



# Missouri

## Roubidoux Creek-Flood Forecast Inundation Map



### Project Description

- The product is a Flood Forecast Inundation Map for Waynesville, MO, in response to severe flooding, including the overtopping of Interstate-44 in 2013
- National Weather Service (NWS) Advanced Hydrologic Prediction Service (AHPS) website
- Map will be hosted on the web at water.weather.gov
- A warning system with NWS forecast point tied to the gage for awareness and action flood stages in the community
- Watershed area upstream: 290 square miles
- Peak flow timing: Less than 12 hours

### Flood Risk Reduction Outcomes

- Enables risk informed decision making for potential property owners prior to flood events
- Enables actionable risk reduction, including evacuation, for those willing to take steps when flooding is imminent
- Allows emergency responders to see flooded routes in advance
- Presents visual of flooding with all-the-time easy access on web
- Extends risk information beyond the base flood or 1%-AEP
- Prevents needless flood fighting efforts, which reduces costs
- Educates public on causes of flooding

### Challenges Overcome / Continuing Challenges

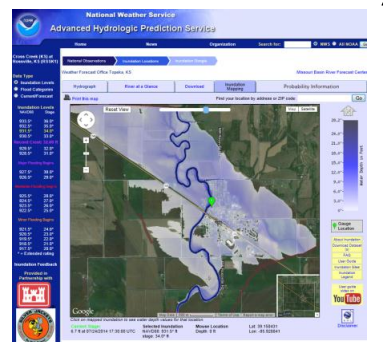
- Waynesville is at the downstream end of this watershed, close to the Upper Gasconade River, and therefore the community can benefit from added awareness on flood risks, specifically for any future development to the south of the city
- In the city limits, a sub-basin called Mitchell Creek floods much more quickly

### Partners and Project Cost

Agency	Investment
Kansas Hazard Mitigation Team	\$4K In-kind
NOAA NWS	\$30K In-kind
USACE	\$45K
USGS	\$1K In-kind
Pulaski County and City	\$4K In-kind
FEMA	\$1K In-kind
<b>TOTAL</b>	<b>\$85,000</b>

### Successes/Best Practices

- New maps assist in managing future development
- Leveraged NWS quality assurance review
- Image of the NOAA NWS AHPS website is shown, for a similar scenario, and this webpage is available 24 hours/day and 7 days/week as a risk communication device for the public and for local officials

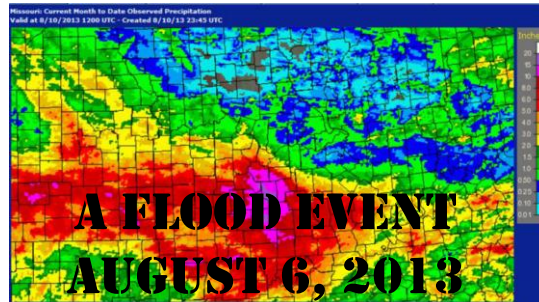


### USACE Project Point of Contact

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Kansas City District

# Roubidoux Creek-Flood Forecast Inundation Map

A flood event between August 2<sup>nd</sup> and 10<sup>th</sup> of 2013 resulted in both interstate bridge overtopping and loss of life. This project raises awareness of flooding.



While in production currently, this project will result in a tool similar to what's shown in this blue webviewer by the NOAA NWS.

User selected inundation level is in yellow.

Area of mapping

**National Weather Service  
Advanced Hydrologic Prediction Service**

Cross Creek (KS) at Rossville, KS (RSSK1)

Weather Forecast Office Topeka, KS

Missouri Basin River Forecast Center

Data Type:  
 Inundation Levels  
 Flood Categories  
 Current/Forecast

Inundation Levels NAVD88	Stage
933.5*	36.0*
932.5*	35.0*
931.5*	34.0*
930.5*	33.0*
Record Crest: 32.66 ft	
929.5*	32.0*
928.5*	31.0*
Major Flooding Begins	
927.5*	30.0*
926.5*	29.0*
Moderate Flooding Begins	
925.5*	28.0*
924.5*	27.0*
923.5*	26.0*
922.5*	25.0*
Minor Flooding Begins	
921.5*	24.0*
920.5*	23.0*
919.5*	22.0*
918.5*	21.0*
917.5*	20.0*
* = Extended rating	

Current Stage: 6.7 ft at 07/24/2014 17:30:00 UTC

Forecasted stages from NOAA NWS:

Stage (ft)	Description
17.53	Latest observed value: 17.53 ft at 10:15 AM CDT 10-Jun-2014. Flood Stage is 14 ft
17.0	Moderate
14.0	Minor
9.0	Action

Hydrograph: WILD CAT CREEK AT MANHATTAN SC... Universal Time (UTC) / Site Time (CDT)

Graph Created (10/14/14 M Jun 10, 2014) | Observations courtesy of US Geological Survey

Current Stage is always displayed here.

Once the tool is enabled in 2016, the NWS forecast office will show future flood stages in a hydrograph that can be used with this.

Forecasted stages from NOAA NWS.

<http://water.weather.gov/>