

# EWS Newsletter

*Early Warning System Program  
News and Announcements from the BIA*

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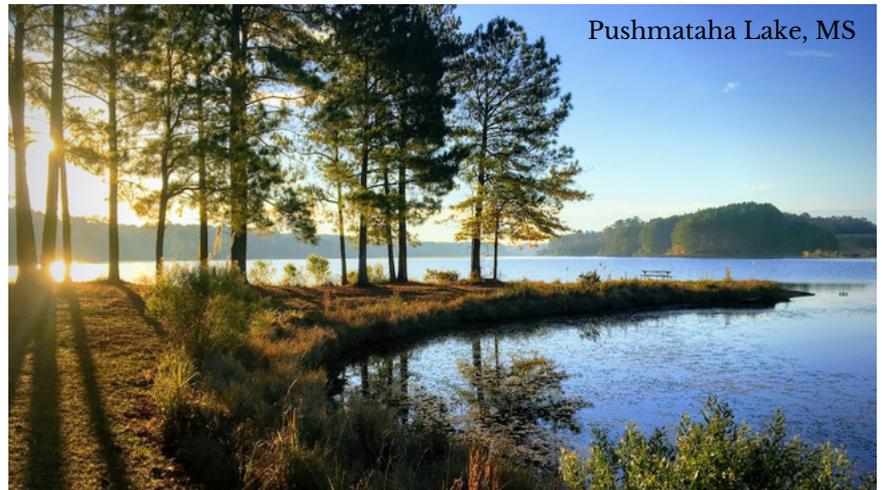
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**BIA Early Warning System  
Program Office**

lee.mauney@bia.gov



Pushmataha Lake, MS

## **EWS Program Expands to the East**

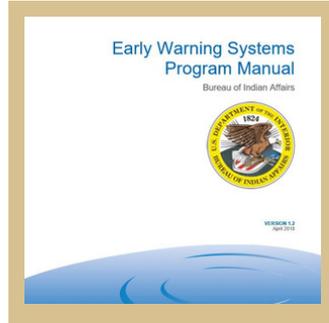
In this issue of the Early Warning System (EWS) Newsletter we will cover the second annual EWS Training Workshop, upcoming improvements to the NMC alarm notification protocol, a featured EWS Project that expands our map east to Mississippi, discuss how the EWS website was recently used in a dam safety incident, and offer information for several upcoming training opportunities.

As the national EWS program continues to expand with new installs, better technology and more training, we hope this newsletter will help to keep users more informed of current activities and exciting future plans!

# EWS Training Workshop 2018

In April, sixteen trainees from eleven various Tribes and regional offices attended our second annual, 3-day EWS Training Workshop, held in Longmont, Colorado, to learn the basics of EWS maintenance.

*"I find the EWS Training Manual very beneficial. I can refer back to it when I get back to the office."*



*"I think the best topics for field use were perfectly covered."*



Knowledgeable local staff provide a great benefit to the BIA's Early Warning System Program. For the workshop, hands on learning stations were set up to demonstrate actual scenarios found in the field, followed up by Q&A sessions to enhance understanding of the material. New to the training this year, how-to videos were created and provided to all attendees.

*"Everything was covered that I had questions on."*



The next EWS Training Workshop is scheduled for April 2019. If interested in attending, please email [lee.mauney@bia.gov](mailto:lee.mauney@bia.gov).

Video Links:

1. How to power cycle stations with a comm engine: [https://www.youtube.com/watch?v=d-0T\\_lj38fw](https://www.youtube.com/watch?v=d-0T_lj38fw)
2. How to power cycle stations without a comm engine: <https://www.youtube.com/watch?v=Qvg9pVv4iz4>



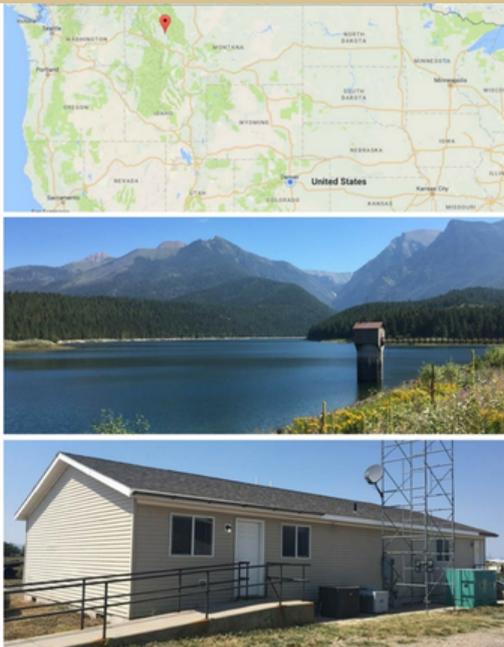
# NMC Alarm Notification Updates Are Underway

Since the start of the EWS program in 2004, great improvements in technology, equipment and communication have advanced the capabilities of the flood warning field. In order to better serve Indian Country and residents living at, near or downstream of BIA Program dams, an updated notification naming convention has been developed to improve understanding of messaging and correspond more effectively with Emergency Action Plans (EAPs).

## NATIONAL MONITORING CENTER

The NMC is located on the Flathead Indian Reservation in Ronan, Montana.

The NMC is staffed 24 hours per day, seven days a week, by personnel from the Confederated Salish and Kootenai Tribes of the Flathead Nation.



We have been testing the new protocol at several EWS locations and plan to rollout the updates to all EWS sites, starting at the first of FY19. If you have questions about the changes or want to attend a training call or webinar, please email [lee.mauney@bia.gov](mailto:lee.mauney@bia.gov) or [dan.lozar@cskt.org](mailto:dan.lozar@cskt.org).

Here is an overview of the updated notification scheme, which includes Maintenance, Hazard, and Emergency type alarms:

### Maintenance (M-1, M-2, M-3):

Maintenance alarm messages are sent via email and text alerting EWS staff about local site issues that could prompt maintenance to the EWS. Alarm types include site outages, sensors are reporting values out-of-range, excessive data transmissions that could cause overages, power issues, site intrusion notifications, and float sensor maintenance. Generally there are no dam safety concerns related to EWS Maintenance alarms; therefore, no emergency actions are required. These alarms can help keep the EWS operational and provide security benefits, alert staff when someone is at a site. Any outstanding maintenance issues should be addressed in a timely fashion.

### Hazard (H-1, H-2, H-3):

Hazard alarm messages alert staff that possible hazardous conditions may exist. Alarm messages are sent via email and text, alerting EWS staff about the following hazardous issues: Rainfall threshold alerts for 25- and 100-year 24-hour storms, non-emergency reservoir and seepage level alerts, high streamflow alerts (upstream and/or downstream of dam), and high tide conditions. NMC staff verifies that Hazardous conditions exist by telephone. Generally there are no dam safety concerns related to Hazard alarms; therefore, no emergency actions are required. Hazard alarms can provide advanced warning of changing local conditions ahead of Emergency notification or alert communities of high outflows from a dam.

### Emergency (E-1, E-2, E-3):

Emergency alarm messages alert staff of emergency conditions at a dam. Alarm messages are sent via email and text about the following emergency issues: reservoir level alerts, reservoir level rise, and reservoir level drop alerts. NMC staff verifies Emergency conditions by telephone. The alarm conditions indicate emergency action may be required because conditions at the dam are at or above an EAP Response Level.

# Featured Project

## Lake Pushmataha, Choctaw, MS

(by Tim Pauls)

In November of 2018, the Early Warning System was installed at Lake Pushmataha on the Mississippi Band of Choctaw Indians, Pearl River Reservation. We are now able to monitor the seepage flow through the dam in a large scarp that I have been monitoring, and I can regularly check the water level in the exit channel. Should the water level begin to increase and not return to normal operating level, I know something is going on and needs to be checked.

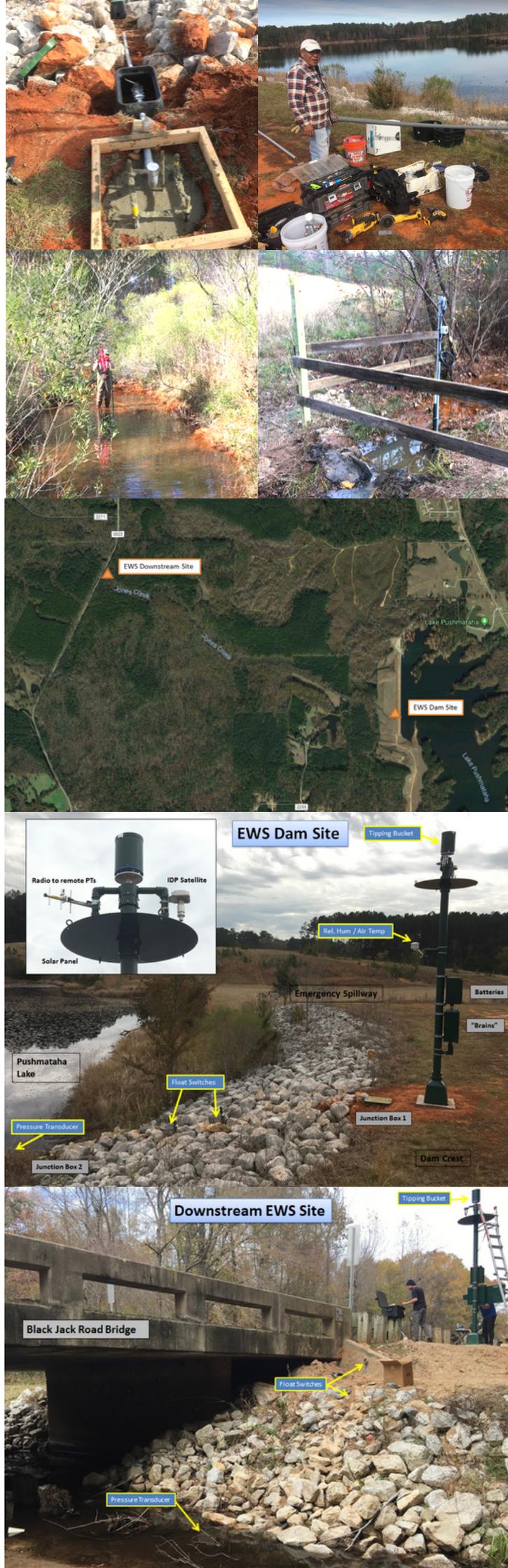
Another way that this system has helped with what we do at Lake Pushmataha, is by showing us what the downstream water levels are while we lower the lake to a predetermined elevation. By being able to remotely check the water levels of the downstream area, I was able to monitor the creek's water level as the lake was lowered. This was very important because at the time we started lowering the lake we recently had several inches of rain resulting in the Pearl River being at flood stage and the surrounding swamps and sloughs were flooded as well. Using the website I was able to monitor the creek's water level and should it have reached the lower float alarm I would have been notified via text/email and would have been able to take the appropriate actions to prevent those waters from flooding over the roadway.

Another way that the Early Warning System makes life easier is through the data collection from the website. The website is very easy to navigate which is very nice. Using the graphs I have been able to establish what the normal ranges are for each station site. The data I can get from the website relating to rainfall has been another nice feature.

I hate to admit it but I'm checking this website about as often as I'm checking Facebook.



**Tim Pauls**  
Ranger/Dam Tender  
Mississippi Band of Choctaw Indians  
Department of Wildlife  
Fisheries and Parks



# A Recent Success Story

A sinkhole was discovered near the spillway of Oglala Dam, Pine Ridge, SD. The reservoir needed to be drawn down rapidly, but not so quickly as to cause flood conditions downstream. An EWS dashboard was created to monitor site conditions. As you can see from the figure to the right, as discharge from the reservoir outlet works is increased, the flow downstream can be monitored near the toe of the dam as well as at various points along the White River as the water travels further away from Oglaga.



Pine Ridge was able to keep the discharge from flooding downstream residents while quickly lowering the reservoir to mitigate risks at the dam.



## Upcoming Events

**September 9-13, 2018:**

ASDSO Dam Safety Conference 2018 (Seattle, WA)

**April 8-12, 2019:**

2019 USSD Conference and Exhibition (Chicago, IL)

**April 16-18, 2019:**

EWS Training Workshop (Longmont, CO)

**May, 2019:**

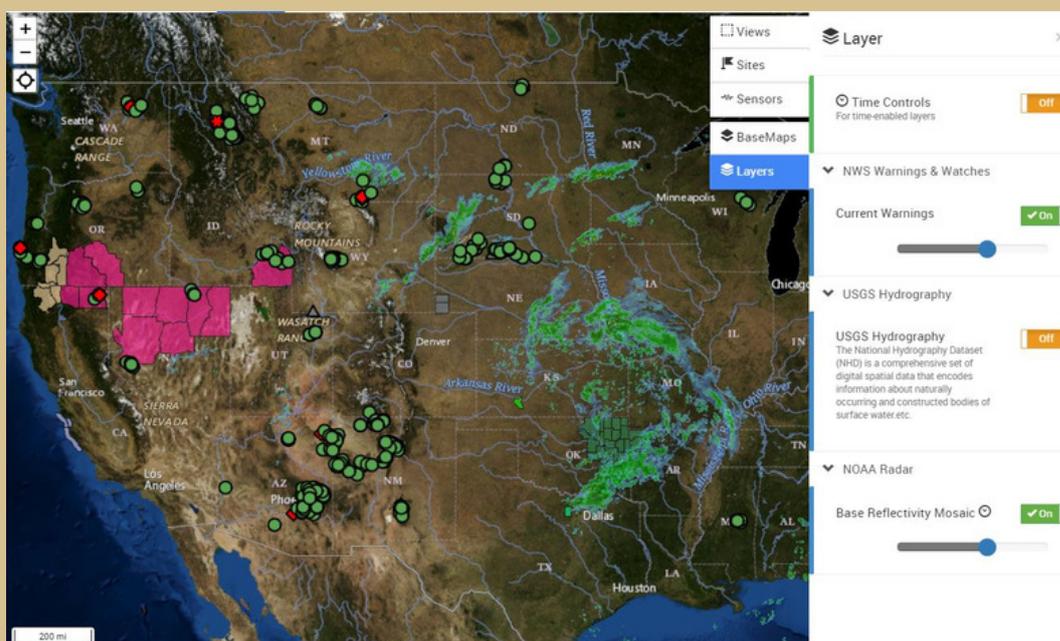
DOI Safety of Dams Training (Location TBD)



There are free monthly web-based training sessions available to anyone who wants to refresh or expand their knowledge of the EWS software and how to manage and understand their EWS data. The live webinars cover topics about flood prediction, data analysis, decision support, and the management, dissemination, and communication of alerts, as well as precipitation processes.

All of the sessions provide a great chance to ask any questions you might have. These sessions also provide the opportunity to learn about any recent updates and enhancements to the software and technologies. Estimated duration is 45 minutes to 1 hour.

Link to register and view upcoming webinars:  
<https://onera.in.com/support/contrail-online-training-series/>



The image on the left shows the national map from the website with all EWS sites shown. Did you know that you can turn on layers to the map, including radar and weather warnings?

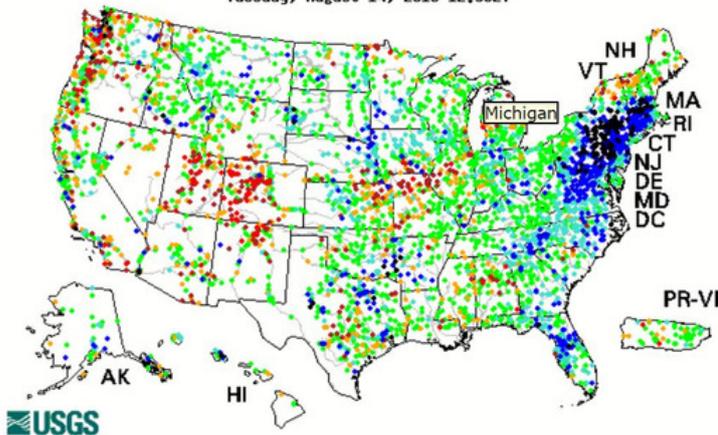
Link to website:  
<https://nmc.onera.in.com>

# Current Hydrologic Conditions

August 2018

## Streamflow Conditions

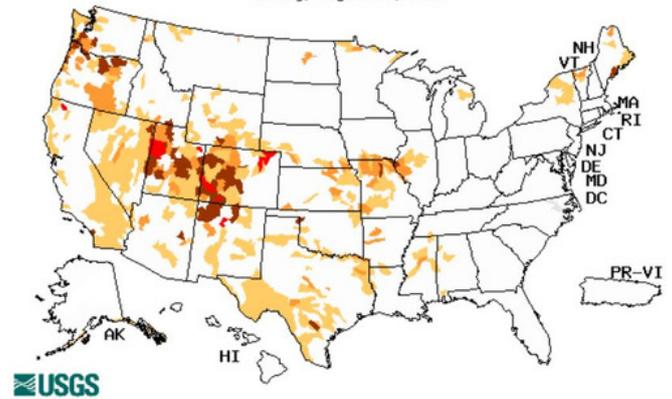
Tuesday, August 14, 2018 12:30ET



Explanation - Percentile classes						
<span style="color: red;">●</span>	<span style="color: orange;">●</span>	<span style="color: green;">●</span>	<span style="color: cyan;">●</span>	<span style="color: blue;">●</span>	<span style="color: black;">●</span>	
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

## Drought Conditions

Monday, August 13, 2018



Explanation - Percentile classes			
<span style="color: red;">■</span>	<span style="color: orange;">■</span>	<span style="color: yellow;">■</span>	<span style="color: lightyellow;">■</span>
Low	<=5	6-9	10-24
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal

## Photo of the Day

Every newsletter features a 'Photo of the Day' submitted from the readers. This quarter's photo is a shot of a helicopter bringing EWS equipment up to Chester Lake on Annette Island, Alaska. Look for more details of this project in the next issue of the EWS Newsletter.

Please send EWS photos to be featured with a short description to [lee.mauney@bia.gov](mailto:lee.mauney@bia.gov).

