

Silver Jackets Program

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US Army Corps of Engineers
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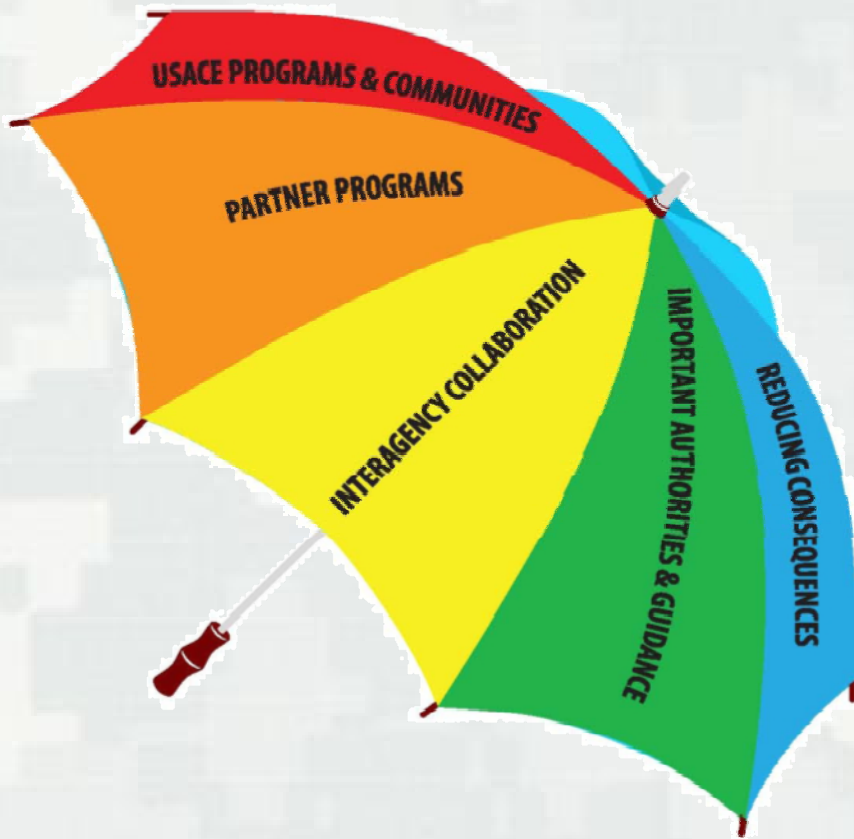


What is/are Silver Jackets?



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National Flood Risk Management



Planning • FMPS / PAS • OPS / Regulatory
FRM Business Line • FRM PCX • R&D
Environmental • International • Coastal
Dam and Levee Safety • Levee Vegetation

FEMA • DOI • EPA • NOAA / NWS
NOAA CSC • USBR • HUD • USDS • DHS
NRCS • Tribes • States • Locals

IFRMC • FIFM-TF • CERB
ILTF / RFRMT / IRTF • Regional FRM Teams
Roundtables • **Silver Jackets**

EO 11988 • PL 84-99 • Section 404
Unified National Plan • RiskMAP
Disaster Response • Mitigation

Land Use Planning / Zoning • Emergency Services
Contingency Response • Evacuation • Flood Fighting
Water Resources Management • Building Codes
Flood-proofing • Environmental Protection

What is/are Silver Jackets?

“Operationalizing” Inter-Agency Flood Risk Management

State-Led (Voice of our ~~Customers~~ Partners)

- States set priorities for Interagency Federal support

Interagency Method of Delivery (MOD)

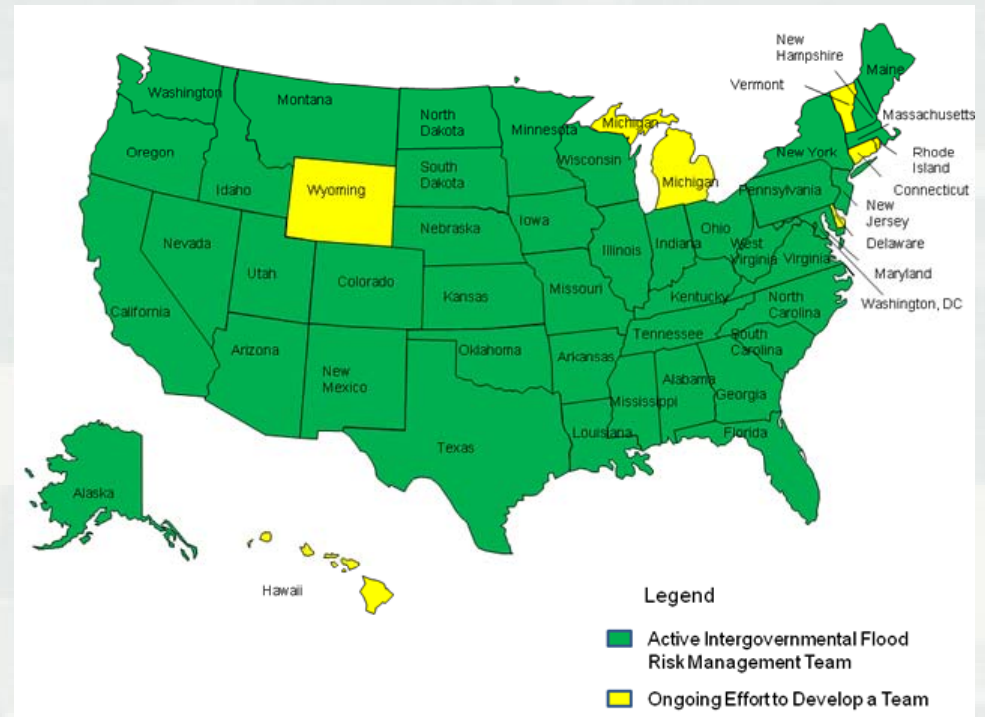
- Collaboration across agencies / levels of government
- Leverage resources: talent, data, funding

Continuous, not project-specific

Life-Cycle Risk Management

Watershed Perspective

- State teams facilitate regional, state-to-state flood risk management



Participants

Federal

US Army Corps of Engineers
Federal Emergency Management Agency
Natural Resources Conservation Service
National Oceanic and Atmospheric Administration

US Geological Survey
US Housing and Urban Development
National Weather Service

State

Department of Homeland Security
Department of Environmental Management
Transportation Cabinet / DOT
National Guard

Department of Natural Resources
Division of Water
Emergency Management

Other

Academia/Universities
River Basin Commissions

ASFPM Chapters



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Federal and National Partners



FEMA



Many Agencies

One Solution



State, Local, and Educational Partners



Kentucky Silver Jackets



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Past Successes

- **Flood Inundation Maps:**

- ▶ Created a model that paired up technologies not normally used together to identify flood areas and when those areas would be impacted through the use of real time river gage data.
- ▶ Model successfully calibrated against actual river flow data for locations
- ▶ Model outputs can now be integrated with the HAZUS damage model, and GIS and local Property Valuation Administration (PVA) databases. This allows local agencies to quickly determine where to focus flood fighting efforts and to quickly provide reliable post flood damage estimates.

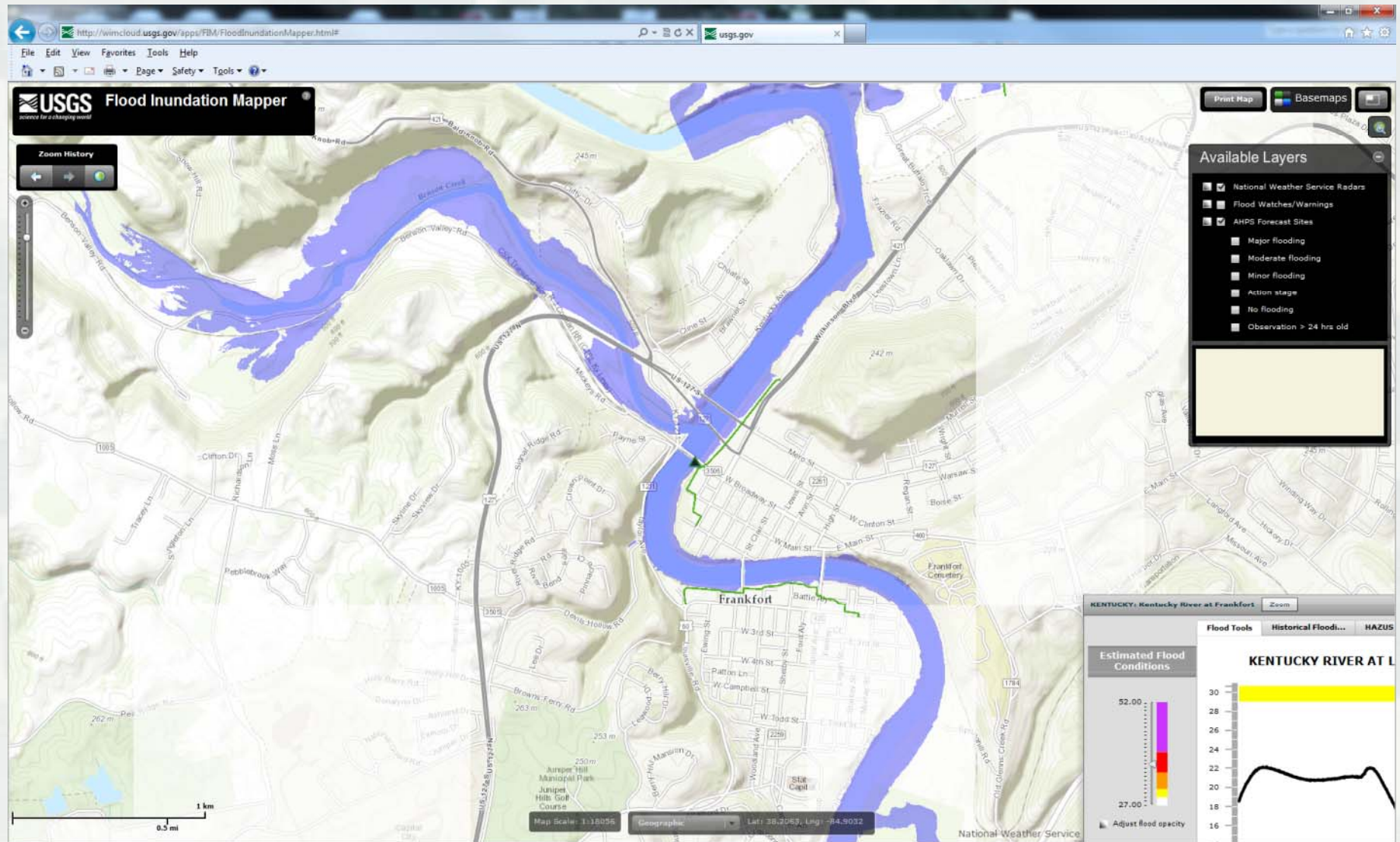


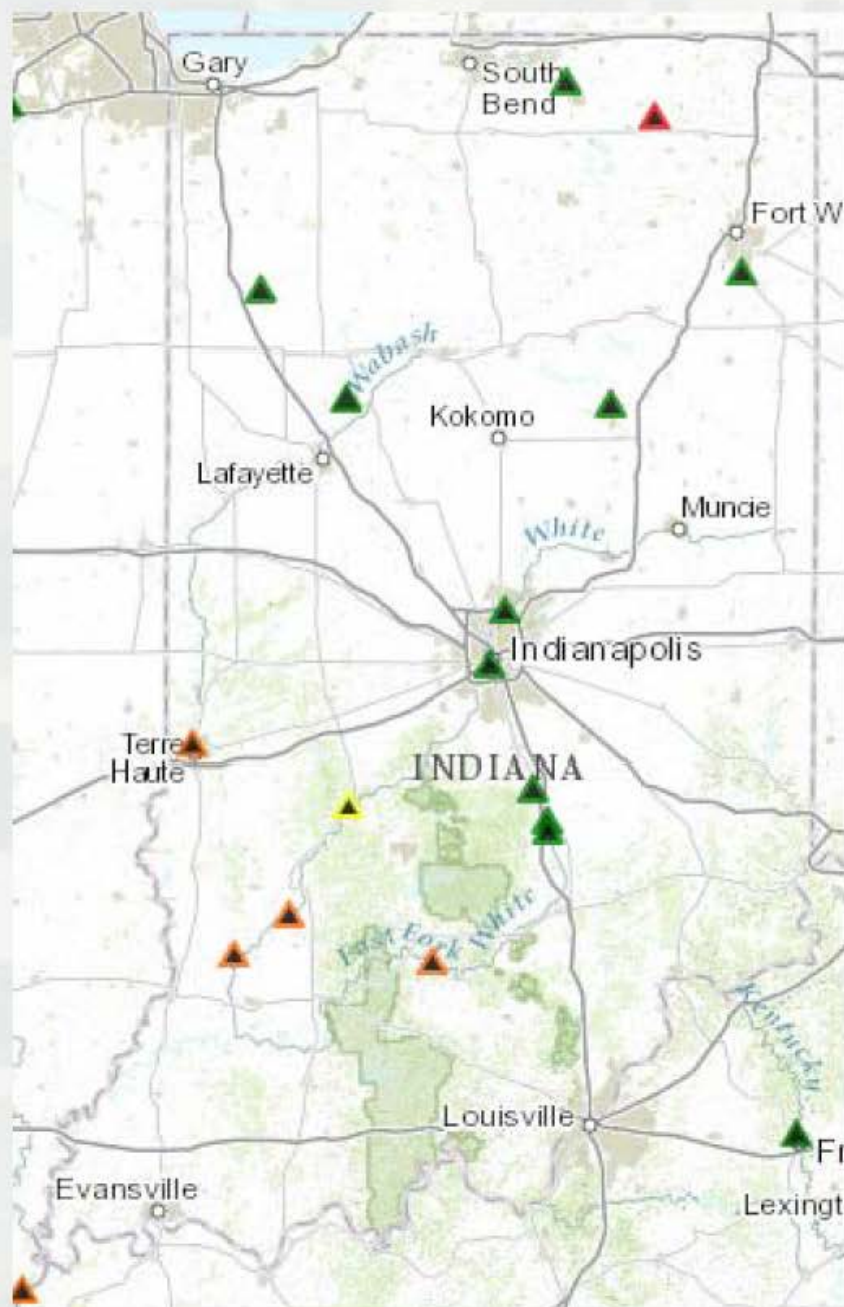
Past Successes

- Flood Inundation Maps (cont.):
 - ▶ Outputs can be read in real time on a web based system.
 - ▶ Allows citizens to be more responsible for their own safety as they will be able to monitor flood progression and plan accordingly.
 - ▶ This cost for setting up this system on a typical gauged stream is relatively low, on the order of less than \$25K a stream mile.



Real Time Flood Inundation Maps





Name	SNAME	STA
1 Edinburgh (Driftwood River)	DRIFTWOOD RIVER NEAR EDINBURGH	3:
2 Columbus (EFK White River)	EAST FORK WHITE RIVER AT COLUMBUS, IN	3:
3 Bedford (EF White River)	EAST FORK WHITE RIVER NEAR BEDFORD, IN	3:
4 Goshen (Elkhart River)	ELKHART RIVER AT GOSHEN, IN	4:
5 Columbus (Flatrock River)	FLATROCK RIVER AT COLUMBUS, IN	3:
6 Rensselaer (Iroquois River)	IROQUOIS RIVER AT RENSSELAER, IN	5:
7 Marion (Mississinewa River)	MISSISSINewa RIVER AT MARION, IN	3:
8 Fort Wayne (St. Mary's River)	ST. MARYS RIVER NEAR FORT WAYNE	3:
9 Delphi (Tippecanoe River)	TIPPECANOE RIVER NEAR DELPHI, IN	3:
10 Lafayette (Wabash River)	WABASH RIVER AT LAFAYETTE, IN	3:
11 Logansport (Wabash River)	WABASH RIVER AT LOGANSPOrt, IN	3:
12 Terre Haute (Wabash River)	WABASH RIVER AT TERRE HAUTE, IN	3:
13 Newberry (White River)	WHITE RIVER AT NEWBERRY, IN	3:
14 Spencer (White River)	WHITE RIVER AT SPENCER, IN	3:
15 Nora (White River)	WHITE RIVER NEAR NORA	3:

Flood Inundation Maps That Have Been Funded and Are Under Development

Name	SNAME
1 Shelbyville (Big Blue River)	BIG BLUE RIVER AT SHELBYVILLE, IN
2 Shoals (EF White River)	EAST FORK WHITE RIVER AT SHOALS, IN
3 Clifford (Haw Creek)	HAW CREEK NEAR CLIFFORD, IN
4 Prospect (Lost River)	LOST RIVER NEAR PROSPECT, IN
5 Cosperville (NB Elkhart River)	NB ELKHART RIVER AT COSPERVILLE, IN
6 Fort Wayne (Spy Run Creek)	SPY RUN CREEK NEAR PARK DRIVE AT FORT WAYNE, IN
7 Elkhart (St. Joseph River)	ST. JOSEPH RIVER AT ELKHART, IN
8 Decatur (St. Mary's River)	ST. MARYS RIVER AT DECATUR, IN
9 Crawfordsville (Sugar Creek)	SUGAR CREEK AT CRAWFORDSVILLE, IN
10 Winamac (Tippecanoe River)	TIPPECANOE RIVER AT WINAMAC, IN
11 Vincennes (Wabash River)	WABASH RIVER AT MEMORIAL BRIDGE AT VINCENNES, IN
12 New Harmony (Wabash River)	WABASH RIVER AT NEW HARMONY, IN
13 Anderson (White River)	WHITE RIVER AT ANDERSON, IN
14 Indianapolis (White River)	WHITE RIVER AT INDIANAPOLIS, IN
15 Petersburg (White River)	WHITE RIVER AT PETERSBURG, IN
16 Edwardsport (White River)	WHITE RIVER NEAR EDWARDSPOrt, IN
17 Plymouth (Yellow River)	YELLOW RIVER AT PLYMOUTH, IN

Partners

- US Geological Survey
- US Army Corps of Engineers
- National Weather Service
- The Polis Center of Indiana University
Purdue University-Indianapolis
- Indiana Department of Natural Resources
- Indiana Department of Homeland Security
- City and County Governments
- IMAGIS
- **Indianapolis Museum of Art**



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Partners (ctd)

- Natural Resources Conservation Service
- Kentucky Department for Local Government
- Indiana Office of Community and Rural Affairs
- Kentucky Division of Water
- Kentucky Emergency Management Agency



100 Acres Art Park

- The (visitors) building is also carefully designed to inhabit the unique floodplain environment of 100 Acres. The Visitors Pavilion and surrounding landforms are designed to allow for the free flow of occasional floodwaters around and beneath the structure, making it a flagship project for the No Adverse Impact philosophy of the Association of State Floodplain Managers.





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Past Successes

- Response to Flood Disasters
 - ▶ The Indiana Silver Jackets group assumed the role of the Interagency Levee Task Force in Indiana.
 - ▶ Sharing time critical information was one of the biggest efforts. Members of the Silver Jackets community had POC's in the other agencies that they could reach quickly for response.
 - ▶ Coordination of post flood responses by the agencies in Silver Jackets has been significantly sped up and streamlined by their cooperative efforts.

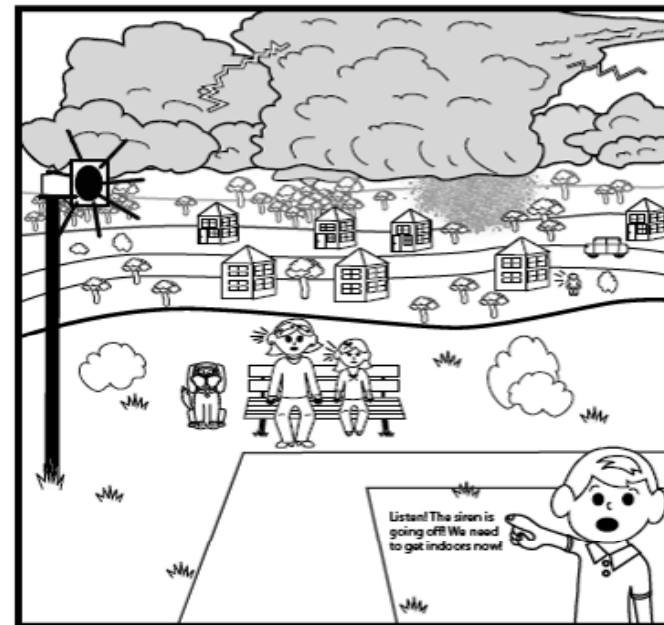
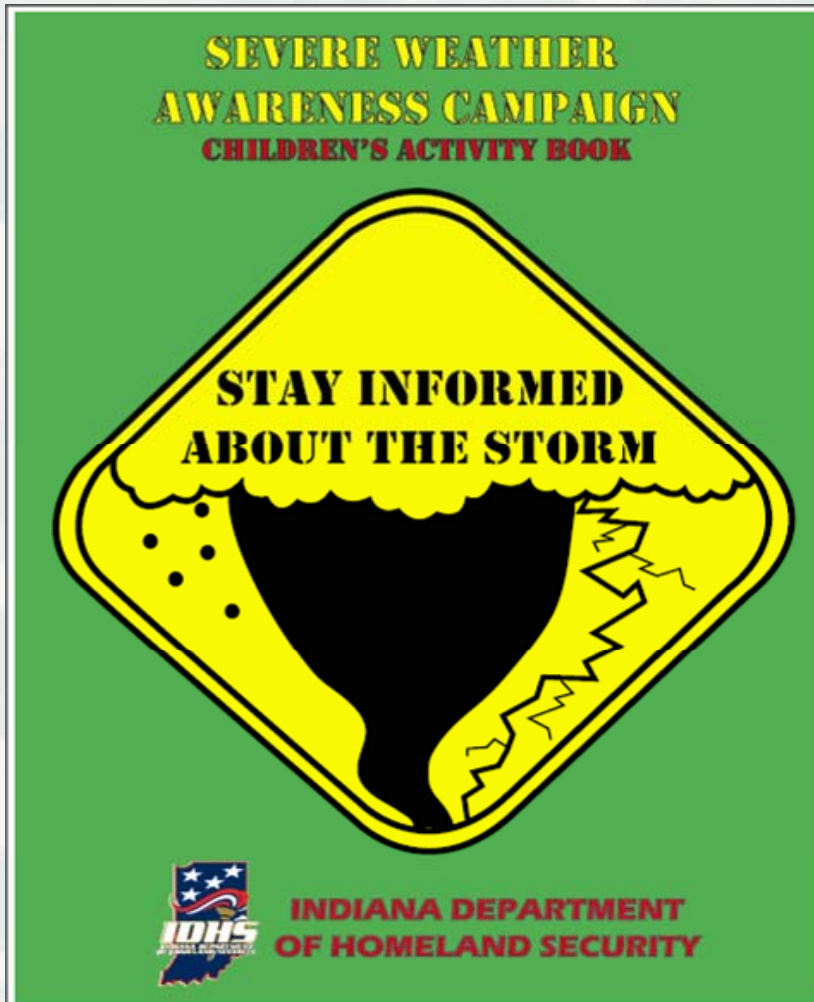
- Coloring & Activity Books



Activity Books



Activity Books



Outdoor Warning Sirens

Most communities have outdoor warning sirens. You may even hear them being tested on a regular basis to ensure they work properly. Outdoor warning sirens are meant to warn those who are outdoors and cannot see or hear important messages, such as warnings issued by the National Weather Service that may come across radios or televisions. If you are outdoors and hear a siren going off, you should seek shelter immediately and monitor conditions around you - turn on your radio or television, or check your NOAA all-hazard radio if you have one. Outdoor warning sirens are NOT meant to warn those indoors. Sometimes, you can hear them indoors if you are close enough, but do NOT rely on outdoor warning sirens as your primary method of getting warnings when you are inside. Be alert and monitor weather conditions regularly!



Past Successes

- Northern Elkhart River Project
 - ▶ Large Watershed with extensive history of flooding
 - ▶ Community wants a single solution to “fix” the problem (that does not exist!)
 - ▶ Each agency has provided work over last 10 years
 - ▶ Reviewed all reports (USACE, USGS, IDHS, IDNR, USDA) & developed one comprehensive report
 - ▶ Report completed in May 2010

- Statewide LiDAR for Indiana



Past Successes

- Orange County, IN, Hydrologic Study
 - ▶ Successful leveraging of funding with multiple funding sources
 - American Reinvestment & Recovery Act
 - US Army Corps of Engineers
 - US Geological Service
 - US Housing & Urban Development
 - State & Local
 - ▶ Approx \$40K in state/local funds are being matched by over \$140K in federal funds



Columbus Warning System

- June 2008 Flood Event
 - Cummins Engine
 - Hospital
 - Infrastructure
- Installed Gages
- FIM
- Training

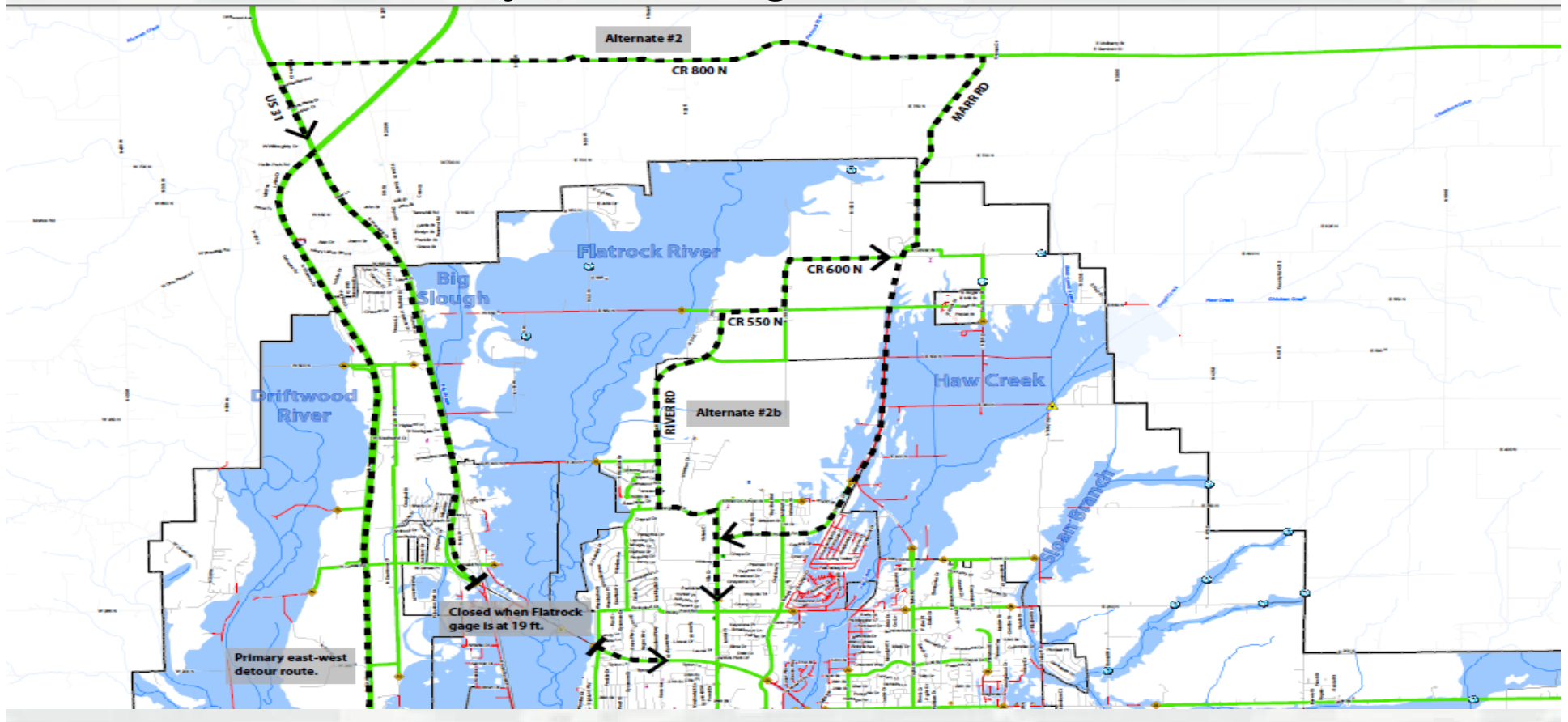


Columbus, IN 2008

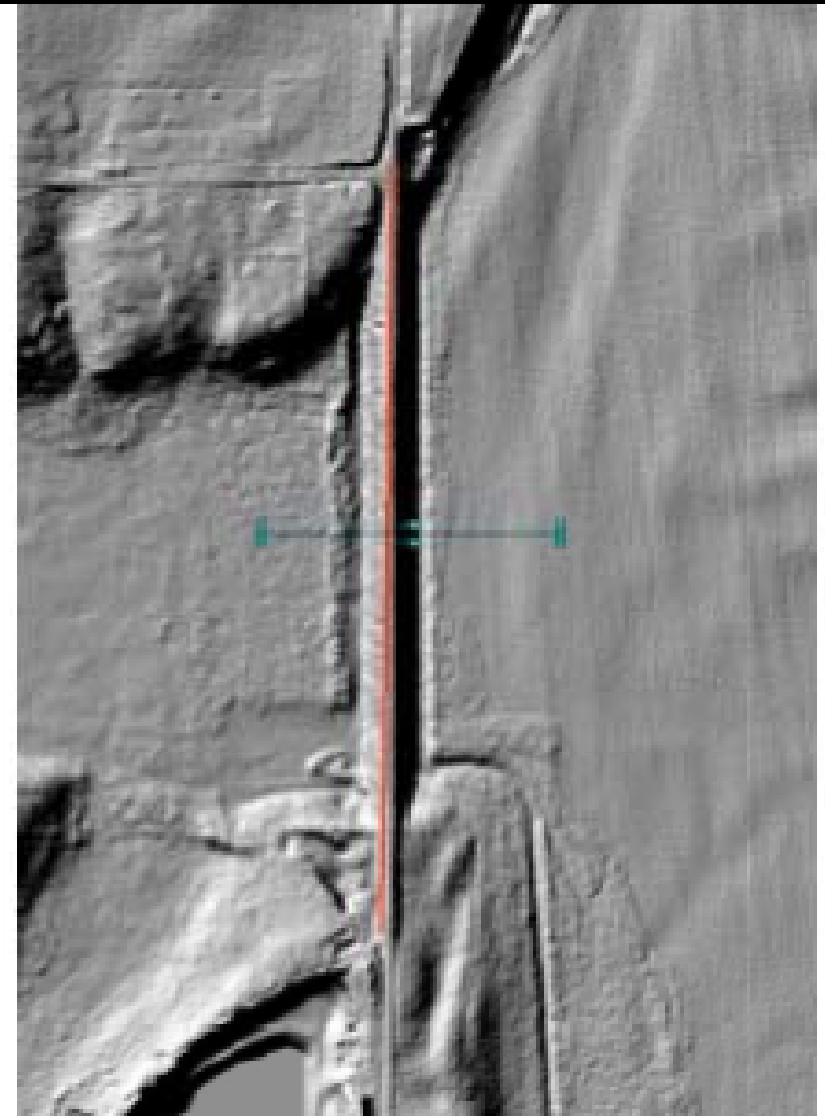
East Fork White River

Columbus Warning System

- Plan
 - Preparation and Response
 - Recovery and Mitigation



Non-Levee Embankment ID

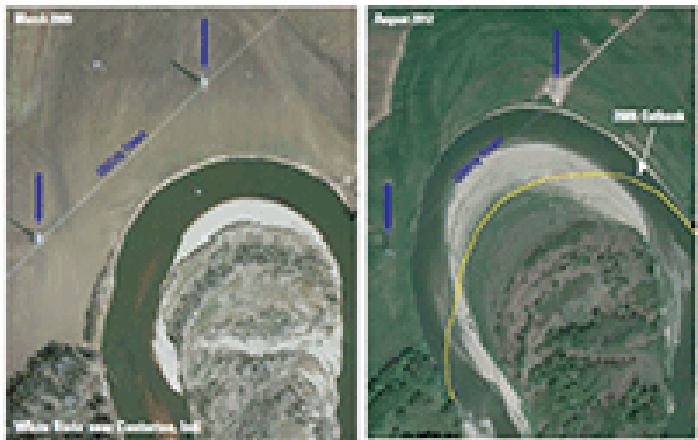


Fluvial Erosion Hazards (FEH)



Prepared in cooperation with the Indiana Office of Community and Rural Affairs

Recent (circa 1998 to 2011) Channel-Migration Rates of Selected Streams in Indiana



Scientific Investigations Report 2013–5168

U.S. Department of the Interior
U.S. Geological Survey



Prepared in cooperation with the Indiana Office of Community and Rural Affairs

Regional Bankfull-Channel Dimensions of Non-Urban Wadeable Streams in Indiana



Scientific Investigations Report 2013–5078

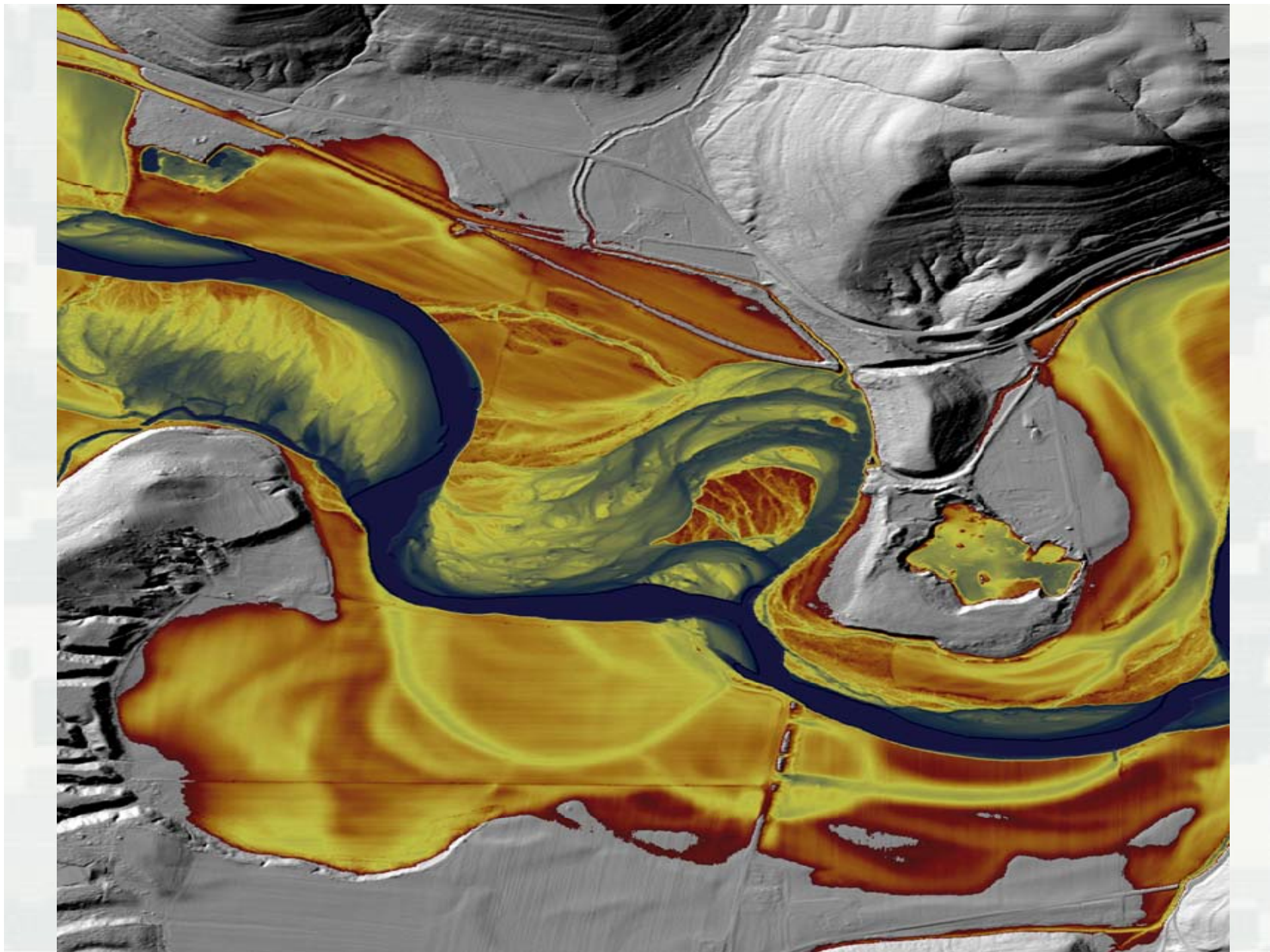
U.S. Department of the Interior
U.S. Geological Survey



Google earth

Imagery Date: 8/29/2012 lat 39.499554° lon -86.378529° elev 614 ft eye alt 2512 ft

Google Earth™



Past Successes

- Update to State Hazard Mitigation Plans
- Assistance with ranking of mitigation grant applications
- High water mark training
- Enhanced ***relationships*** between federal and state agencies



Building Trust

- Check the baggage.
- Learn what talents, gifts and resources others have that complement what you can do.
- Everyone likes being part of a winning team



Collaboration

- Bringing **ALL** the Stakeholders to the table.
- Bringing the **RIGHT** people to the table
- Thinking outside the box.



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Risk Communication

- Ostrich Syndrome
- Clarity
- Consistency
- Honesty



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Challenges

- Be Brave
- Step out of the Box
- Collaborate
- Look for new horizons and partners to get you there.



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KEEP
CALM
AND
START
COLLABORATING



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Questions?

