

# HEC Support of the CMEP Program

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# CMEP

## Civil/Military Emergency Preparedness

- Program that coordinates training of emergency operation centers in former Soviet block states and encourages a transition from military to civil departments
- Created after the nuclear power plant disaster at Chernobyl
- Directed from the USACE Europe District office in Wiesbaden Germany
- Funded by NATO and their Partnership for Peace program



# CMEP Program Mission

- Program goal is to encourage non-NATO nations to work together, and prepare in advance in the event that one of these countries has an emergency and would benefit from support from their neighbors.
- GIS technology is one vehicle used to focus on sharing information and working together





PIMS/CMEP GIS Home Page - Microsoft Internet Explorer

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Address <http://144.3.144.27/>

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**PARTNERSHIP FOR PEACE**  
**INFORMATION MANAGEMENT SYSTEM**

**Civil-Military Emergency Planning (CMEP) Program**  
***Interactive Geographic Information System***

This interactive Geographic Information System (GIS) is operated by the Remote Sensing/GIS Center (RS/GIS), Cold Regions Research and Engineering Laboratory, U.S. Army Corps of Engineers, to support the Civil-Military Emergency Planning (CMEP) Program, Office of the Army G-3 (DAMO-SS International Affairs). Portions of this work contain the intellectual property of ESRI and its licensors and is used herein under license. Copyright (C) 1999, 2002 ESRI and its licensors. All rights reserved.


The purpose of this server is to provide interactive GIS services to Emergency Management and Defense agencies in nations working together to develop cooperative, trans-border agreements and plans for mutual support during catastrophic disasters. This server is accessible to the internet, and to the Partnerships for Peace Information Management System (PIMS). For further information contact the [RSGIS Center](#).



[European Interactive Mapping Tool](#)

[Workshops, Projects and Events](#)

[World Interactive Mapping Tool](#)



**US Army Corps  
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Internet

# Typical CMEP Exercise

Meeting (~1 week)	Location
Orientation	Wiesbaden, Germany (Europe USACE district )
IPC – Initial Planning Conference	Wiesbaden, Germany or Host Country
MPC – Main Planning Conference	Host Country
TTX – Table Top Exercise	Host Country

# Typical CMEP Exercise

- Host country has ~dozen emergency managers and a few GIS specialists
- 4-6 delegations from neighboring countries
- Neighbor country delegations are a few emergency managers and a few GIS specialists
- Exercise has ~40 people



# CMEP Program Schedule 2005

- Romania
- Latvia
- Bosnia-Herzegovina
- Macedonia
- Moldova
- Kyrgyzstan
- Black Sea Strategy (Countries around the Black Sea)



# HEC Participation in CMEP

- HEC has been invited to be GIS facilitators for CMEP exercises with dam break disaster scenarios or other Hydrology and Hydraulics issues
- Thus far we have worked with delegations from:
  - Armenia
  - Tajikistan
  - Latvia
  - Bosnia and Herzegovina





# World Tour (Thanks, Google Earth)



# GIS Facilitator

- CMEP has a strong GIS component and the exercises illustrate how it can be used in emergency management
- CMEP Facilitators advance their GIS knowledge and capabilities
  - General lecture's to entire group
  - More technical discussions with GIS working groups



# Sample Dam Failure Teton Dam June 5, 1976



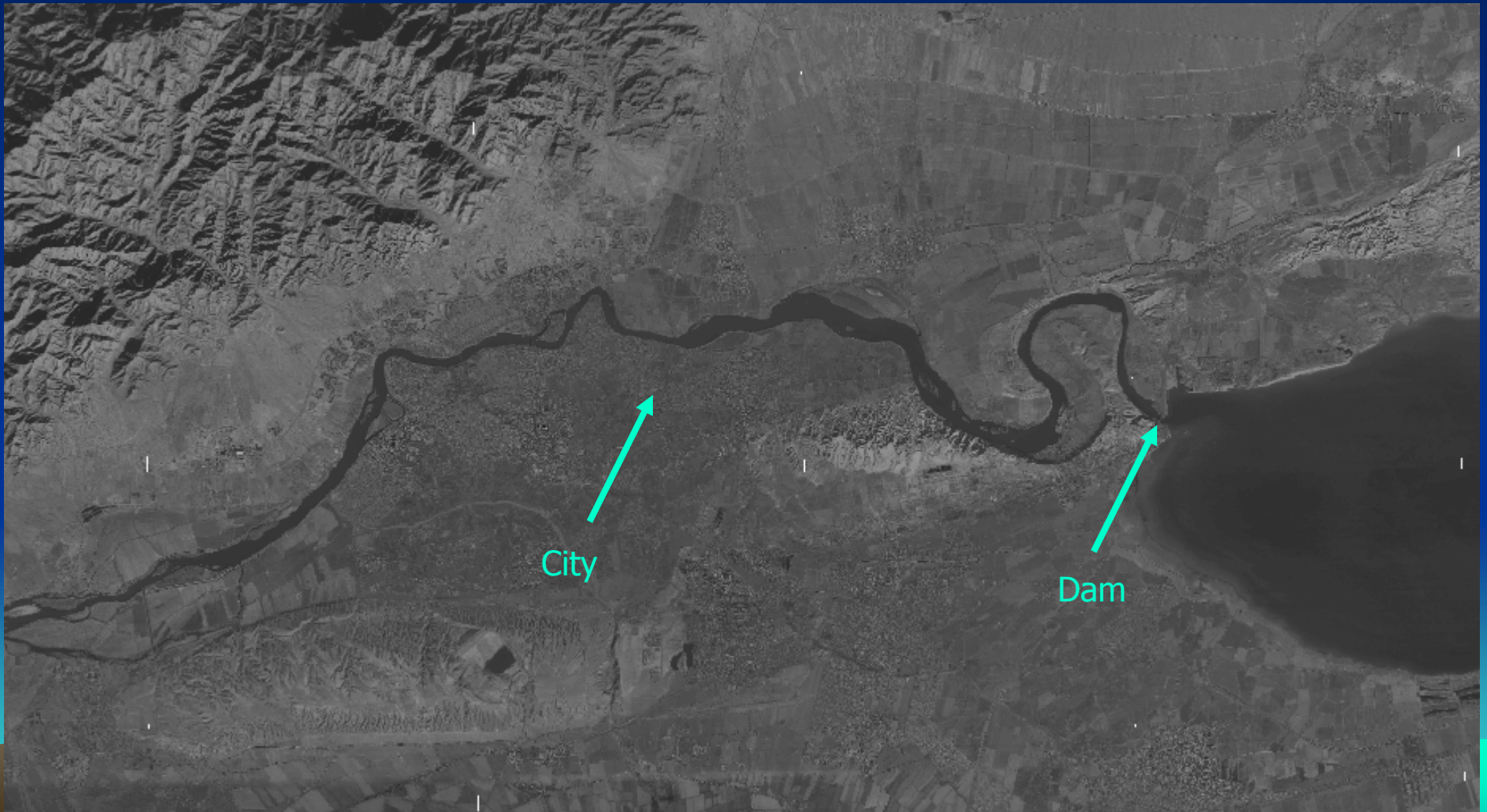
Photos by Mrs. Eunice Olson

# TTX Example - Tajikistan 2004

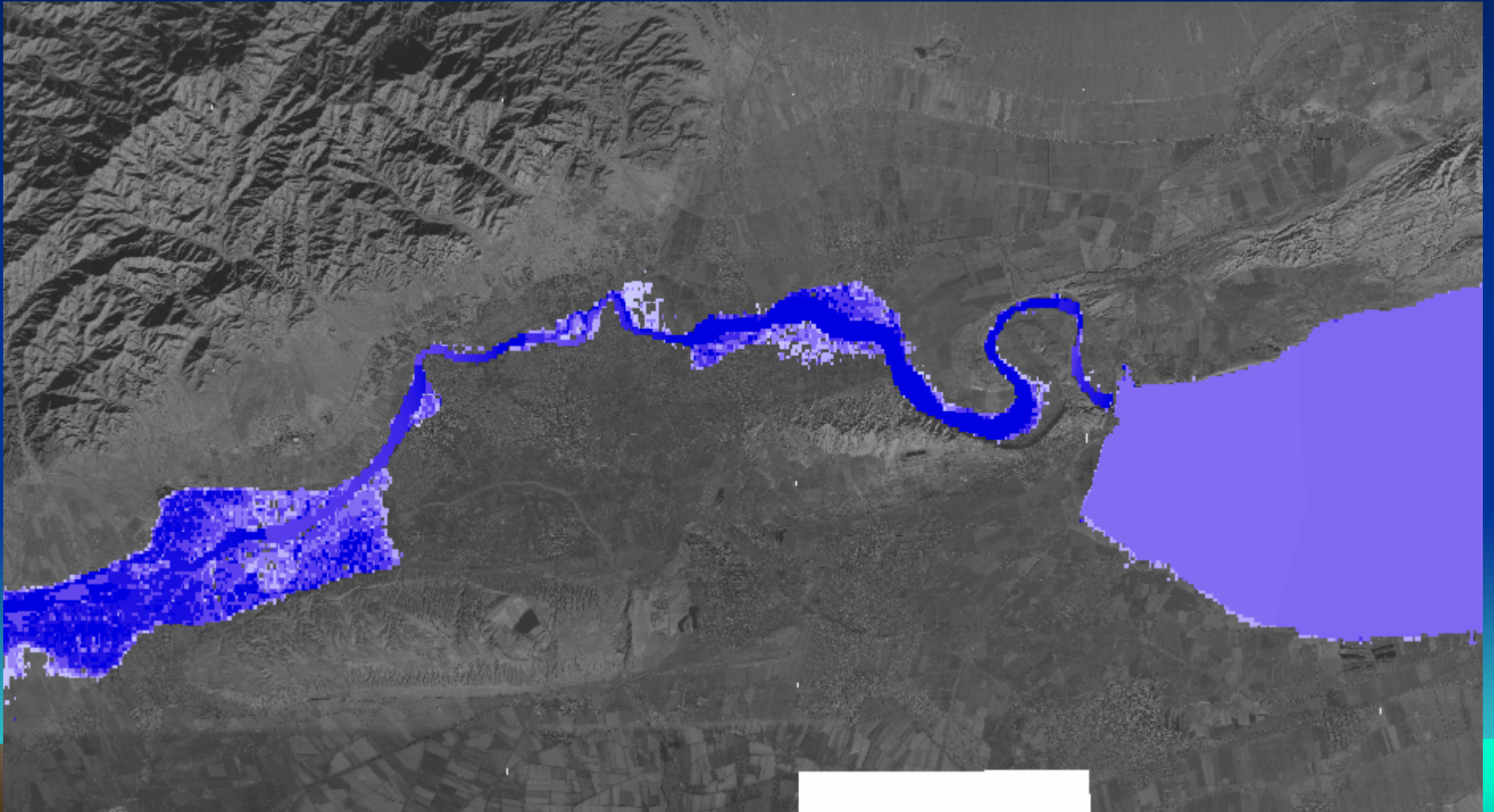
- Disaster scenario was a large earthquake that caused a dam to fail and flood a city in Tajikistan and then flood Uzbekistan



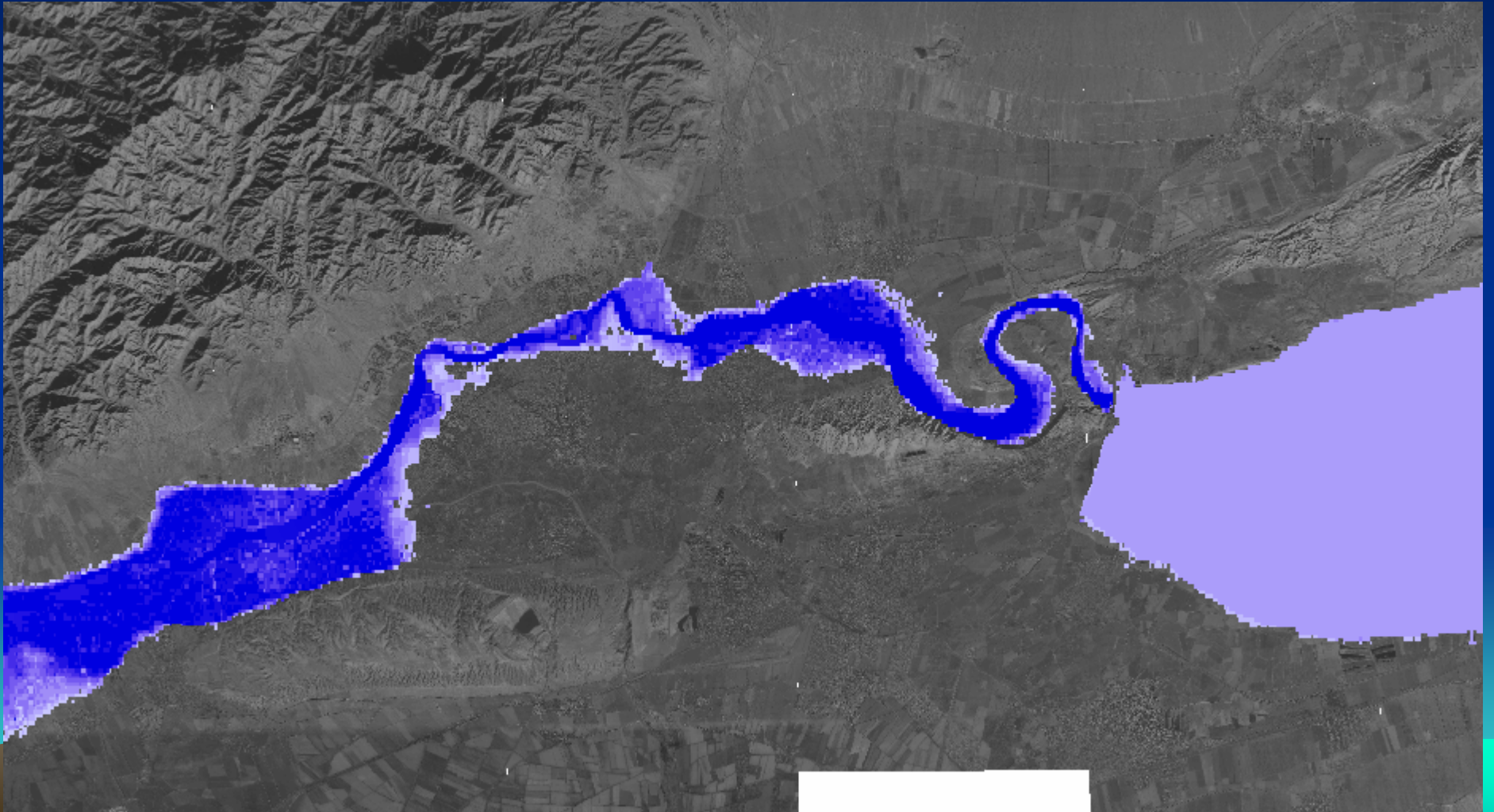
# Prior to Dam Failure



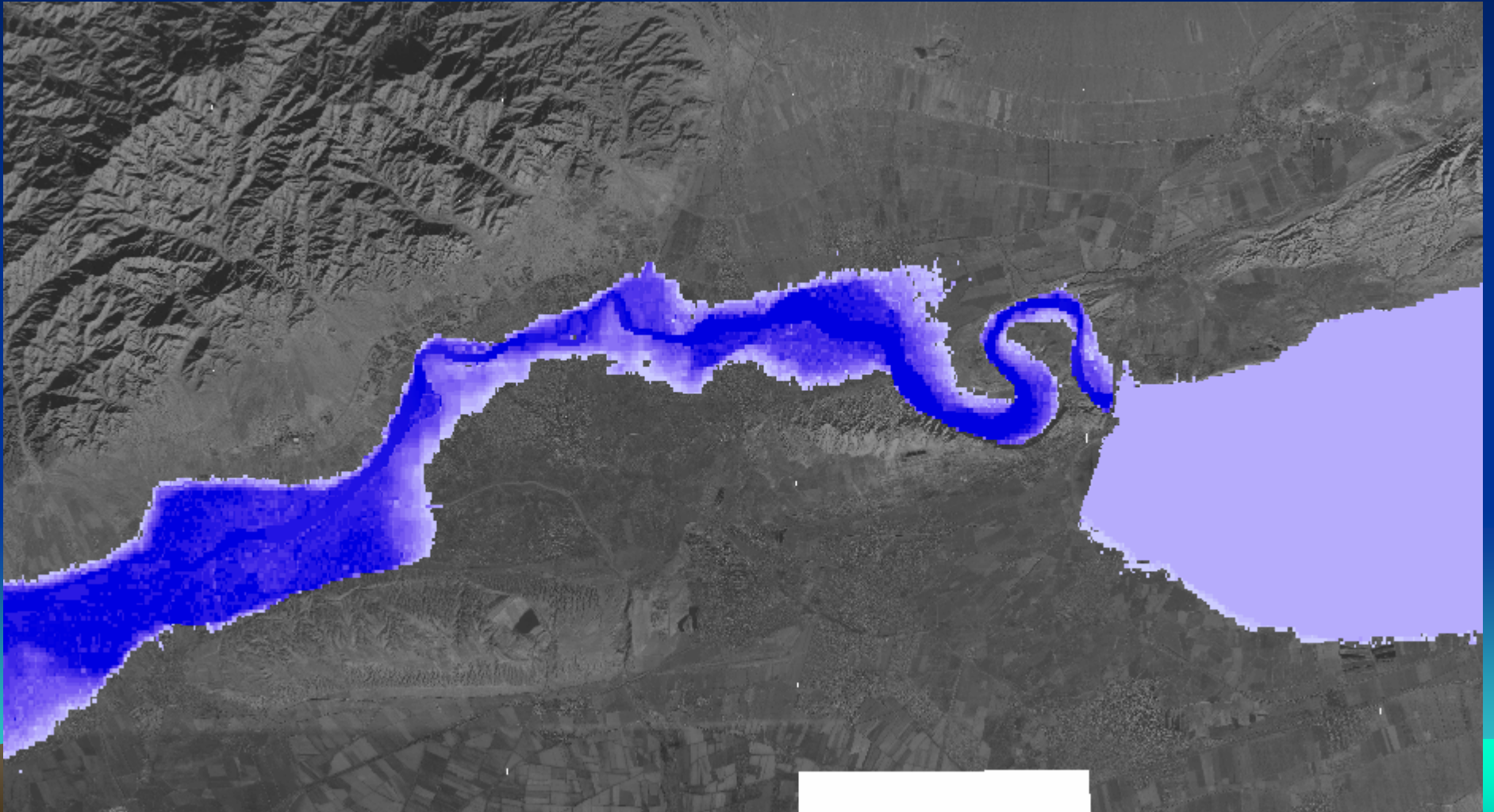
# Dam Failure +1 Hour



# Dam Failure +2 Hours

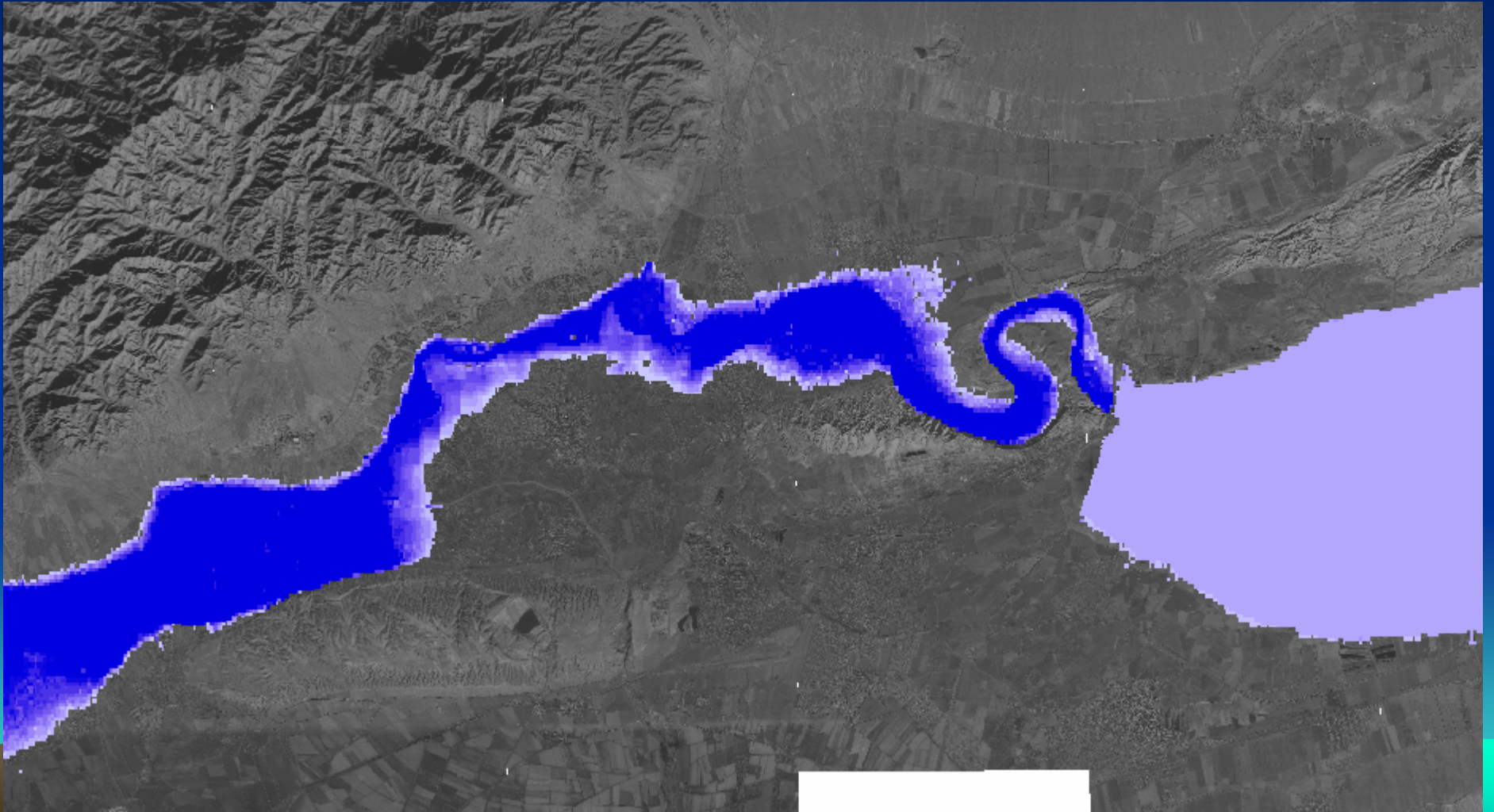


# Dam Failure +4 Hours





# Dam Failure +10 Hours



# Dam Failure Analysis

- Must be prepared and setup before the event
- Software:
  - GIS Software (ArcView, ArcGIS, ...)
  - Dam Breach Capable Hydraulic Analysis Tool (HEC-RAS)
- Skills:
  - GIS
  - Hydraulic Engineering (unsteady flow modeling)
- Effort/Time required for this analysis:
  - Gathering GIS data (images, terrain) ~months
  - Performing hydraulic analysis ~weeks
  - Flood inundation mapping ~weeks
- Total ~2-3 Months



# GIS Software

- One license of ArcGIS 9 is provided by CMEP to the host country
- Some Exercises use ArcGIS 8 (and in the case of Bosnia and Herzegovina ArcView 3.x)
- Product licensing fees are a burden on these countries and organizations



# Language Barriers

- In most cases English works fine
- In Tajikistan we had simultaneous translation



# Security Concerns

- Tajikistan – had security with us at all times and they slept in cots outside our hotel room doors
  - When I coordinated with another GIS facilitator, she said no problem (but I did not know that she was comparing it to Iraq, be sure to get the baseline)
- Sarajevo, BiH – In country brief reported that it is safer than any large city in US, ... but here is the number for the Marines
  - don't call unless needed, apparently they make an entrance.



# Cultural Tour

- CMEP exercises include a cultural event



# Other Observations

- What does 40% Unemployment look like?
  - Grass was cut by hand
  - Hotel turned back lot to a large vegetable garden
  - Fruit trees instead of ornamental trees



# Tajikistan TTX Video

