of the needs and vulnerability of the community. Resources such as the NOAA Community Vulnerability Assessment Tool can be leveraged. Dr. Donna L. Lybecker (Idaho State University), NAC member, emphasized that the neighbors are often first responders in a community and suggested that The Community Builders is a group to consider.

Members further elaborated on vulnerable communities, access and barriers that should include nursing homes, cultural differences (e.g., language) and communities outside of the contiguous United States. Ms. Green reiterated that all extreme events are local and remarked on the need for any national emergency response framework to be adaptable on the state and local levels. Members also weighed in on the role and timing of philanthropic efforts in impacting emergency response and recovery in the local community. In addition to the Red Cross, other national/international/initiatives with local reach include the Rockefeller Foundation's Resilient Cities and Walmart Foundation.

Members identified communities that should be represented on the North America Extreme Events Advisory Group:

- Alaskan Athabascans (flooding)
- Calexico, California (extreme heat)
- Colorado Springs, Colorado (wild fires)
- GRIC (flooding)
- Houston, Texas Harris County (flooding)
- Phoenix, Arizona (extreme heat)

## **Committees Reconvene in Plenary Session**

### *Reports From the NAC and GAC Chairs*

Dr. Pardo reviewed the NAC deliberations. Members discussed a set of important perspectives, which could be included as an Appendix to the advice letter. The consensus was that all assessments are local, and those jurisdictions are engaged in all aspects of the emergency response. There are vast regional differences that influence the nature of an event. The variety of events and contextual characteristics should be considered. The committee identified key communities that could relay these perspectives to the North America Extreme Events Advisory Group, including representatives from Houston, Texas Harris County (flooding); Phoenix, Arizona (extreme heat); Calexico, California (extreme heat); and Colorado Springs, Colorado (wild fires). Different types of extreme events are occurring that have different characteristics and are exacerbated due to a lack of preparedness and planning. The response efforts on the national level will need to be translatable to the state and local levels.

Members discussed items that should be included on the North American Extreme Events Advisory Group checklist such as mechanisms to reach vulnerable communities and alternate methods of

communications. Extreme heat and extreme cold events are direct effects on human health, whereas events such as hurricanes destroy structures. The emergency response should be aligned accordingly.

Ms. Gonzales reviewed the GAC deliberations. Members discussed the emergency response to extreme events in the context of the examples presented during the meeting and identified gaps. Local jurisdictions should secure funding and hire personnel full-time that would be devoted to emergency response management. Some members observed that public health officials are not included in the emergency response plan. A suggestion was made to focus efforts on resolving communication issues, which may require infrastructure changes. Less sophisticated technologies such as color-coded signs, bells and/or sirens may be the best options to reach remote areas for early response. Early warnings should be structured to meet the needs of the community being served. The tribal communities have long used TEK, which could be leveraged for understanding extreme events. Members proposed developing tools or providing resources to build resiliency and preparedness in families rather than just relying on the emergency response system in an event.

## **Adjournment**

Dr. Pardo and Ms. Gonzales adjourned the meeting at 12:10 p.m. MST.

## **Action Items**

- ❖ Mr. Ferrante will forward to Mr. Carrillo the link to the draft ECA.
- ❖ Mr. Carrillo will forward to the committees speakers' PowerPoint presentation slides.
- ❖ Dr. Garfin will forward to Mr. Carrillo a list of groups to engage in trilateral extreme weather events to share with the committees.
- ❖ Dr. Garfin will forward to Mr. Carrillo a list of vulnerability assessment initiatives and reports to share with the committees.
- ❖ Committees will forward ideas on funding requirements for hazard mitigation plans to Mr. Carrillo.
- ❖ Ms. Lynn will forward to Mr. Carrillo a list of aspirational peers that would be models to emulate in the emergency response community.
- ❖ Dr. Pardo will share her draft advice letter on sharing and enhancing capacity for early warning, preparedness, response and adaptation/resilience to extreme events with the NAC members for their comments.
- ❖ Ms. Gonzales will share her draft advice letter on sharing and enhancing capacity for early warning, preparedness, response and adaptation/resilience to extreme events with the GAC members for their comments.

## Summary Certification

*I, Sally Gonzales, Acting Chair of the Governmental Advisory Committee, and I, Theresa Pardo, Chair of the National Advisory Committee, certify that the meeting minutes for the dates of October 10–11, 2018, as hereby detailed, contain a record of the persons present and give an accurate description of matters discussed and conclusions reached and copies of all reports received, issued or approved by the advisory committees. My signature date complies with the 90-day due date after each meeting required by the GSA Final Rule.*



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Sally Ann Gonzales  
Acting Chair, GAC

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Date: 11/13/2018



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Theresa A. Pardo  
Chair, NAC

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Date: 11/13/2018

## **Appendix A: Meeting Participants**

### **NAC Members**

#### **Theresa Pardo, Ph.D., Chair**

Director  
Center for Technology in Government  
Associate Professor of Public Administration  
and Policy  
University at Albany - State University of New  
York

#### **Andrew P. Carey**

Executive Director  
U.S.-Mexico Border Philanthropy Partnership

#### **Ann Marie Chischilly, Ph.D.**

Executive Director  
Institute for Tribal Environmental Professionals  
Northern Arizona University

#### **Carolyn L. Green**

Founder/Managing Partner  
EnerGreen Capital Management, LLC

#### **Donald K. Harris**

President and Founder  
Amerris Consulting, LLC

#### **Tracy D. Hester, J.D.**

Professor of Practice  
University of Houston Law Center

#### **Aminata P. Kilungo, Ph.D.**

Mel and Enid Zuckerman College of Public  
Health  
Department of Health and Promotion Science  
The University of Arizona

#### **Donna L. Lybecker, Ph.D.**

Professor and Chair  
Department of Political Science  
Idaho State University

#### **Simone Sagovac**

Project Director  
Southwest Detroit Community Benefits  
Coalition

#### **Ivonne Santiago, Ph.D.**

Professor  
College of Engineering  
The University of Texas at El Paso

### **GAC Members**

#### **Sally Ann Gonzales, Acting Chair**

State Representative  
Arizona House of Representatives

#### **Cornelius Antone**

Environmental Engineer  
Department of Safety  
Tohono O'odham Nation  
Environmental Protection Office

#### **Marina M. Brock**

Senior Environmental Specialist  
Environmental Health Division  
Department of Health and the Environment  
Barnstable County, Massachusetts

#### **Edna A. Mendoza**

Director  
Office of Border Environmental Quality  
Arizona Department of Environmental Quality

#### **Vincent R. Nathan, Ph.D., M.P.H.**

Assistant Health Director  
Metropolitan Health District  
City of San Antonio, Texas

#### **C. Nazaret Sandoval**

Environmental Engineer  
Michigan Department of Environmental Quality

#### **Ana Maria Cristina Viesca-Santos, J.D.**

Assistant County Attorney  
El Paso County Attorney's Office

### **Designated Federal Officer**

#### **Oscar Carrillo**

Federal Advisory Committee Management  
Division  
Office of Administration and Resources  
Management  
U.S. Environmental Protection Agency

### **EPA Participants**

#### **Geraldine Brown**

Federal Advisory Committee Management  
Division  
U.S. Environmental Protection Agency

#### **Joe Ferrante**

Senior Advisor on Trade and Economics  
Office of International and Tribal Affairs  
U.S. Environmental Protection Agency

#### **Luis Troche**

Senior Advisor  
North American Program  
Office of International and Tribal Affairs  
U.S. Environmental Protection Agency

### **Other Participants**

#### **Cesar Rafael Chavez**

Executive Director  
Commission for Environmental Cooperation  
(CEC) Secretariat

#### **Robert DeLeon**

Emergency Operations Director  
Gila River Indian Country

#### **Gregg Garfin, Ph.D.**

Deputy Director  
Science Translation and Outreach  
University of Arizona

#### **Verlon M. Jose**

Vice Chairman  
Tohono O'odham Nation

#### **Judy Lynn**

South Region Coordinator  
Arizona Department of Emergency & Military  
Affairs

#### **Sarah Lowden**

Ph.D. Student  
University of Maine

#### **Sarah Stewart**

Deputy Assistant  
U.S. Trade Representative

#### **Octavania Trujillo, Ph.D.**

Member  
Joint Public Advisory Committee (JPAC)

### **Contractor Staff**

#### **Carolyn J. Fisher, Ph.D.**

The Scientific Consulting Group, Inc.

## Appendix B: Meeting Agenda



### Official Meeting of the National and Governmental Advisory Committees to the U.S. Representative to the Commission for Environmental Cooperation October 10-11, 2018

*(All Times are in Mountain Standard Time)*

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The Sol of Tucson Conference Center  
5655 W. Valencia Road  
Tucson, Arizona 85757  
Tel: 1.855.765.7829  
*Revised Final 10/10/18*

## AGENDA

~ Ball Room A ~

### Wednesday, October 10, 2018

- 8:00 a.m.     **Registration**
- 8:30 a.m.     **Call to Order and Introductions**  
Oscar Carrillo, Designated Federal Officer, U.S. EPA
- 8:40 a.m.     **Overview of Agenda**  
Theresa Pardo, Chair, National Advisory Committee  
Sally Ann Gonzales, Acting Chair, Governmental Advisory Committee
- 9:00 a.m.     **Opening Remarks**  
Verlon M. Jose, Vice-Chairman, Tohono O'odham Nation
- 9:10 a.m.     **Update on USMCA and Meeting Charge**  
Sarah Stewart, Deputy Assistant USTR, Environment & Natural Resources (*phone*)  
Joe Ferrante, Senior Advisor on Trade and Economics, OITA, EPA (*via phone*)  
Luis Troche, Senior North America Advisor, OITA, U.S. EPA  
Question & Answer



- 9:50 a.m.      **BREAK**
- 10:00 a.m.      **Working Session I: Extreme Weather Events Overview**  
Dr. Gregg Garfin, Ph.D., Deputy Director for Science Translation & Outreach, Univ. of AZ  
Judy Lynn, South Region Coordinator, Emergency Management, Arizona Department  
of Emergency & Military Affairs  
                    Question & Answer Period
- 11:30 a.m.      **Public Comments Period**
- 12:00 p.m.      **LUNCH**
- 1:00 p.m.      **CEC Update on Operational Plan and NAPECA Grants (Via Video)**  
Cesar Rafael Chavez, Executive Director, CEC Secretariat  
                    Question & Answer Period
- 1:30 p.m.      **JPAC Report-out**  
Octaviana Trujillo, Member, Joint Public Advisory Committee  
                    Question & Answer Period
- 2:00 p.m.      **BREAK**
- 2:15 p.m.      **Working Session II: Extreme Weather Events: Tribal Government Response**  
Cornelius Antone , Environment Director, Tohono O’odham Nation  
Robert DeLeon, Gila River Indian Tribe (Office of Emergency Management)  
                    Question & Answer Period
- 3:30 p.m.      **Summary & Next Steps**  
Theresa Pardo, Chair, National Advisory Committee  
Sally Gonzales, Acting Chair, Governmental Advisory Committee
- 4:30 p.m.      **ADJOURN**

**Thursday, October 11, 2018**

**BUSINESS MEETING:**

8:00 a.m.      **Registration**

8:30 a.m.      **Call to Order**  
Oscar Carrillo, Designated Federal Officer, EPA

8:35 a.m.      **Plenary: Joint Committee Meeting**  
Theresa Pardo, Chair of the National Advisory Committee  
Sally Gonzales, Acting Chair of the Governmental Advisory Committee

- Discussion Spring/Fall 2019 meetings (via doodle survey)

9:00 a.m.      **Public Comment Period**

9:15 a.m.      **Committees Meet Separately**  
*NAC stays in "Ballroom A" Conference Room*  
*GAC meets in "Ballroom B" Conference Room*

12:00 p.m.     **LUNCH**

1:00 p.m.      **Committees Reconvene in Plenary Session**  
Report-outs from NAC/GAC Chairs

3:00 p.m.      **ADJOURN**

## Appendix C: Charge Letter for October 10–11, 2018 NAC/GAC Meeting

### CHARGE LETTER: NAC/GAC MEETING

October 10–11, 2018  
TUCSON, ARIZONA

#### Topic: Extreme Weather Events

Advice on: Sharing and Enhancing Capacity for early warning, preparedness, response and adaptation/resilience; to extreme events.

#### **BACKGROUND: EXTREME EVENTS**

**Extreme events** in North America adversely impact the economy, environment, human lives and health.

- For example, **drought** is one of the costliest and most prevalent natural hazards that impacts agriculture, commerce, ecosystems and water availability domestically and regionally.
- **Wildfires** impact local and regional economies, air quality and health and have required the sharing of firefighting resources across borders.
- **Extreme heat** impacts human health and productivity.

The **CEC Council** is capitalizing on the existing *North American Climate Services Partnership (NACSP)* and other resources to advance collaboration among the United States, Canada and Mexico on **extreme events, focusing on 1) drought-flood, 2) wildfires and 3) extreme temperatures**.

#### **CEC COUNCIL SESSION: NEW INITIATIVE**

**During the CEC Council Session 2018 in Oklahoma**, the Council and delegations visited the U.S. National Weather Service and the Radar Innovations Laboratory in Norman Oklahoma. In consultation with government and academic experts, the **Council announced a new initiative creating the *North American Extreme Events Advisory Group***. The Council and Secretariat have identified preliminary national government and academia experts to collaborate on this initiative. The goal of the group is to bring together experts and local/regional practitioners to: a) share information, b) knowledge, and c) capacities relevant to communities and populations with the following objectives:

- **Share and enhance capacities for early warning**, preparedness, response and resilience to extreme events (drought-flood, wildfires and extreme temperatures);
- **Collaborate on interdisciplinary** research to advance monitoring, **early warning, coordination and communication among the United States, Canada, and Mexico**;
- **Enhance the CEC North American Atlas** with data and layers on extreme events and impacts;
- **Complement current CEC project on health impacts from extreme heat** (Syndromic Surveillance);
- **Build capacities** that the US, Canada, and Mexico can share/highlight at the **G20/other relevant fora**.

#### **NAC/GAC CHARGE:**

- The **U.S. seeks advice** on **actors and capacities** at the **local, tribal and private sector** who have expertise, best practices, experience and resources on:

- early warning, preparedness, response and resilience to drought-flood, wildfires and extreme temperatures.
- Because preparedness response and resilience is *primarily a local effort*, these actors may contribute their expertise and best practices through the CEC initiative to help advance capacities across North America.