HEC Support of the CMEP Program

Mark Jensen
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.
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 of Engineers®
## Typical CMEP Exercise

<table>
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<tr>
<th>Meeting (~1 week)</th>
<th>Location</th>
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<tr>
<td>Orientation</td>
<td>Wiesbaden, Germany (Europe USACE district)</td>
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<tr>
<td>IPC – Initial Planning Conference</td>
<td>Wiesbaden, Germany or Host Country</td>
</tr>
<tr>
<td>MPC – Main Planning Conference</td>
<td>Host Country</td>
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<tr>
<td>TTX – Table Top Exercise</td>
<td>Host Country</td>
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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
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 +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