

WEATHER READY NATION AMBASSADORS PROGRAM AT THE BUREAU OF INDIAN AFFAIRS

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1. INTRODUCTION



The Eastern Regional Office of the Bureau of Indian Affairs (BIA-ERO) performs functions associated with the administration of the Natural Resources program in support of the Departmental goal. The Natural Resource program activities consist of:

- National Environmental Policy Act (NEPA) ~ NEPA compliance
- Federal Energy Regulatory Commission (FERC) projects
- Fee to trust procedures including performing Level 1 Contaminant Survey and environmental evaluation
- Information resource to assist tribal organizations

The regional BIA office acts to procure federal monies for tribal natural resource programs

- Cultural resources protection

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- Implementation of Climate Control Initiative

- Provides technical service for water resources management

- Serves as Regional liaison to other governmental agencies

- Oversight for Safety of BIA owned facilities

In support of the Eastern Regional Office Climate Action Plan office staff participate in:

- Upper Midwest/Great Lakes Landscape Conservation Cooperative (LCC)

- North Atlantic LCC

- Appalachian LCC

- South Atlantic LCC

- Peninsular Florida LCC

- Gulf Coastal Plains & Ozarks LCC

- Gulf Coastal Prairie LCC

- Southeastern Climate Science Center

- Northeastern Climate Science Center

- NOAA Weather Ready Nation Ambassadors, the third organization in central Tennessee to do so

As an Ambassador in Weather Ready Nation BIA-ERO regularly receives information on preparedness for extreme weather events as well as advance warning of specific weather events. BIA-ERO shares this information with the 28 tribes in our region to help them better prepare for the impacts realized when these events occur. Tribes are impacted in the short term when weather damage to infrastructure impairs their ability to conduct day-to-day operations. Long term climate change impacts the ability of tribal members to

use Traditional Knowledge to not only survive but to pass along their way of surviving to their descendants.

The following examples of potential and realized weather impacts to tribes do not represent the full scope of issues faced by tribes due to climate change and extreme weather. They depict a snapshot of environmental/natural/cultural resources activities conducted by BIA-ERO in 2015 and are meant to give the reader a better idea of the scope of work needed to engage with tribes in climate adaptation.

2. EXAMPLES:

a. Meduxnekeag River, ME



This part of the Meduxnekeag River near Houlton, ME and the Houlton Band of Maliseet Indians exceeded 30 C in August 2015. Excessive river temperatures impede the ability of tribal members to conduct sustenance fishing (Weatherdon et al. 2016). Fishing activities are coupled to Traditional Knowledge of fishing practices, and both are dependent on suitable conditions for native fish to be present (Chief et al. 2014). Of no less importance, the Native American concept of “life” couples human life with the lives of animals and plants in the surrounding ecosystem (Erikson et al. 1980). Climate forecasts have the potential to inform tribes how to best plan sustenance activities.

b. Pushmataha Dam, MS



Earthen dams backing up tribal reservoirs (Pushmataha Dam, MS pictured) are at risk due to heavy rain events. A heavily traveled road lies just downstream of this dam, so dam failure would impede traffic in the region and potentially place drivers at risk (Nixon 2015). Timely forecasts of heavy rain events would help reduce this risk.

Dam sites on tribal trust land such as this one are monitored through the Bureau of Indian Affairs (BIA) Safety of Dams program. The purpose of the program is to reduce potential loss of life and property caused by dam failure by improving the safety of BIA dam sites. The program has five focus areas: risk management/reduction, emergency management, inspection/evaluation, maintenance/repair, and security. The program is authorized by the Public Law 103-302, “Indian Dams Safety Act of 1994” (BIA 2014).

c. Oneida Nation (NY) winter weather



Several of our New York/New England tribes were affected by heavy snow events in 2015 (Oneida Nation of New York pictured here). Tribal offices in remote

locations in the northern U.S. are limited in their ability to operate during the winter. Winter storm forecasts are useful in planning seasonal operations and are among the greatest benefits Weather Ready Nation can provide to BIA-ERO.

d. Big Cypress Reservation critical species, FL



Tribal reservations host many unique species, including some endangered as well as invasive species (Chief et al. 2014). Reservations often contain unique habitat zones, preserved by the Native American way of life. Similarly the removal of Native Americans from their former land base has impacted the evolution of plant populations (Anderson and Moratto 1996). Animal/plant populations are also sensitive to water levels in the Everglades, which in turn are sensitive to long term precipitation patterns as well as significant short term events.

The Seminole Tribe of Florida participates in the Everglades ecosystem restoration efforts on their Big Cypress Reservation through the Comprehensive Everglades Restoration Plan (CERP). CERP's 2014 System Status Report indicated negative effects on Everglades restoration due to an overall drier climate in the preceding five years, which while beneficial to ecology at Lake Okeechobee was detrimental to oyster populations in the north, seagrass in Florida Bay, and other plant and animal species throughout the Greater Everglades (U.S. DOI 2014).

e. Arkansas River flooding, OK/AR



Flood events may also impact tribal historic and cultural sites. These tribes are not limited to ones in our region, but also those tribes that were forced westward from their original lands. Areas next to rivers were often important to tribes for sustenance (Cozzetto et al. 2013) and are both a favored location for historic sites and the most vulnerable to flood events. As a result heavy rains and initial flooding such as this event from Oklahoma may later affect downstream sites in other states, in this case Arkansas, Mississippi, and Louisiana.

BIA monitors tribal cultural resources through the Division of Environmental and Cultural Resources Management (DECRM). DECRM is responsible for matters involving environmental and cultural resources on Indian trust/restricted lands as well as facilities owned/operated by Indian Affairs.

f. Cherokee, NC flood impacts



The pictured mudslide on the reservation of the Eastern Band of Cherokee Indians in North Carolina blocked passage on one of the tribal roads. Mudslides are expected to become more common due to climate

change (Karl 2009). Reservations often are located in remote areas with few roads, so when one is damaged by an extreme weather event the connectivity of the reservation is greatly diminished.

Transportation needs on tribal trust land are addressed through the Indian Reservation Roads Program. Indian Reservation Roads are defined as public roads providing access to/within Indian reservations, trust land, restricted Indian land, and Alaska native villages. The program is jointly run by the Federal Highway Administration and the BIA Division of Transportation.

3. CHALLENGES

Tribes experiencing extreme weather/climate events face many challenges adapting to such events and mitigating damages experienced by tribal members. These include:

- Knowing the full scope of opportunities for funding and technical assistance to plan for, mitigate, and adapt to weather/climate hazards

- Communication between relevant federal agencies and tribal leaders/environmental professionals (EPA 2014)

- Ability of tribal leaders/environmental professionals to communicate hazard information before events and assistance information after events

The third of these challenges represents the area in which Weather Ready Nation is best able to serve the need for tribes to adapt to an ever-changing climate. Future iterations of the program may consider addressing the other two challenges as well.

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