

Flood Depth Grid Example

RiskMAP Products

The flood hazard and flood risk products developed through the Risk MAP program provide communities with multiple resources and tools to assist in the identification and implementation of mitigation actions which, if implemented, can reduce the loss of life, number of injuries, and property damage from flood events. These resources and tools, produced as both regulatory and non-regulatory Risk MAP products, include flood hazard information, mapping, and flood risk assessment tools.

Regulatory Products

Flood Insurance Rate Map (FIRM) – FIRMs are maps developed by FEMA to identify flood hazards. The FIRM is the official map of a community that shows the special flood hazard areas (SFHA) and the risk premium zones applicable to the community. The FIRM is published as the legal document for flood insurance rates.

Flood Insurance Study (FIS) Report – The FIS report accompanies the FIRM and provides the associated flood information and technical methods that were used to develop the FIRM. Flood information includes, at a minimum, the 1-percent-annual-chance flood elevations, velocity data, floodway widths, bridge and dam locations, and plotted flood profiles of the flood elevations along the stream reaches that were studied.

FIRM Database - The FIRM Database is a Geographic Information Systems (GIS) version of the FIRM and most of the quantitative data in the FIS. The GIS data is designed to provide the community with the ability to determine the flood zone, base flood elevation and the floodway status for a particular location. The database also contains NFIP community information, map panel information, cross section and hydraulic structure information, and base map information such as road, stream, and public land survey data.

(Continued on back page)

Risk Cycle

The Risk Cycle has four areas that lead communities to greater resilience:

- 1) **Identify Risk** — FEMA provides risk data in digital and map formats to show where risks occur
- 2) **Assess Risk** — FEMA funds studies to determine where vulnerable areas are located
- 3) **Communicate Risk** — FEMA and it's partners educate the public on their exposure to the risks
- 4) **Mitigate Risk** — FEMA and it's many partners encourage development away from flood prone areas and mitigating risks when possible.



The National Flood Insurance Program celebrates 50 years!

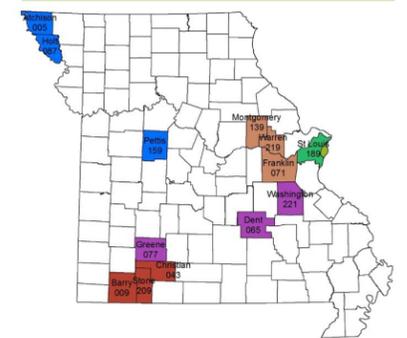
wood. FLOODPLAIN NEWS

Project Team Newsletter

FY17 Project Kick-off Meetings

It's been a busy six months for the SEMA Floodplain Mapping Program. The FY17 funded Project Kick-off meetings were held across the state in 13 counties and the City of St. Louis. Four of the new projects, Atchison, Dent, Holt, and Pettis Counties, are part of FEMA's new Paper Inventory Reduction (PIR) initiative to get counties not yet digital with updated digital FIRMs.

Watershed studies for the James, Cahokia-Joachim and Lower Missouri HUC8 watersheds were also Initiated. These studies affect Christian, Franklin, Montgomery, St. Louis, Stone and Warren Counties and the City of St. Louis.



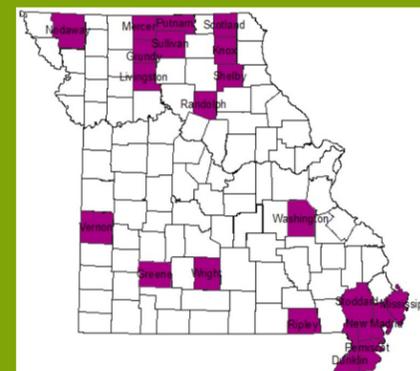
FY17 Funded Projects across the State of Missouri were initiated during November and December. Flood Study Review Meetings to be held this summer.

In the next issue: How to view and comment on the draft floodplains using the Outreach website at <http://bit.ly/MOSEMAOutreach>

FY16 Funded Projects across the State of Missouri have started being issued Preliminary:

- | | |
|----------------------|--------------------|
| Grundy = 6/12/18 | Putnam = 5/9/18 |
| Knox = 2/13/18 | Randolph = 7/13/18 |
| Livingston = 6/12/18 | Ripley = 5/17/18 |
| Mercer = 2/23/18 | Scotland= 6/14/18 |
| Nodaway = 3/2/18 | Shelby = 5/25/18 |

Coming this Fall: Dunklin, Mississippi, New Madrid, Pemiscot and Stoddard



FY16 Projects FIRM Panel Production has begun

The next steps after the Flood Study Review Meetings held in the Fall for the FY16 funded projects are:

1:Develop Floodplain Mapping submittal

This task is the FEMA deliverable which merges all the floodplains for the county from individual stream models into one countywide dataset. This submittal then gets used to begin the first Quality Review called **QR1**.

2. Preliminary Map Production

This task is the creation of the FIRMs called Preliminary Maps. These get submitted to FEMA for review in the second and third Quality Reviews called **QR2** and **QR3**. Once they have passed these three Quality Reviews, they will be shipped to the CEOs for each community being updated. This is called **Preliminary Issuance**. See Green box to the left for these dates.

3. Community Consultation Coordination (CCO) Meeting

This meeting is held in each county being updated with all the community officials invited to attend to review the Preliminary maps, discuss the Public Appeal Process and the Map Adoption period.

Bootheel Area (Dunklin, Mississippi, New Madrid, Pemiscot and Stoddard Counties) will have Flood Study Review meetings this summer.

RiskMAP Products cont..

Flood Risk Databases are datasets which provide a wide variety of information to assist in assessing and visualizing flood risk. The datasets illustrate how depth, velocity, and flood probability vary within a floodplain. Each raster cell indicates the flood depth, velocity, or flood probability at that location for the defined flood return period. The datasets within this category may include:

Flood Depth Grid – presents the depth of flooding at any given location in the floodplain.

Percent-Annual-Chance Probability Grid – presents the probability of flooding in any given year (true risk of flooding as a statistical probability).

30-Year-Chance Probability Grid – presents the probability of a location being flooded during the life of a 30-year mortgage.

Water Surface Elevation Change Grid – displays areas where the Risk MAP project resulted in changes to the calculated water surface elevations.

For more information, attend your communities on-site meetings: Project Kick-off, Flood Study Review or Community Consultation Officer (CCO) meetings ..

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Place Stamp
Here

MODOT Partnership

The Missouri Department of Transportation (MODOT) has been a valued partner with the State Emergency Management Agency (SEMA) in the floodplain mapping update projects occurring statewide. Since transportation crossings have an impact on how water acts., MODOT works closely with SEMA to share information such as bridge as-built drawings that can be used by the hydraulic engineers in modeling the 1 percent annual chance floodplains across the state.

This data sharing is known as "leverage" data



and helps cut down on the costs of field survey data collection required for detailed study areas.



Crews collecting GPS data on transportation crossings in Greene County

Greene County

Field Survey Partnership

The field survey of bridges and culverts is a major component of any project that has detailed hydraulic modeling. Greene County and City of Springfield staff members have teamed up with SEMA and Wood Environment and Infrastructure Solutions Survey Crews to obtain critical field measurements used in the engineering calculations on the mapping updates.

The crews used new Android tablet technology to collect data in the field which get synced nightly with the databases in the cloud. This streamlined the process and allowed surveying and engineering office staff to access and review the data quickly.

This data was used to develop detailed studies along many more miles of streams in the county than normally could be funded with the dollars allocated for the project.

LIDAR Partnership: SEMA, FEMA , USGS, DNR USACE and USFW partner to finish collecting LIDAR topography for the remaining parts of the State of Missouri without in 2018. Approximately 29 counties were collected over the winter and will be available through the USGS and MSDIS data warehouse websites later this Fall. More details will follow in future newsletters.