

# USACE Emergency Action Plan Guidance

C 1110-2-6074, Guidance for Emergency Action Plans, Incident Management and Reporting, and Inundation Maps for Dams and Levee Systems

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April 2018



# Oroville Dam 2017

- With Lake Oroville filled to the brim ... a collapse could cause a “30-foot wall of water coming out of the lake”
  - Cal-Fire Incident Commander Kevin Lawson  
February 13, 2017

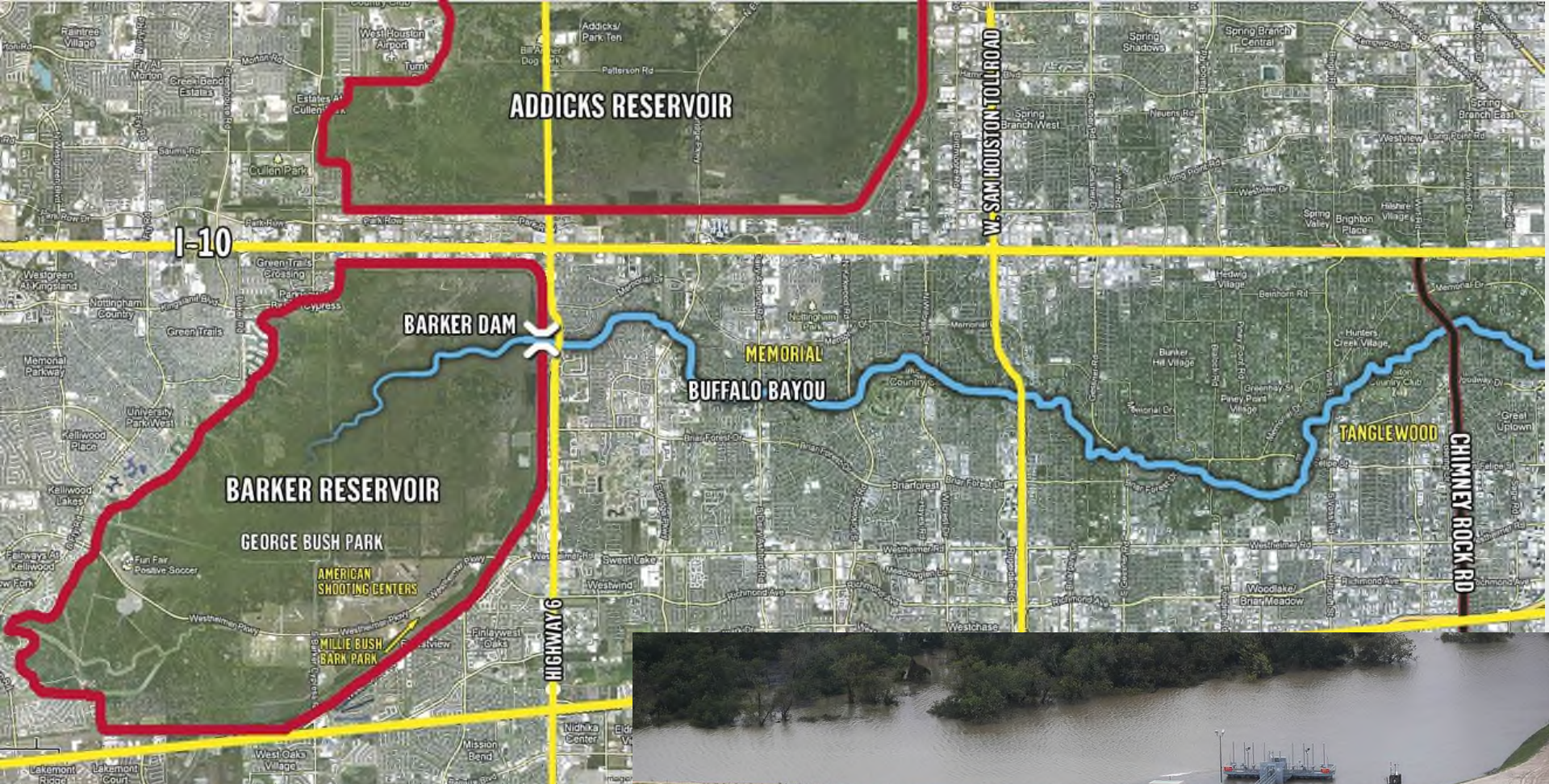


EC 1110-2-6074



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# Addicks and Barker Dams 2017





# EAP Topics

- Lessons learned, priorities, path forward


- USACE EAP guidance

- EAP maps

- Exercises

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Pub Number	Proponent	Title	Pub Date	Latest Review	Info
EC 1110-1-107	CECW-CE	Beach Surveying Methodology	5/29/2015		
EC 1110-1-108	CECW-CE	Flood Inundation Mapping	7/29/2016		
EC 1110-2-6074	CECW-CE	Guidance for Emergency Action Plans, Incident Management and Reporting, and Inundation Maps for Dams and Levee Systems	1/31/2018		
EC 1130-2-550	CECW-ON	Recreation Operations and Maintenance Guidance and Procedures Chapter 9 - Recreation use Fees	11/30/2015		
EC 1165-2-216	CECW-CP	Policy and Procedural Guidance for Processing Request to Alter US Army Corps Of Engineers Civil Works Projects Pursant to 33 USC 408	6/21/2016		

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# Bottom Line for Planning CoP

- The Guidance provides for agency consistency in EAP content and implementation:
  - ▶ Reference to Map standards
  - ▶ Documented, exercised and pre-coordinated with local emergency managers First line for detection, notification, monitoring
- Operations Project Managers have specific responsibilities for Incident Management and Warning Dissemination



# EAP Guidance Overview

- Scope – dams and levees, risk informed
- Vision – Self-service (examples vs. templates)
- Purpose - *expands* upon existing federal guidance:
  - ▶ *Refinements*, based on USACE portfolio & organization structure
  - ▶ *Stresses consistency* for key plan components
    - Plan organization, communications, inundation maps, exercises, incident management authorities and responsibilities, reporting evidence of distress, security provisions and review and approval requirements
- Recommended organization for all USACE project EAPs



# Applicability - EAP Guidance Update

- All dam projects subject to ER 1110-2-1156
  - ▶ Owned, operated, maintained by USACE
  - ▶ Any dams which we work on for clients
- Levee projects
  - ▶ Required if USACE performs O&M
  - ▶ Encouraged for all others
- Inundation maps subject to EC 1165-2-215, “Use and Dissemination of Dam and Levee Inundation Map Data”





# Previous Guidance

- EC 1110-2-6074 supersedes:
  - ▶ ER 1110-2-1156 Chapters 13 and 16
  - ▶ EC 1165-2-215 (expired)



*Coordinated with upcoming Levee Safety EC  
and revision to ER 500-1-1  
Consistent with EC 1110-1-108*





# Significant Differences From Previous USACE Guidance

- **Level of engagement with emergency managers**
- Exercise frequency
- Inundation map standard
- EAP, map & data dissemination policy
- Emergency levels
- Notification scripts
- Incident management roles & responsibilities



# Consistency with Other Federal Guidance Documents\*

- Priority to involve emergency managers
- Plan organization
- Plan name & evacuation planning (dam guidance)
- Project emergency levels
- Evacuation responsibility (immediate downstream)
- Inundation maps & dissemination

\* FEMA 64, FEMA 946,  
DHS-Emergency Preparedness Guidelines for Levees





# EAP Guidance Contents

- Body – 19 pages
  - ▶ 16 sections/topics
- 10 appendices – 60 pages
  - ▶ Checklists
  - ▶ Exercise details
  - ▶ Example emergency notifications
  - ▶ Example non-disclosure agreement
  - ▶ Map standard



# EAP Components Requiring Consistency Throughout USACE

- Name = EAP
- EAP organization
- Internal and external communications
- Inundation maps
- Exercise level & frequency
- Incident management authorities & responsibilities
- Reporting evidence of distress
- Review & approval

*Write down this list!  
(if you remember nothing else from this briefing...)*





# EAP Organization

Rationale: Consistent organization  
enhances readability and effectiveness

1. Summary of EAP responsibilities
2. Notification Flowcharts
3. Statement of Purpose
4. Project Description
5. Incident Response Processes
6. Roles and Responsibilities
7. Preparedness
8. Inundation Maps

*Required: Consistent  
order of content*

*Desired: Consistent  
section titles*



# Communications: Project Emergency Levels

Rationale: Alignment with federal guidelines ensures common understanding

- Primary purpose is clear *external communication* of project condition and incident management activities being undertaken by the project owner.
- **High flow emergency**
- **Non-breach emergency**
- **Potential breach emergency**
- **Imminent breach emergency**

*Related concepts:*  
- Emergency Declaration  
- Internal dam safety issue categories

Previous terms: failure imminent or has occurred, failure situation is developing, non-failure emergency condition



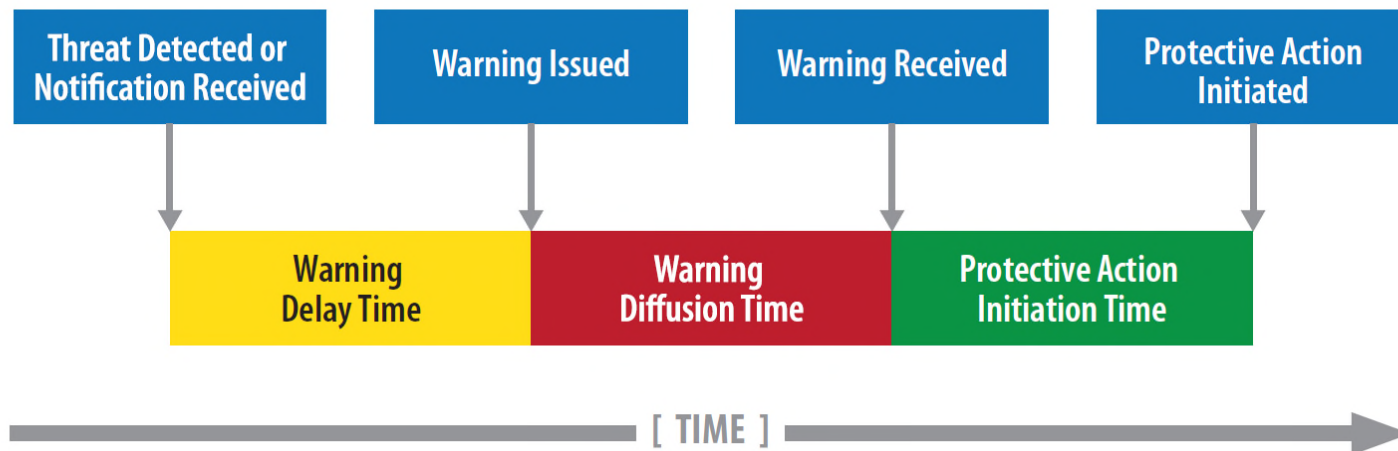


# Communications: Warnings to Public in Immediate Vicinity

Rationale: Areas immediately downstream of a project must be communicated with quickly

- Required: Description of procedure & means for warning dissemination directly to the general public in the immediate vicinity of the project

FIGURE 1 – WARNING AND PROTECTIVE ACTION INITIATION TIMELINE



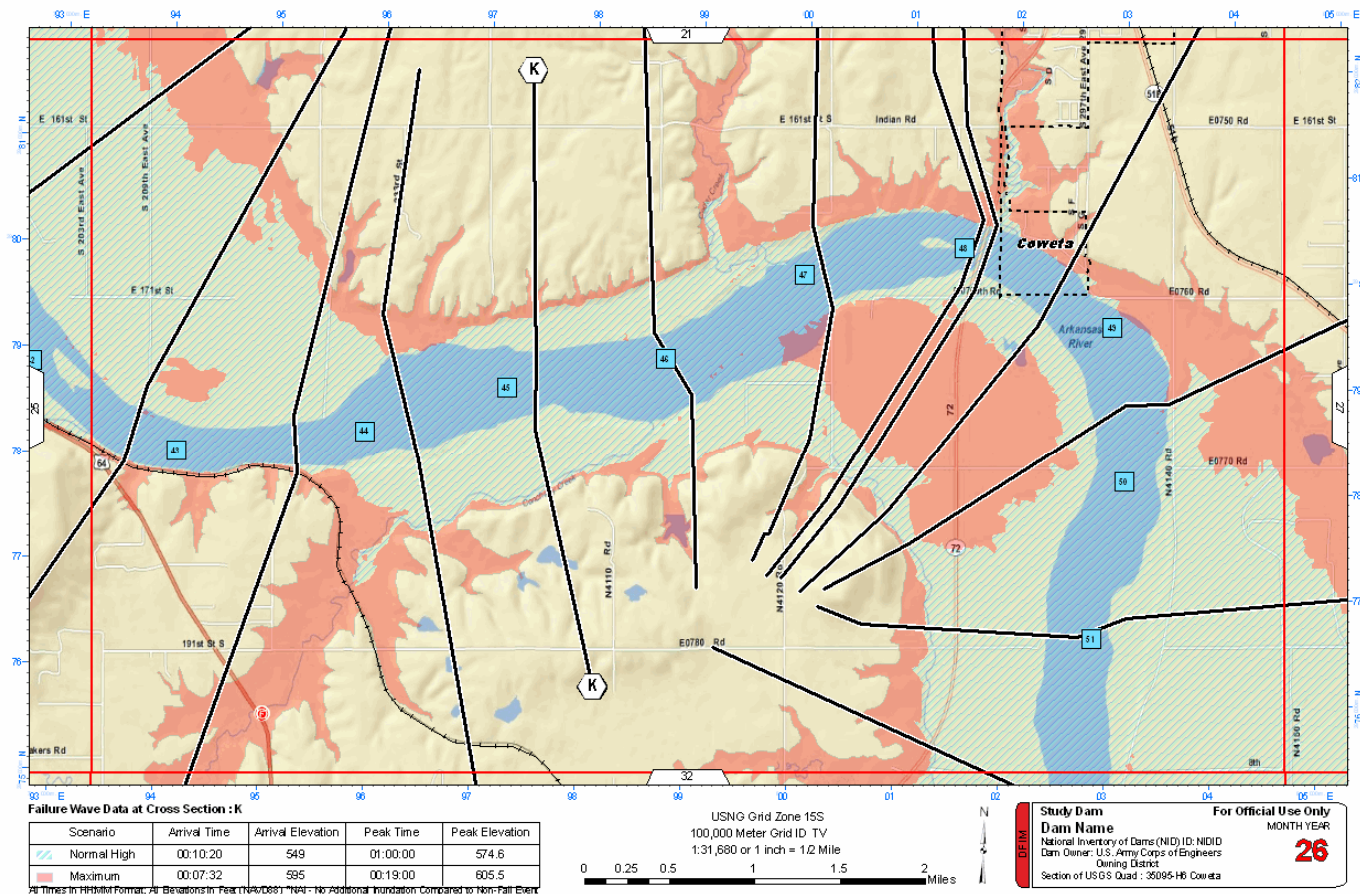
# Inundation Map Dissemination

- **Do** distribute EAPs with inundation maps to federal, state and local emergency management authorities (EMAs)
  - ▶ To included non-editable and editable electronic formats
- Commanders can choose to distribute directly to the public if benefits outweigh risks
  - ▶ Flood emergencies



# Inundation Map Standard

Rationale: A consistent format promotes understanding





# When to Use the Map Standard

- EAP maps
- Scenarios

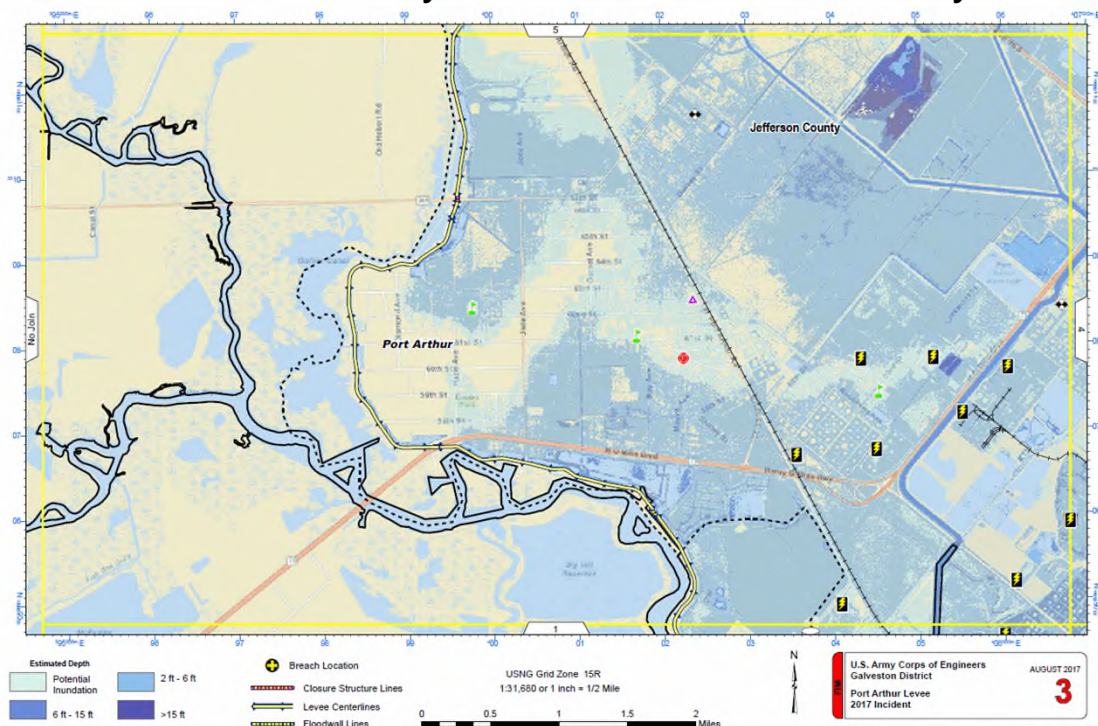
- ▶ Planning
- ▶ Exercises
- ▶ Incidents

The USACE Flood Inundation Mapping Cadre and MMC-MCX have used the map standard in support of numerous flood emergencies covering more than 13,000 stream miles.

Events have included dam safety incidents, levee overtop/breach risks and riverine flooding both with and without spillway releases from flood control dams.

- Flood inundation mapping

## Port Arthur Levee System – Hurricane Harvey 2017

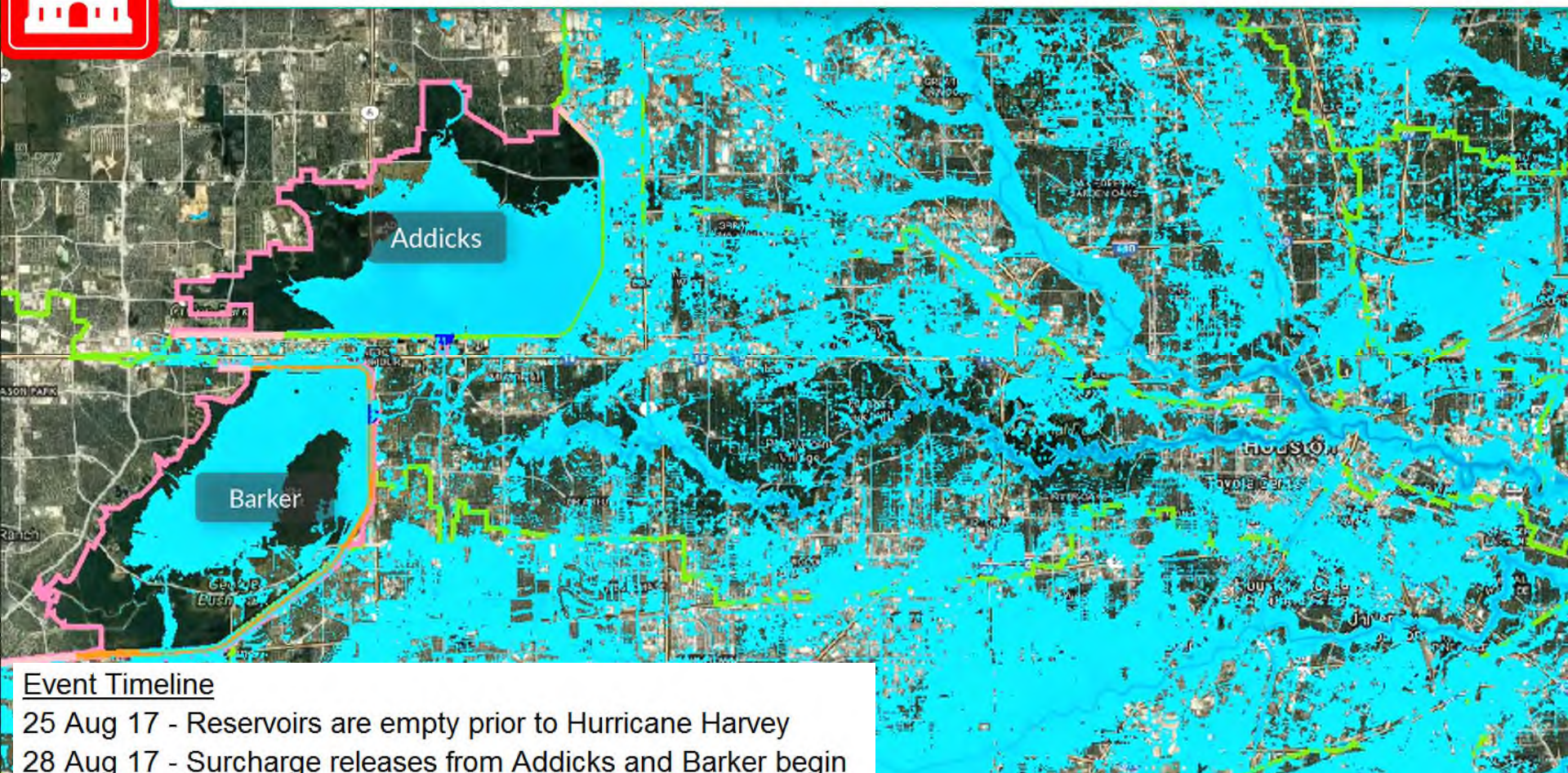


EC 1110-2-6074





# 27 Aug 2017 - Hurricane Harvey Inundation



Web Views: 33,064

## Model Animation



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<https://www.dvidshub.net/video/548079/usace-harvey-timeline>

### Event Timeline

- 25 Aug 17 - Reservoirs are empty prior to Hurricane Harvey
- 28 Aug 17 - Surge releases from Addicks and Barker begin
- 29 Aug 17 - Water begins flowing around north end of Addicks
- 29 Aug 17 - Releases increase from Addicks and Barker
- 30 Aug 17 - Addicks and Barker reach peak elevations
- 03 Sep 17 - Releases decrease from Barker
- 09 Sep 17 - Releases decrease from Addicks
- 15 Sep 17 - Surge releases end



# EAP Guidance Path Forward

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- Revision to engineer regulation (2020)
  - ▶ EAP templates
  - ▶ Separate guidance for dams and levees
  - ▶ More prescriptive on some topics
  - ▶ Targeted priorities
- 2017 External peer review comments
  - ▶ National team of EAP experts & oversight function
  - ▶ Stronger emergency management involvement
  - ▶ EAP scope vs. surveillance and monitoring plans
  - ▶ District command priority





# How do I provide comments?

- Written comments should be emailed to  
**HQ-EAP@usace.army.mil**



# QUESTIONS?



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# Questions?



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