



USGS Involvement in the Passaic River Basin

**New Jersey Water Science Center
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In cooperation with the New Jersey Department of
Environmental Protection

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

Presented at:
NJ Water Monitoring Council Meeting
May 30, 2012

Overview

- **Passaic Flood Warning System**
- **USGS Gages in the Passaic River Basin**
- **Inundation Mapping**
 - **General Overview of FIMP**
 - **Mapping in the Passaic Basin**
 - **FIM Deliverables**
- **Alternative to NWS Forecast Point**
 - **How To Have the Data Alert You**
- **Further Information**

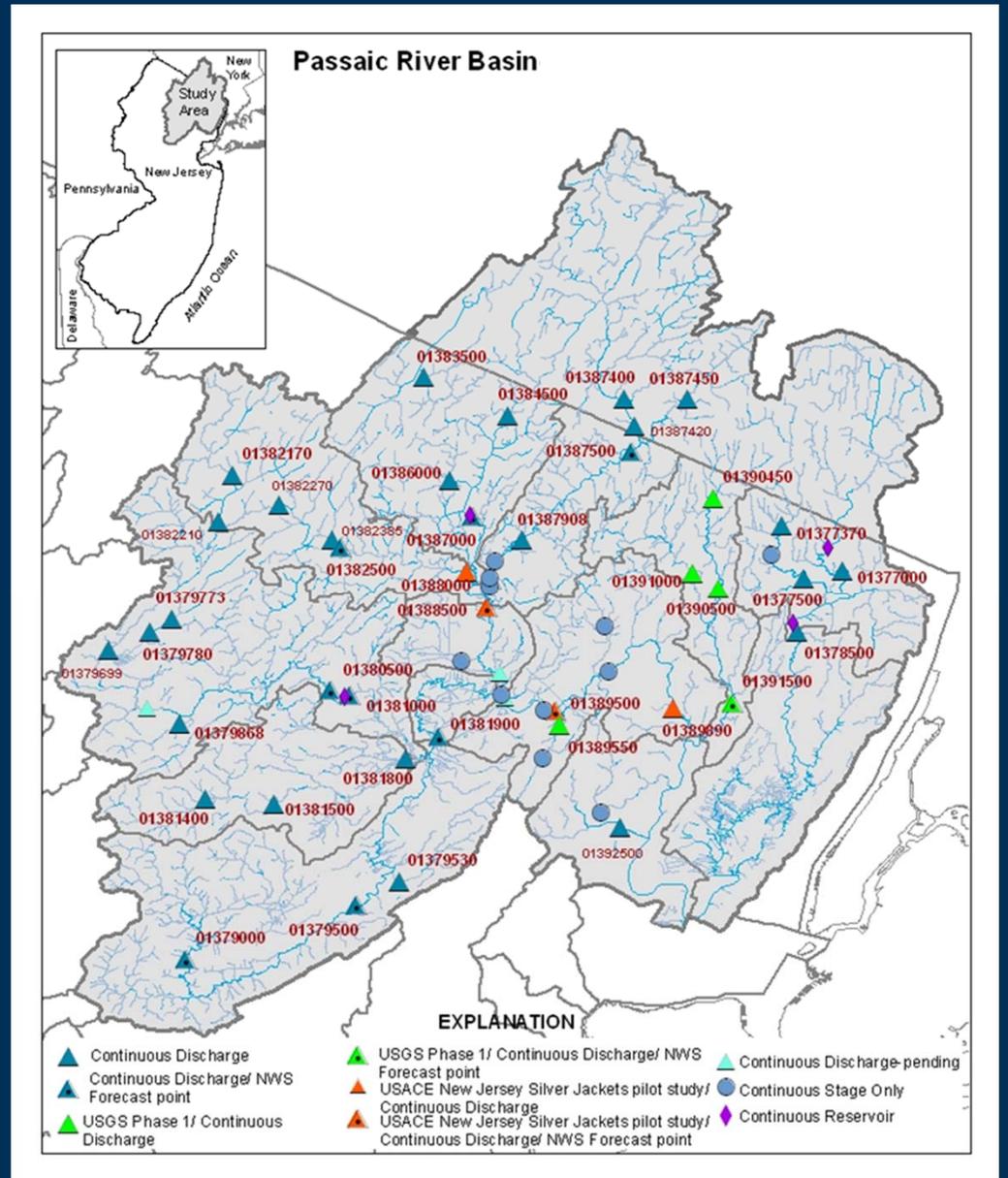
Passaic Flood Warning System

- The USACE operates and maintains the PFWS through an Economy Act Agreement with NOAA–NWS, USGS, NJDEP, and NJSP–OEM
- The PFWS protects a 935 mi² flood basin with 132 communities, including parts of Bergen, Essex, Hudson, Morris, Passaic, Sussex, Somerset, and Union Counties in NJ; and Orange and Rockland Counties in NY.
- This one-of-a-kind system uses unique technology with atypical implementation (non-structural with USACE responsible for operation) to monitor flooding threats in one of the most densely populated river basins in the U.S. (population exceeds 2.5 million, with 20,000+ homes and businesses in the floodplain).
- As part of the Memorandum of Understanding (MOU) between USACE, NOAA – NWS, USGS, NJDEP, and NJSP–OEM, a PFWS Advisory Committee was set up to coordinate PFWS activities.
- The USGS provides technical assistance by operating and maintaining the stream gages and telemetry system that is integrated into the PFWS.



USGS Gages in the Passaic River Basin

- Drainage area: 1,134 mi²
- Total River miles: 1,964 mi
- Population density: 8,656 people/mi²
- Mean Annual Precip: 50.08 in
- # of USGS Stream Gages: 61
 - 45 Continuous Discharge Gages (3 pending installation)
 - 11 Continuous Stage Only
 - 5 Continuous Reservoir
- # of NWS Forecast Points: 13 (1 pending installation)



What is Flood Inundation Mapping?

Flood Inundation Mapping (FIM) is a real-time, operational tool that visually relates USGS streamgauge readings and NWS forecasts to flood risk for the primary purpose of **public safety**, but also has significant benefits of:

- Understanding changing natural processes that produce hazards
- Development of hazard mitigation strategies and technologies
- Effectively reduce vulnerability and repetition of loss to infrastructure
- Promotion of risk-wise behavior



I.M. becomes a tool for flood...

- Preparedness
 - “What-if” scenarios
- Response
 - Tied to gage & forecast data
- Recovery
 - Damage assessment
- Mitigation & planning
 - Flood risk analyses
- Environmental & ecological assessments

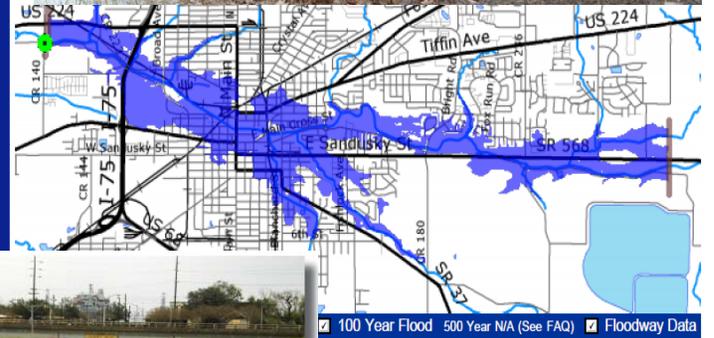
Blanchard River at Findlay, OH (FDYO1)

Data Type

- Inundation Levels
- Flood Categories
- Current/Forecast

Inundation Levels

NAVD88	Stage
772.2	18.4
771.8	18.0
770.8	17.0
770.3	16.5
769.8	16.0
769.3	15.5
768.8	15.0
767.8	14.0
766.8	13.0



Flooded underpass, Beaumont, TX (photo courtesy of L. Roll/FEMA)



Flood Inundation Mapping Program

1. Consistent visual and electronic format for USGS inundation geospatial products.
2. Static flood inundation map libraries linked to gages/flood forecasts
3. State-of-the art dynamic, real-time flood inundation applications (pilot)
4. A core of USGS and partner agencies
5. National FIM Web portal and mapper



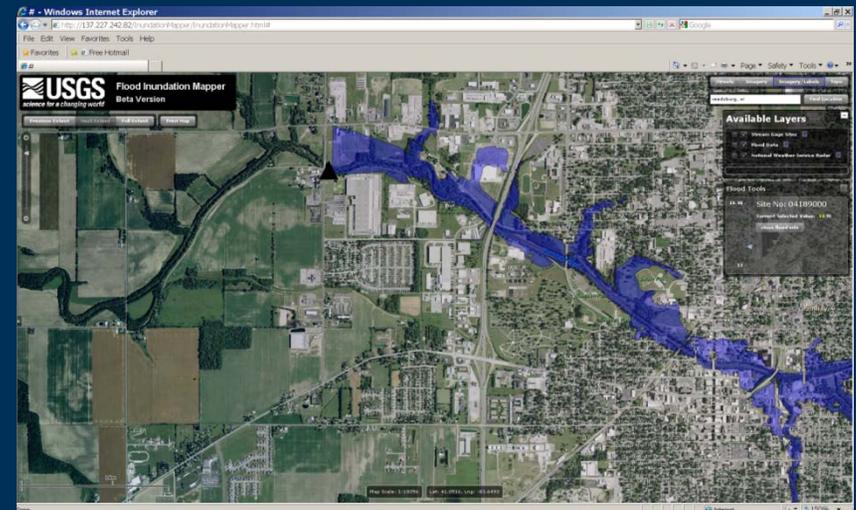
FIMP – partner oriented

- State/local level, to leverage resources for inundation
- On a Federal level, getting the agencies to work together
 - USGS  **USGS**
science for a changing world
 - NWS 
 - USACE 
 - FEMA 
 - Integrated Water Resources Science and Services (IWRSS)



Creation of Inundation-Maps

- LiDAR + hydraulic model
- Gage/HWM calibration data
- GIS generated maps
 - bankfull-record stage
 - Predefined map interval
- Linked to USGS real-time gage and NWS flood forecast



Deliverables

■ Inundation-Map Libraries

■ WWW

- FIMP Web Portal
- FIMP Web Mapping Application
- NWS AHPS

■ Print Products

- PDF
- JPG
- SIM

■ KML/KMZ (Google)

■ GIS

- All spatial files
- FGDC compliant metadata



The image displays a screenshot of the USGS Flood Inundation Mapping Science website. The website header includes the USGS logo and navigation links: home, focus areas, links, contact, internal. The main content area features the title "U.S. Geological Survey Flood Inundation Mapping Science" and a brief description: "A powerful new tool for flood response and mitigation are digital geospatial flood-inundation maps that show flood water extent and depth on the land surface. Because floods are the leading cause of natural-disaster losses, the U.S. Geological Survey (USGS) is actively involved in the development of flood inundation mapping across the Nation, pursuant to its major science strategy goal of..."

Below the website screenshot is a 3D visualization of flood inundation data. The visualization shows a river and surrounding land parcels. A legend titled "Explanation" lists the following categories and their corresponding colors and symbols:

- USGS Stream Gage (blue line)
- Levee (brown line)
- Temporary Levee (orange line)
- Inundated Area (blue area)
- Levee Protected Area (green area)
- Inundated Area (depth in feet): 0-2.9 (light blue), 3-5 (medium blue), 6 (dark blue)
- Levee Protected Area (depth in feet): 0-2.9 (light green), 3-5 (medium green), 6 (dark green)

The 3D visualization is labeled "raster" and "real world". It shows a cross-section of the land surface, with the river and surrounding land parcels. The "real world" view shows the physical terrain, buildings, and vegetation. The "raster" view shows the digital representation of the land surface, with the river and surrounding land parcels. The "real world" view is a 3D perspective of the "raster" view, showing the physical terrain and buildings.

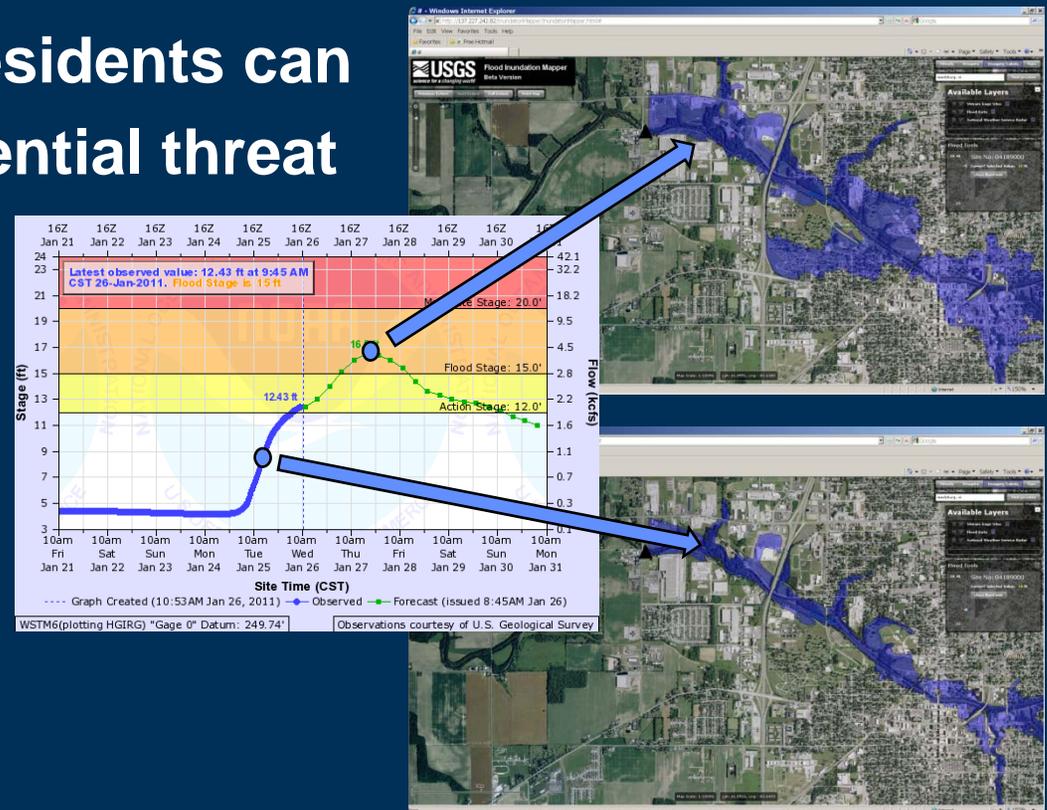


Purpose and Scope

- As recommended by the Passaic River Basin Flood Advisory Commission in its Report to the Governor, January 2011
 - Develop a library of detailed digital flood-inundation maps (FIMs) that correspond to a range of flood elevations on selected portions of streams in the Passaic River Basin
 - Maps will depict estimates of the areal extent and depth of flooding at one-foot increments ranging from approx NWS Action Stage to the extent of the rating curve at the associated USGS streamgauge

Purpose and Scope (cont)

- FIMs, used in conjunction with USGS real-time streamgauge data & NWS flood forecasts, allow users to **visualize** current and forecasted flood-inundated areas
 - EM officials and residents can **see** where the potential threat of flood waters is highest



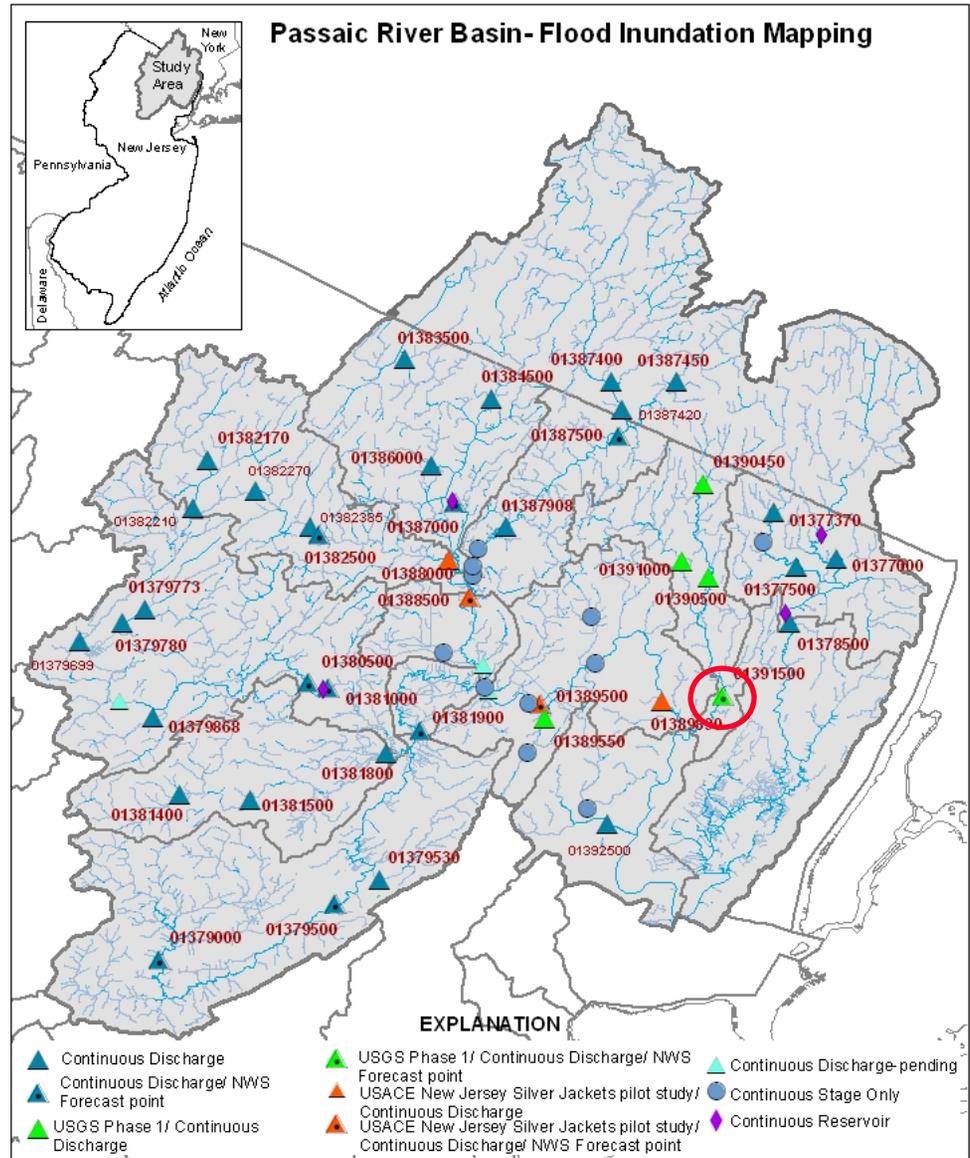
Passaic FIM

- USGS FIMI began (June 2010)
 - Pilot Study--Saddle River at Lodi
- Passaic River Basin Flood Advisory Commission Report to the Governor (January 2011)
 - NJDEP assessed the PRB for locations of NWS forecast points & real time USGS gages near high-risk municipalities (April 2011)
- USGS signed JFA w/ NJDEP and work began on Phase 1—which includes 5 gage locations (May 2011)
- NJ Silver Jackets Pilot Study (lead by ACOE) will map 4 gage locations

NJDEP Inundation Mapping Priority List
Passaic-Hackensack Watershed
December 14, 2011

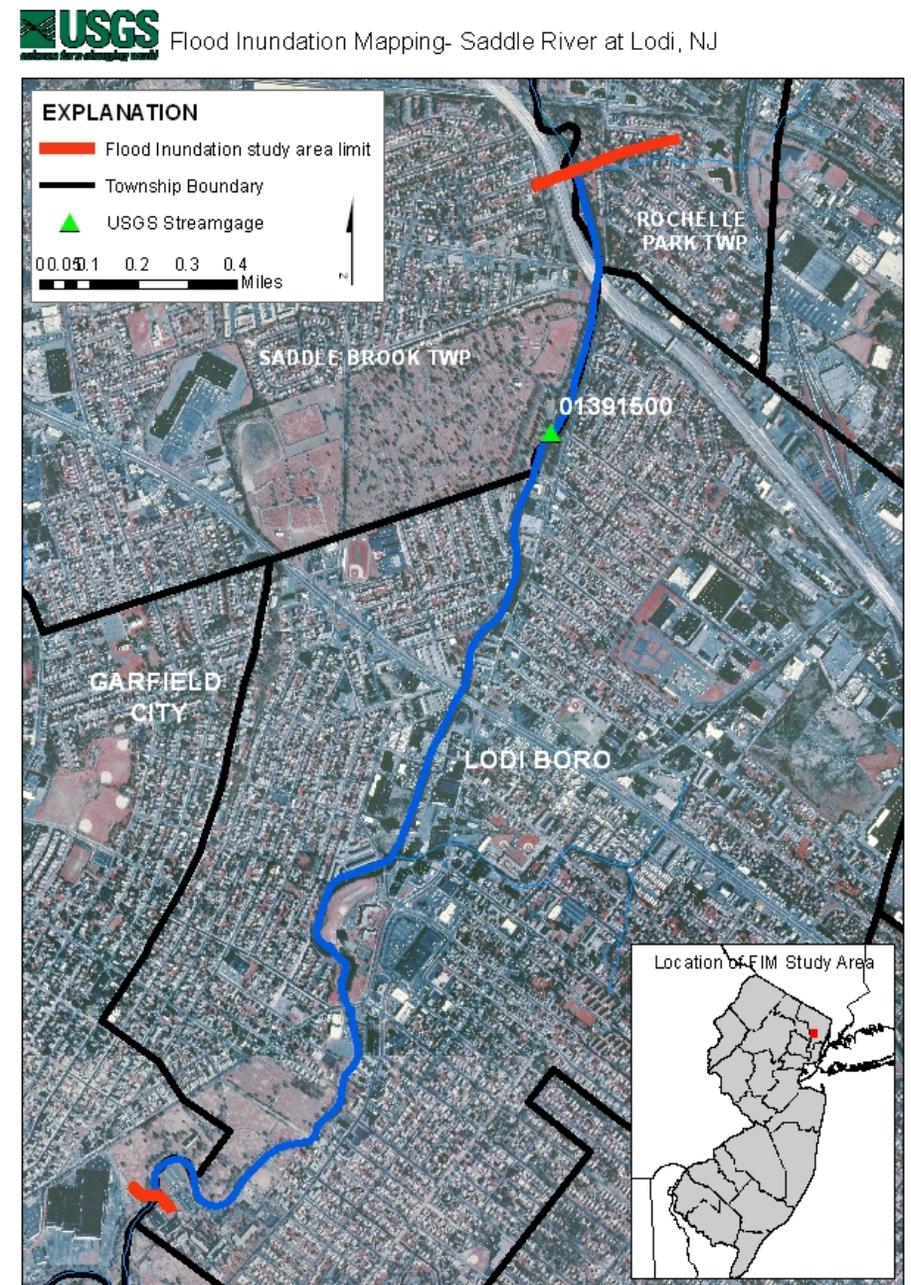
Priority	USGS Gage	ANPS Forecast Point	Site Name	Basin	Hydraulic Model Available or to be Available in Digital Format	Hydraulic Model Details
1	01381800	yes	SADDLE RIVER AT LODI NJ	Passaic	yes	2008 FEMA model
2	01389500	yes	PASSAIC RIVER AT LITTLE FALLS NJ	Passaic	yes	expected March 2011 FEMA/RAMP
3	01381900	yes	PASSAIC RIVER AT PINE BROOK NJ	Passaic	yes	expected March 2011 FEMA/RAMP
4	01380000	yes	RAMAPO RIVER AT POMPTON LAKES NJ	Passaic	yes	Date Reevaluation Feb 2012 NJDEP/ACOE
5	01379800	yes	RAMAPO RIVER AT BOONTON NJ	Passaic	yes	expected 2012 NJDEP/ACOE
6	01387500	yes	RAMAPO RIVER NEAR MAHWAH NJ	Passaic	yes	expected 2012 NJDEP/ACOE
7	01387000	yes	WANADQUE R AT WANADQUE NJ	Passaic	yes	expected 2012 NJDEP/ACOE
8	01379500	yes	PASSAIC RIVER NEAR CHATHAM NJ	Passaic	yes	1990 FEMA
9	01379000	yes	PASSAIC RIVER NEAR MILLINGTON NJ	Passaic	yes	1990 FEMA
10	01380500	yes	ROCKAWAY RIVER ABOVE RESERVOIR AT BOONTON NJ	Passaic	no	1984 FEMA
11	01380500	yes	ROCKAWAY RIVER BELOW RESERVOIR AT BOONTON NJ	Passaic	no	1984 FEMA
12	01389250	no	PECKHAM RIVER AT LITTLE FALLS NJ	Passaic	yes	2001 FEMA model, 2005 ACOE model
13	01389900	no	PASSAIC RIVER US DUNDEE DAM AT CLIFTON NJ	Passaic	yes	expected March 2011 FEMA/RAMP
14	01382000	no	PEQUANNOCK RIVER AT ROCKDALE NJ	Passaic	yes	expected June 2011 FEMA/RAMP
15	01387000	no	RAMAPO RIVER AT RAILROAD BRIDGE AT OAKLAND NJ	Passaic	yes	expected 2012 NJDEP/ACOE
16	01380500	no	SADDLE RIVER AT RIDGEWOOD NJ	Passaic	yes	2008 FEMA model
17	01381000	no	MORRISON BROOK AT ROCKDALE NJ	Passaic	yes	2005 FEMA model
18	01380500	no	SADDLE RIVER AT UPPER SADDLE RIVER NJ	Passaic	yes	2005 FEMA model
19	01381800	no	WHIPPANY R NR PINE BROOK NJ	Passaic	no	1984 FEMA
20	01381500	no	WHIPPANY R NR MORRISTOWN NJ	Passaic	no	1984 FEMA
21	01381400	no	WHIPPANY R NR MORRISTOWN NJ	Passaic	no	1984 FEMA
22	01377500	no	PASCACK BROOK AT WESTWOOD NJ	Hackensack	yes	2001 FEMA model
23	01377370	no	PASCACK BROOK AT RUCKER NJ	Hackensack	yes	2001 FEMA model, expected 2012 NJDEP/ACOE
24	01378500	no	HACKENSACK RIVER AT NEW MILFORD NJ	Hackensack	yes	1982 NJDEP/FEMA, expected 2012 NJDEP/ACOE
25	01377000	no	HACKENSACK RIVER AT RIVERVALE NJ	Hackensack	yes	1979 NJDEP/FEMA, expected 2012 NJDEP/ACOE
26	01382000	yes	ROCKAWAY RIVER AT ROCKAWAY TOWER DAM NJ	Passaic	yes	expected June 2011 FEMA/RAMP
27	01379530	no	CANOE BROOK NEAR SUMMIT NJ	Passaic	no	none available
28	01379000	no	Mt Brook at Route 10 at Victory Gardens NJ	Passaic	no	none available
29	01380000	no	WEST BROOK NEAR WYAGUE NJ	Passaic	yes	1979 NJDEP/FEMA, expected 2012 NJDEP/ACOE
30	01382170	no	Pequanock River at NJ Route 23 near Oak Ridge NJ	Passaic	no	1986 NJDEP/FEMA (project R)

USGS NJ Water Resource Center Tasked
USACE NY District Tasked - through Silver Jackets Grant Award to NJ



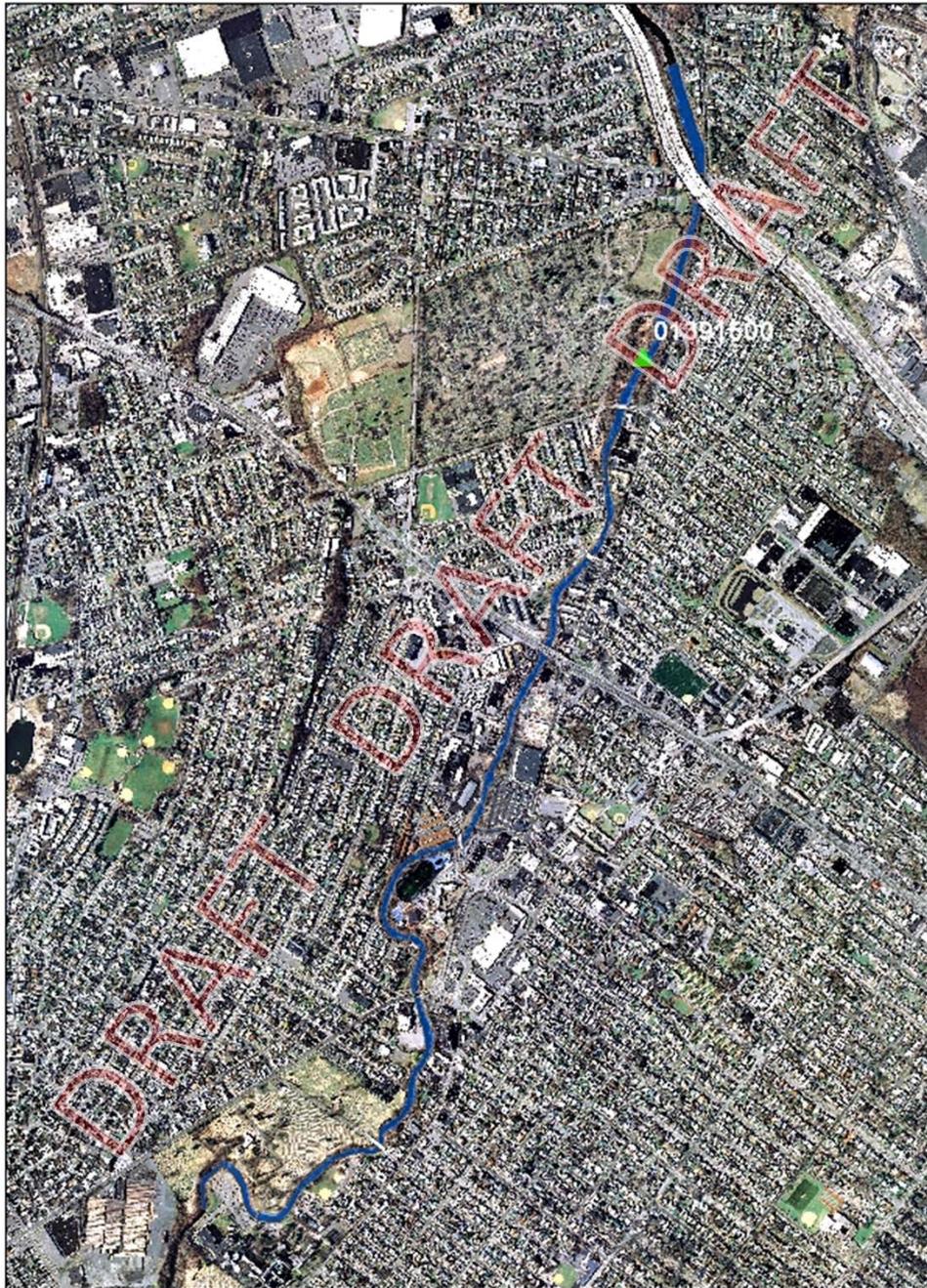
Lodi Study Area

- Saddle River from Rochelle Park to Lodi, NJ
 - Approximately 0.8 mi upstream and 2.1 mi downstream of USGS streamgage 01391500 Saddle River at Lodi, NJ





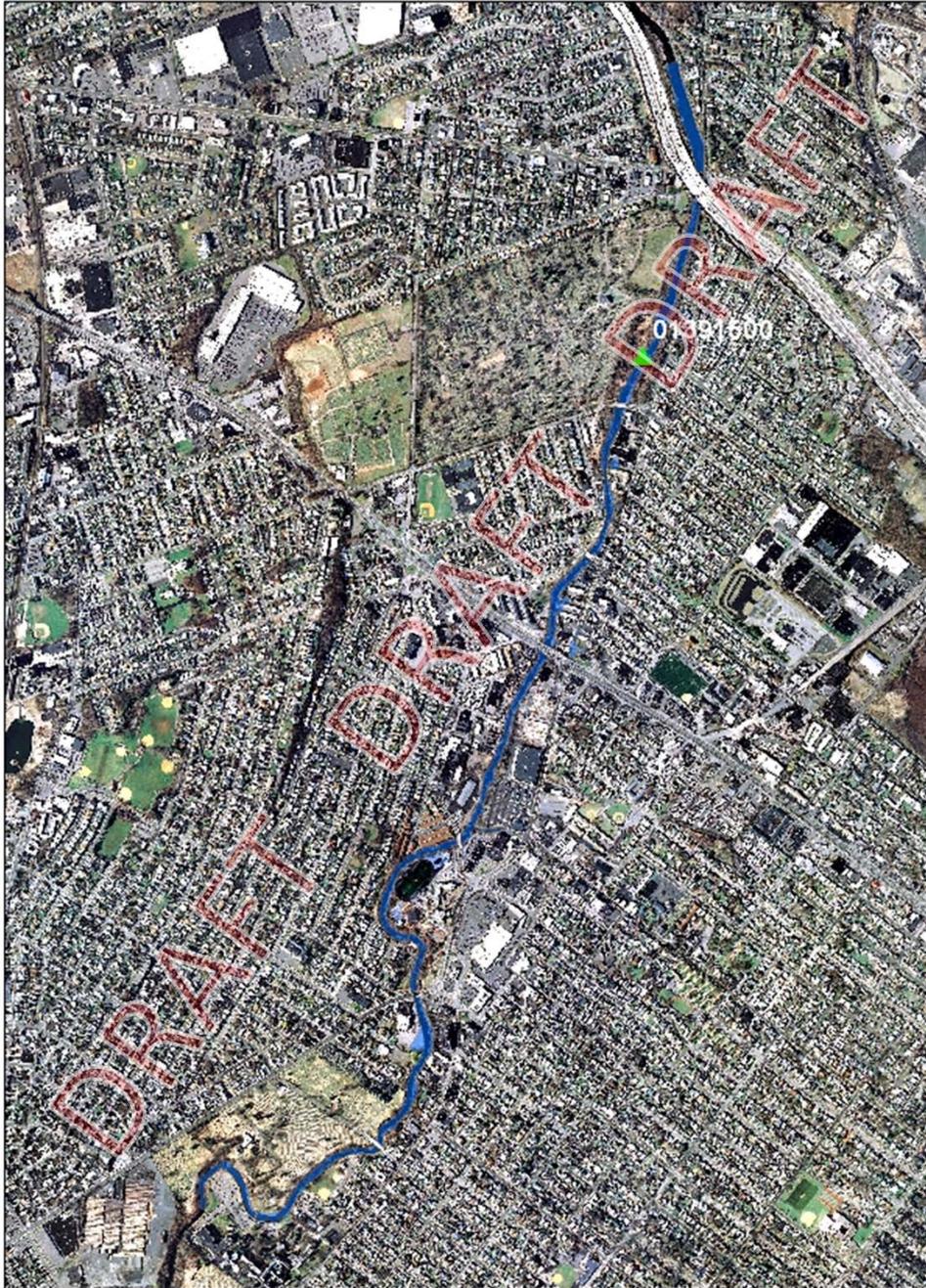
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 5 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 5.0 Feet and an Altitude of 29.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



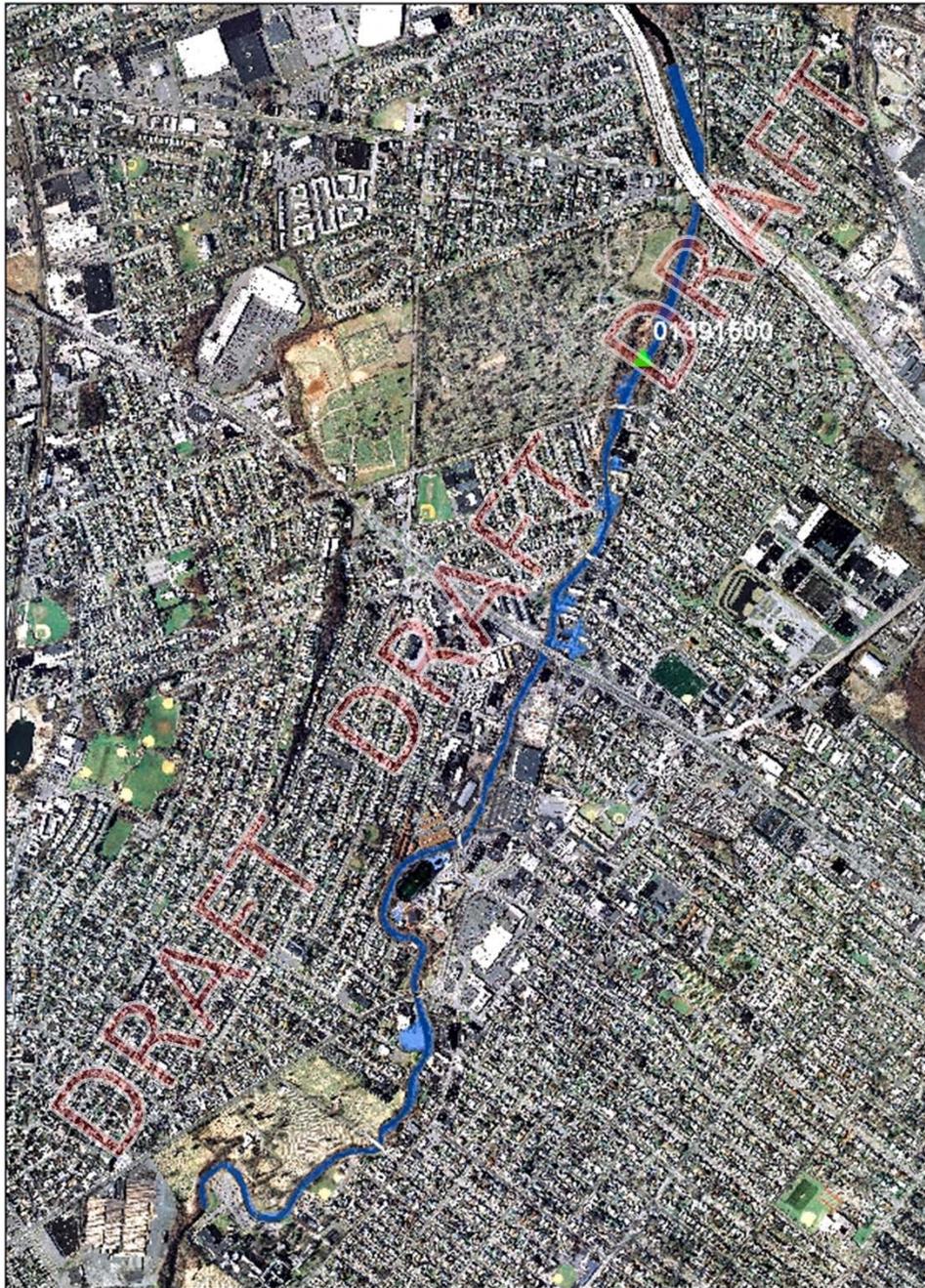
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 6 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 6.0 Feet and an Altitude of 30.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



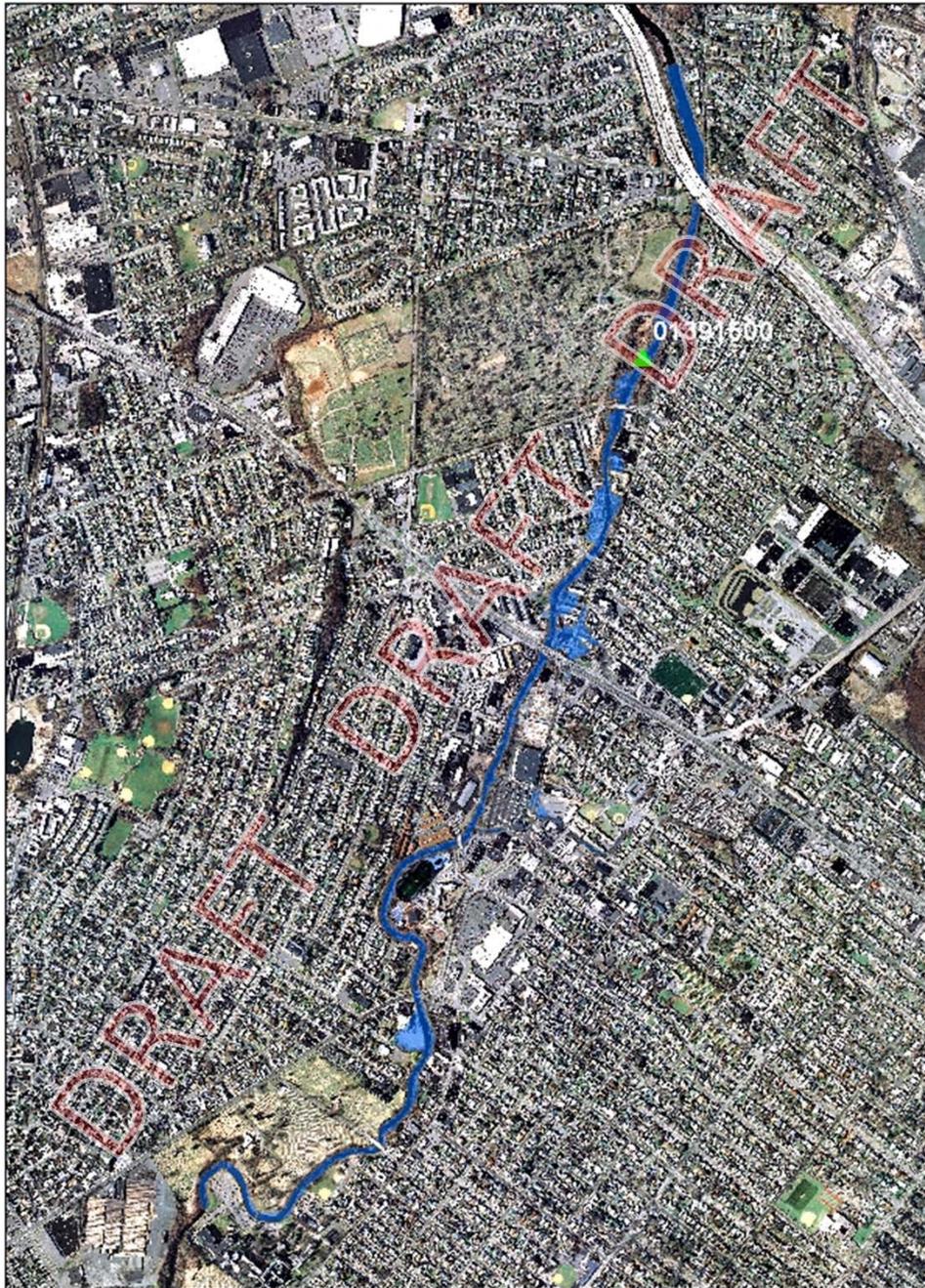
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 7 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 7.0 Feet and an Altitude of 31.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



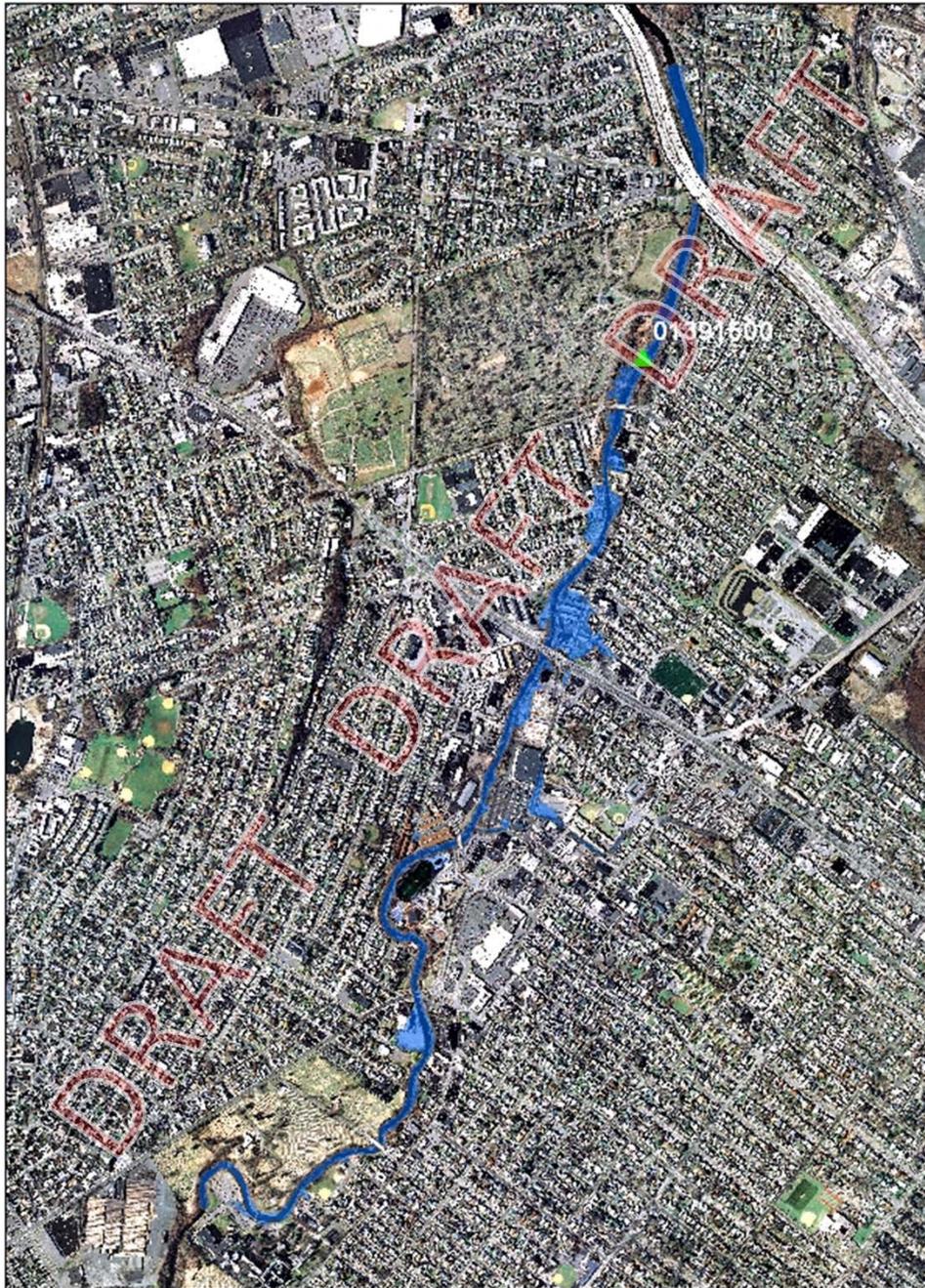
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 8 ft



**Estimated Flood-Inundation
Map for the Saddle River
from Market Street in Saddle
Brook to Arnot Street in
Lodi, New Jersey for a Flood
Corresponding to a Gage
Height of **8.0 Feet** and an
Altitude of **32.0 Feet**
(NAVD88) at the U.S.
Geological Survey
Streamgage at Lodi, New
Jersey (Station ID 01391500)**



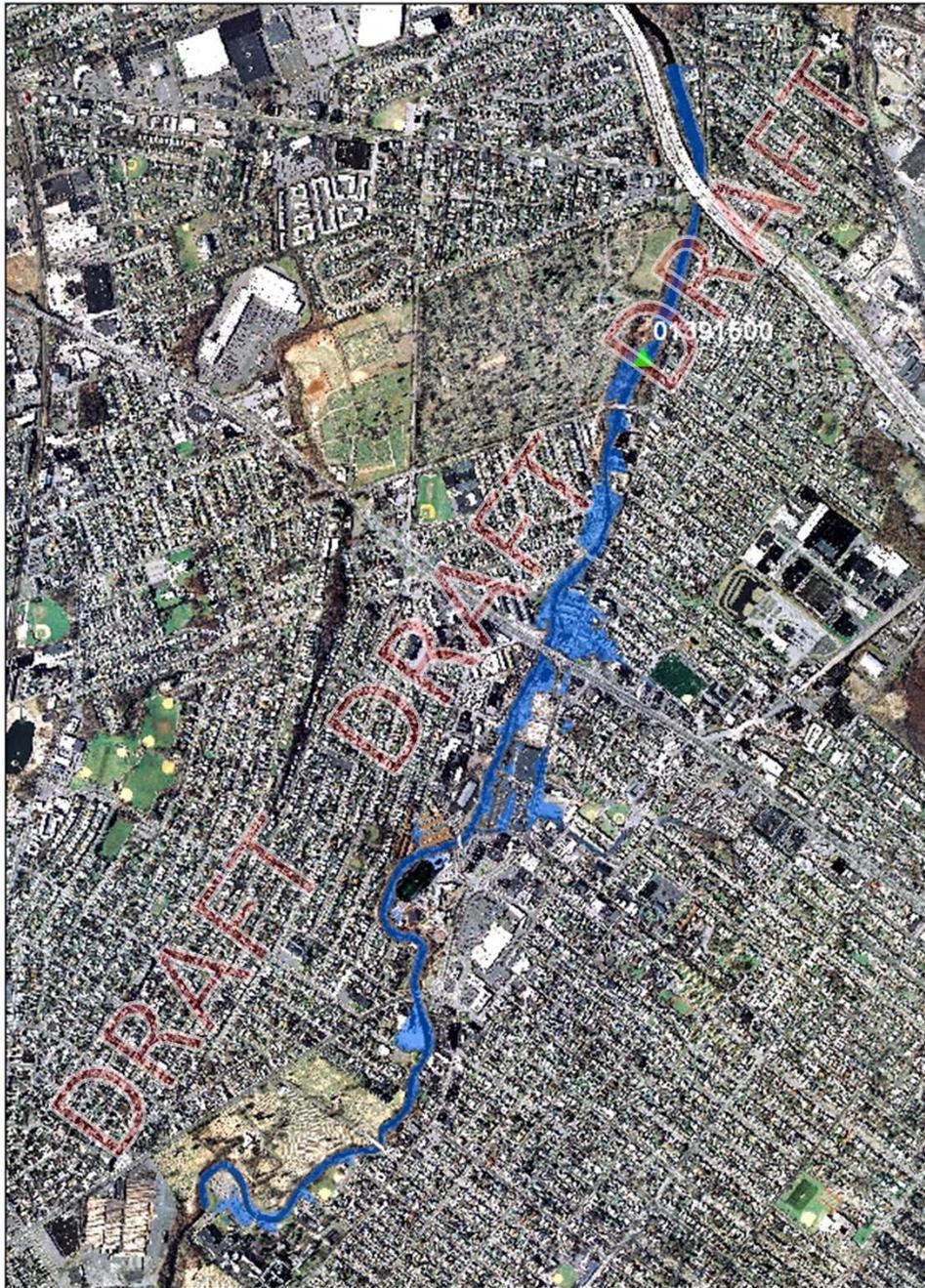
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 9 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 9.0 Feet and an Altitude of 33.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



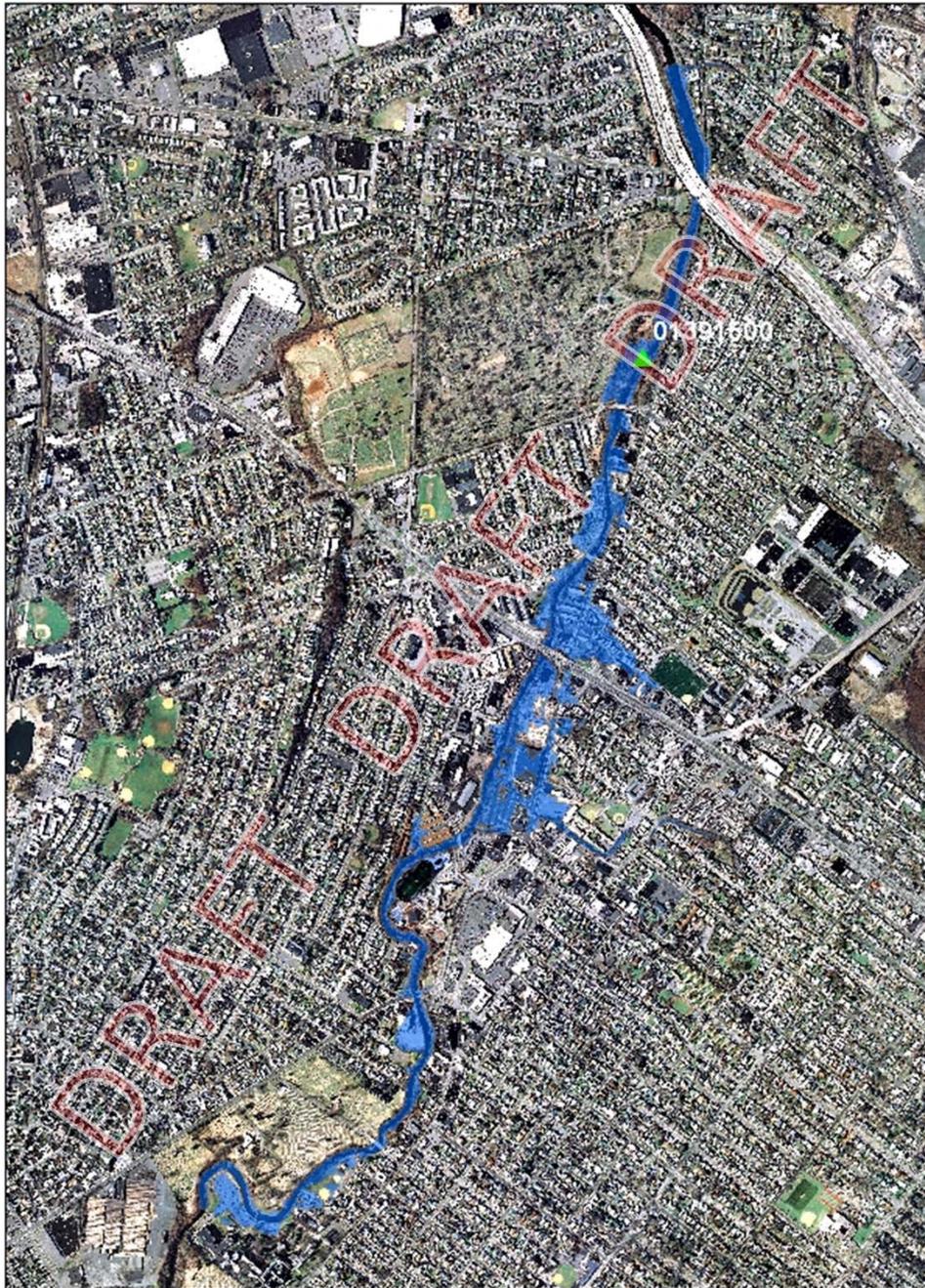
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 10ft



**Estimated Flood-Inundation
Map for the Saddle River
from Market Street in Saddle
Brook to Arnot Street in
Lodi, New Jersey for a Flood
Corresponding to a Gage
Height of **10.0 Feet** and an
Altitude of **34.0 Feet**
(NAVD88) at the U.S.
Geological Survey
Streamgage at Lodi, New
Jersey (Station ID 01391500)**



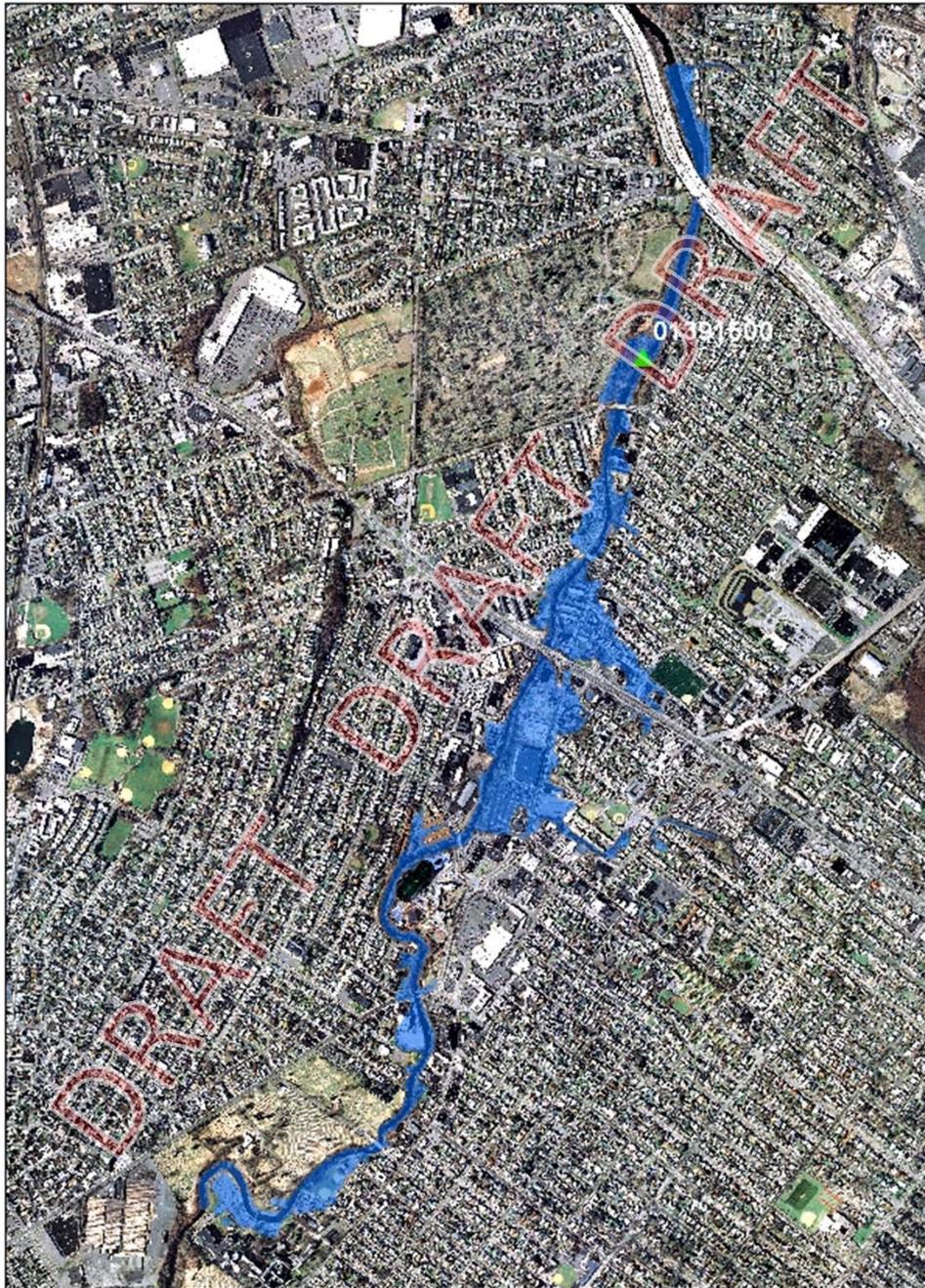
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 11 ft



**Estimated Flood-Inundation
Map for the Saddle River
from Market Street in Saddle
Brook to Arnot Street in
Lodi, New Jersey for a Flood
Corresponding to a Gage
Height of **11.0 Feet** and an
Altitude of **35.0 Feet**
(NAVD88) at the U.S.
Geological Survey
Streamgage at Lodi, New
Jersey (Station ID 01391500)**



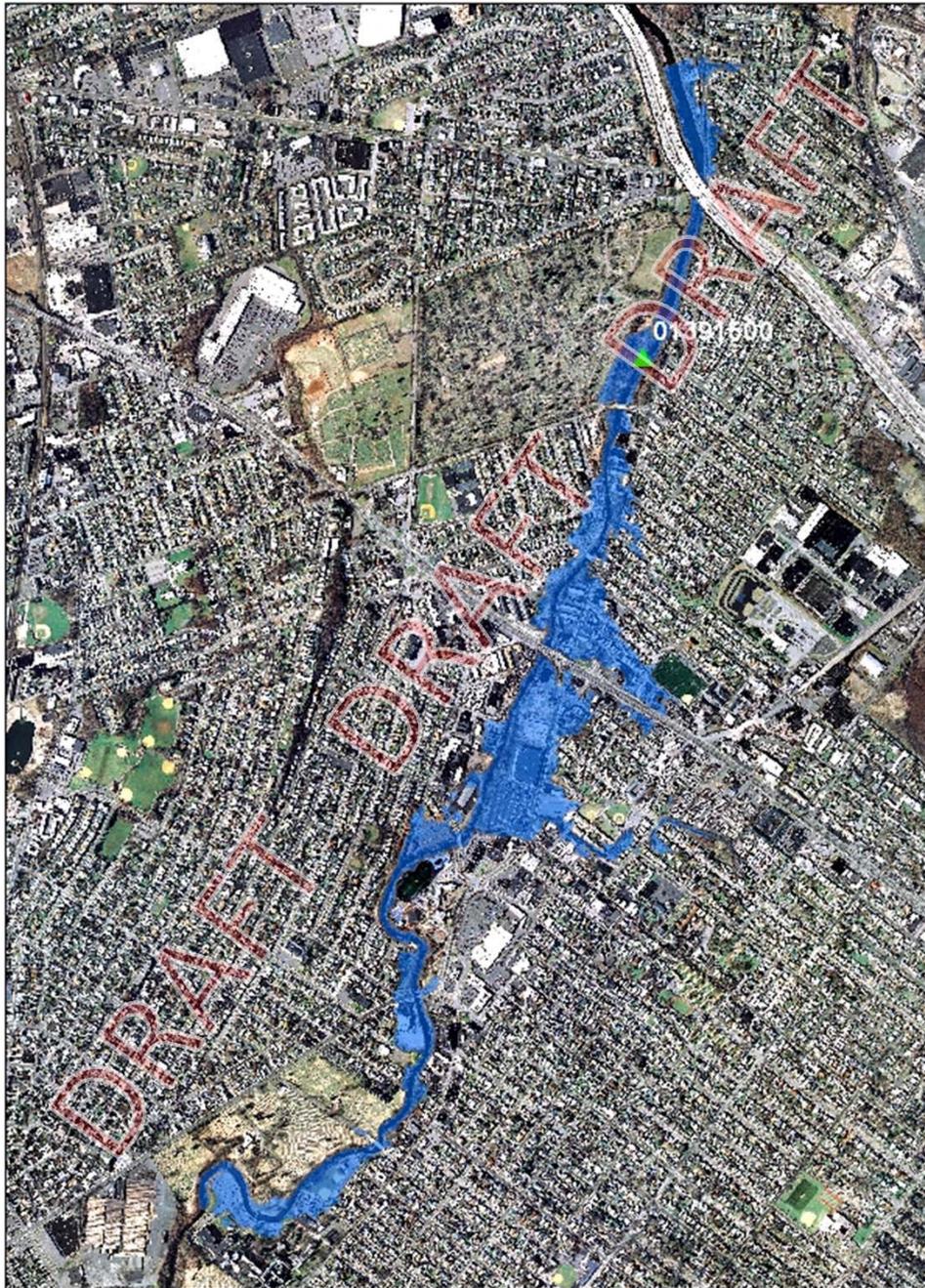
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 12 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 12.0 Feet and an Altitude of 36.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



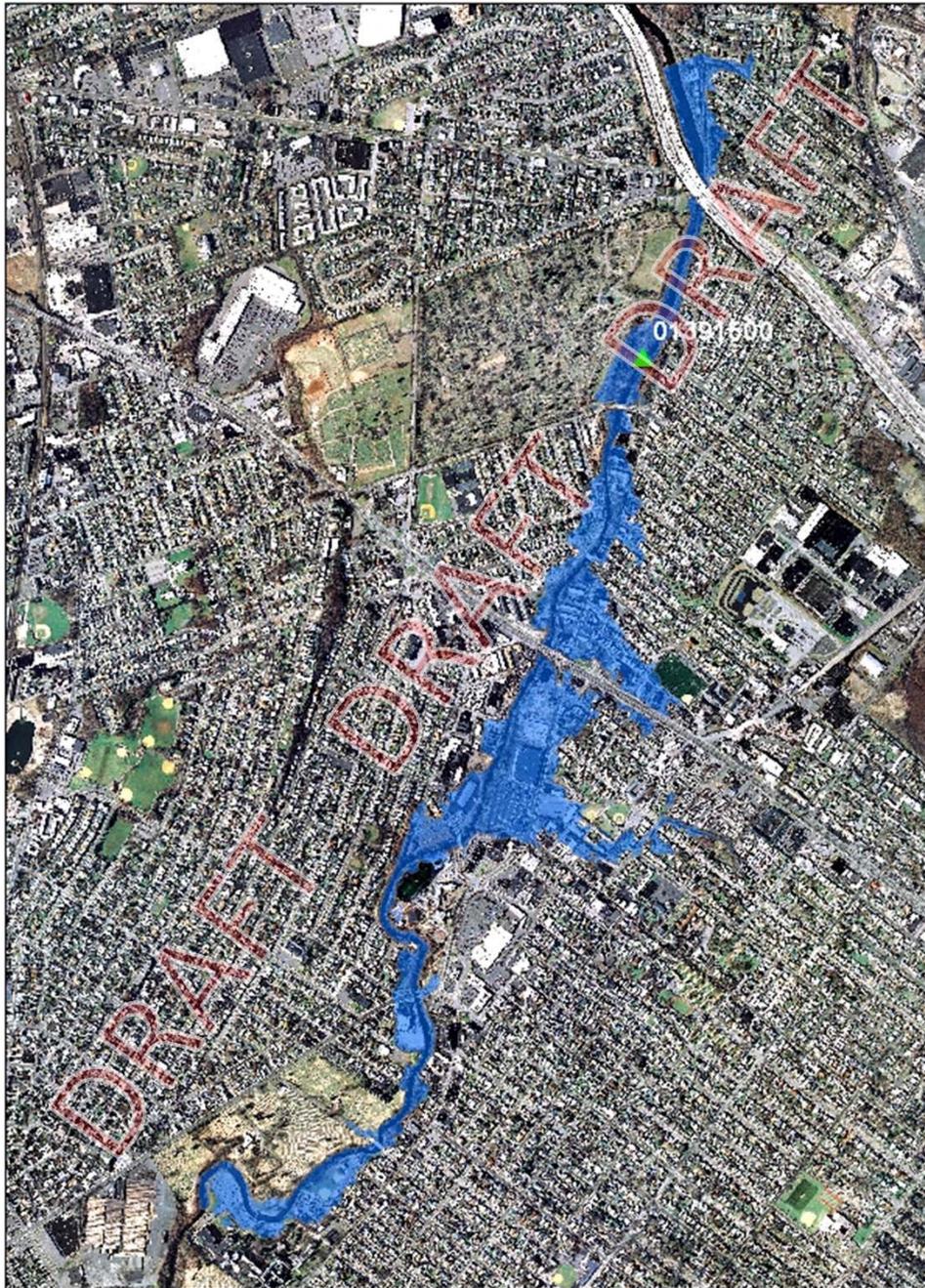
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 13 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 13.0 Feet and an Altitude of 37.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



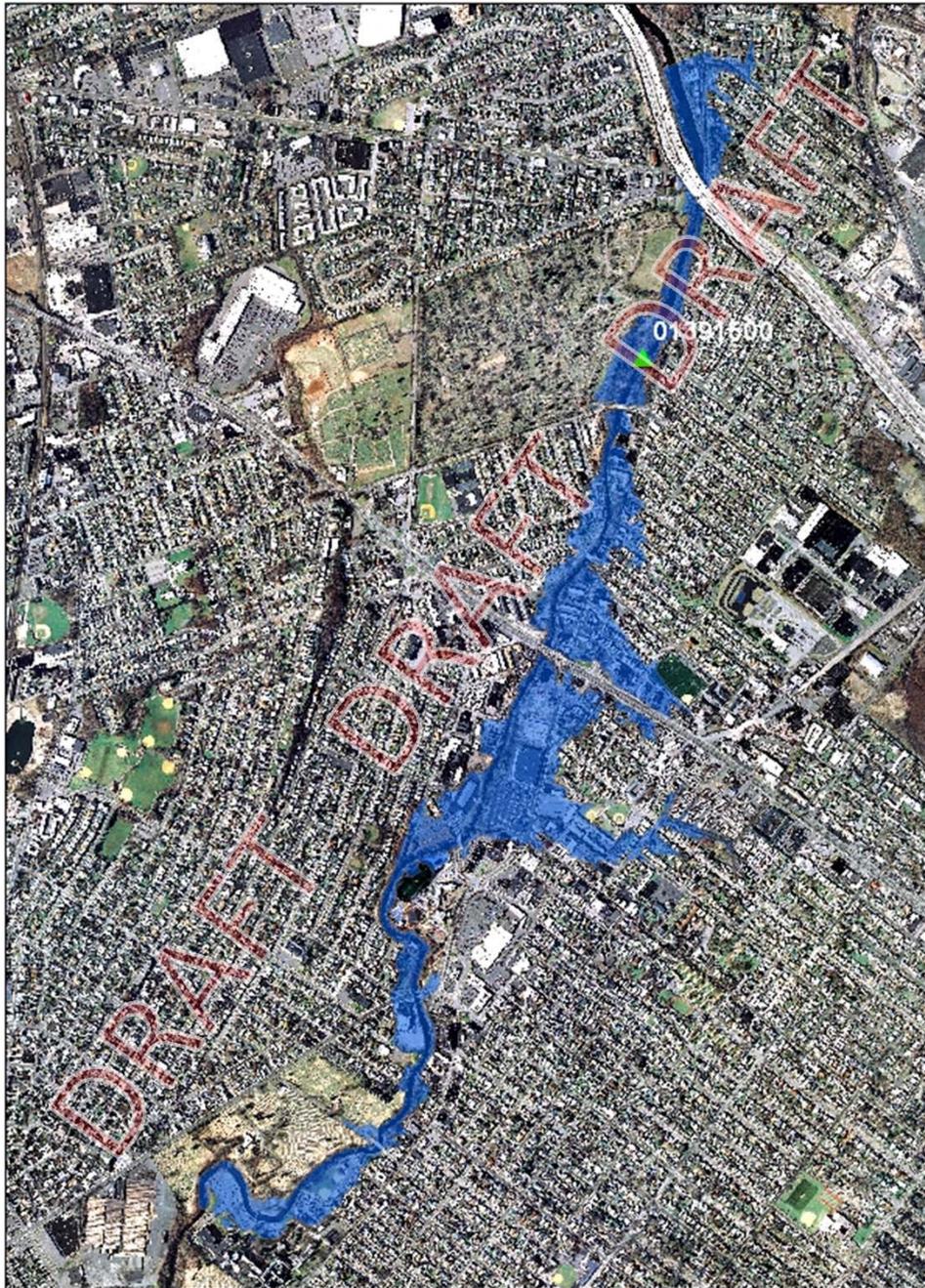
Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 14 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 14.0 Feet and an Altitude of 38.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)



Flood Inundation Mapping- Saddle River at Lodi, NJ
Stage- 15 ft



Estimated Flood-Inundation Map for the Saddle River from Market Street in Saddle Brook to Arnot Street in Lodi, New Jersey for a Flood Corresponding to a Gage Height of 15.0 Feet and an Altitude of 39.0 Feet (NAVD88) at the U.S. Geological Survey Streamgage at Lodi, New Jersey (Station ID 01391500)

Quality Assurance with HWMs

Flood of 1971

Flood of 1977

Floyd 1999



13.94 ft stage- Floyd 1999 Flood- green; Blue 14 ft flood stage from model

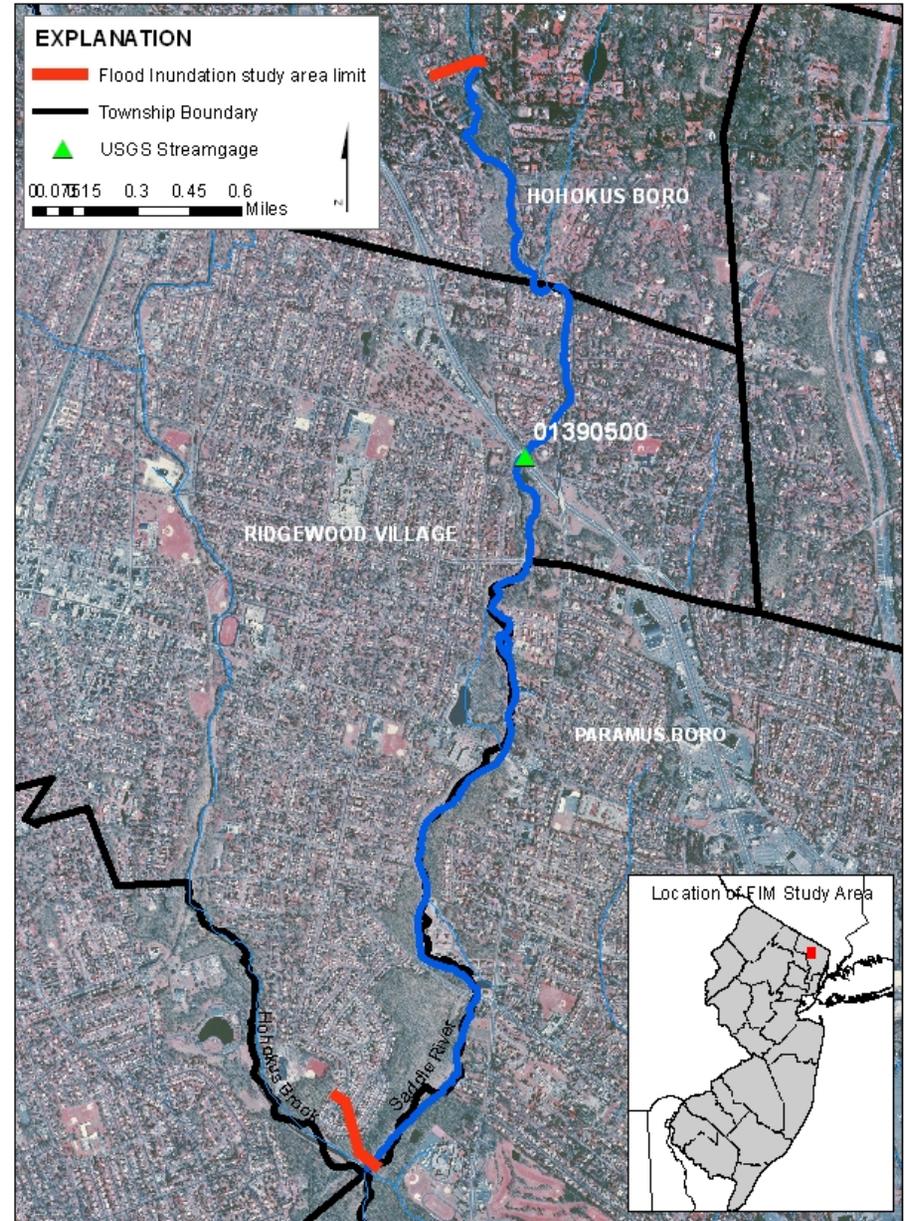


Ridgewood Study Area

- Saddle River from Ho-Ho-Kus to Paramus, NJ
 - Approximately 1.5 mi upstream and 2.5 mi downstream of USGS streamgage 01390500 Saddle River at Ridgewood, NJ



Flood Inundation Mapping- Saddle River at Ridgewood, NJ

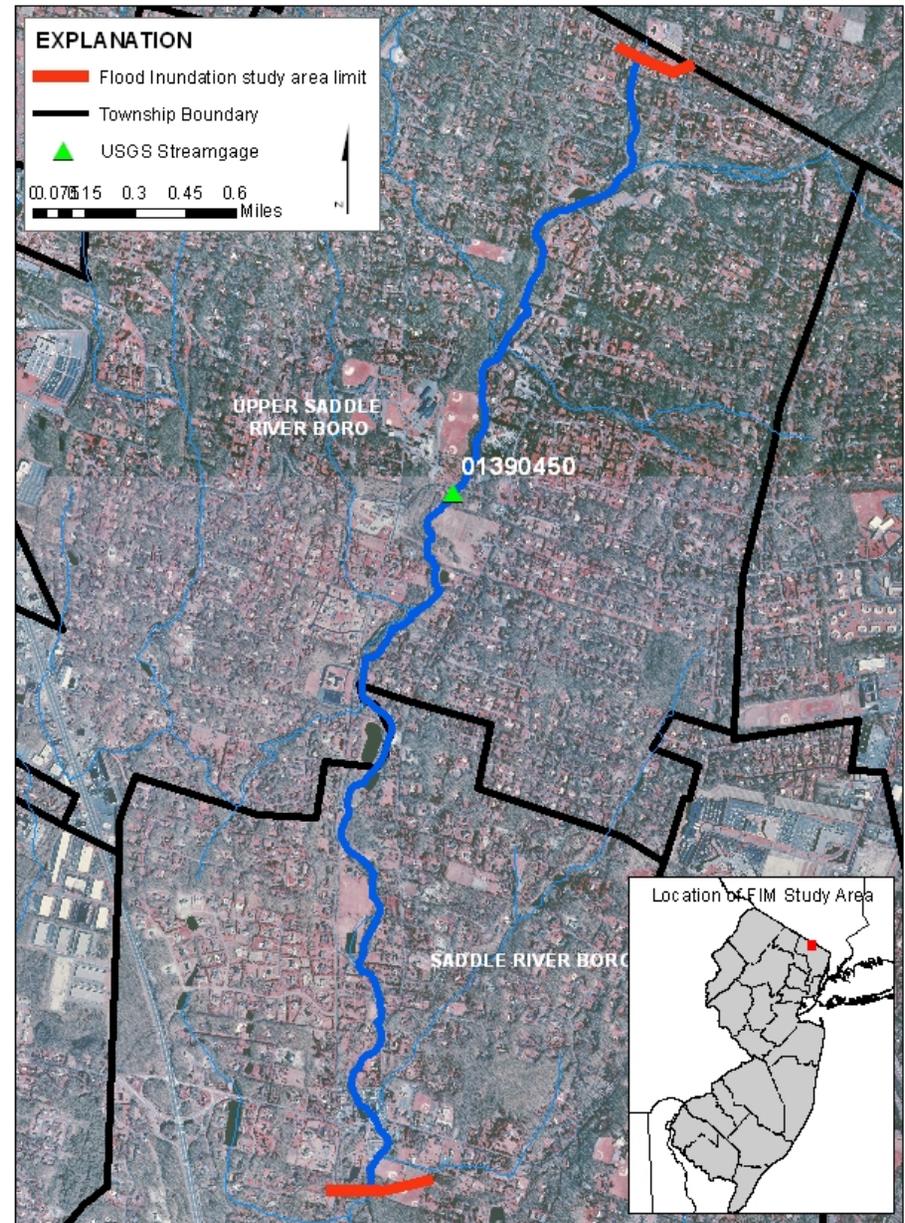


Upper Saddle River Study Area

- Saddle River from Upper Saddle River to Saddle River, NJ
 - Approximately 1.6 mi upstream and 2.4 mi downstream of USGS streamgauge 01390450 Saddle River at Upper Saddle River, NJ



USGS Flood Inundation Mapping- Saddle River at Upper Saddle River, NJ

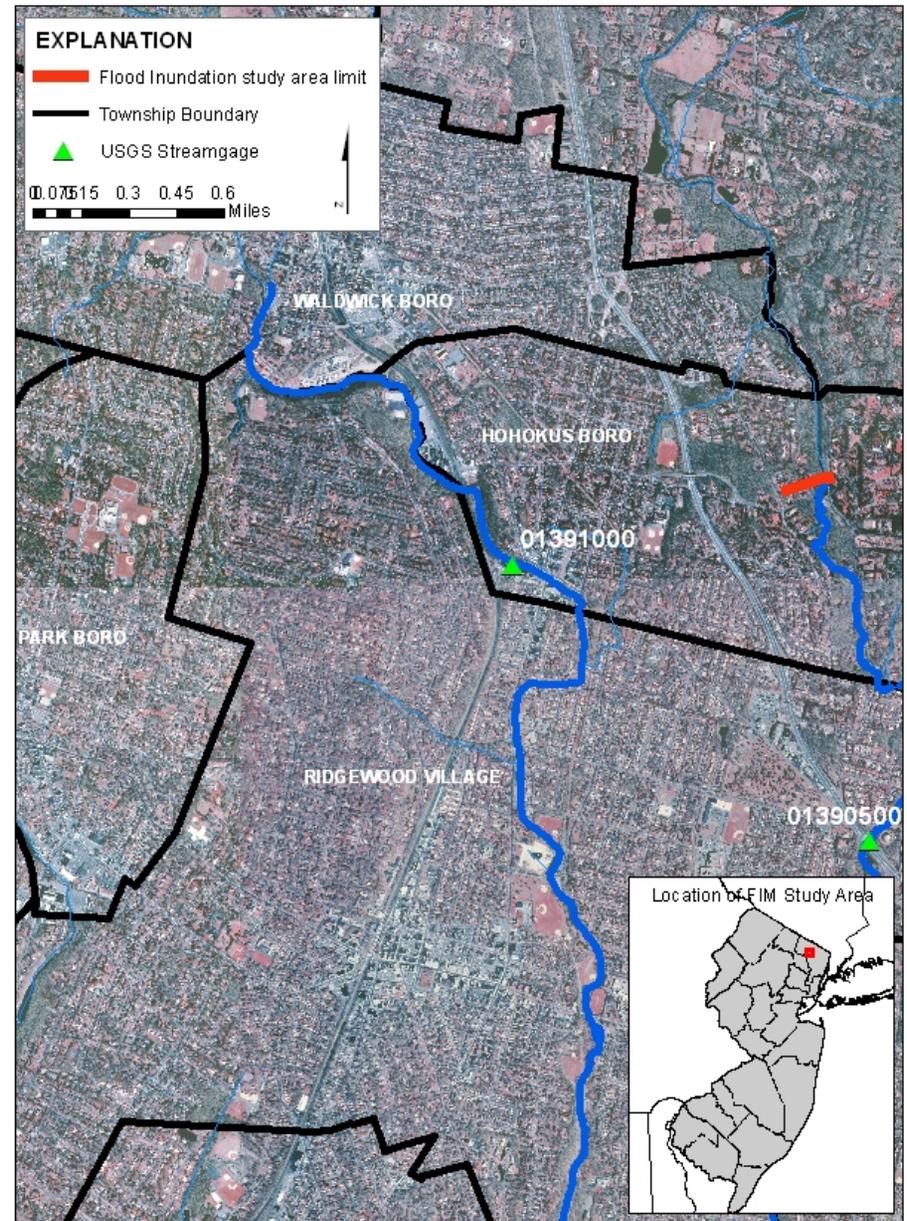


Ho-Ho-Kus Study Area

- Hohokus River from Waldwick to Ridgewood, NJ
 - Exact distance upstream and downstream of USGS streamgage 01391000 Hohokus River at Ho-Ho-Kus, NJ yet to be determined



Flood Inundation Mapping- Hohokus Brook at Hohokus, NJ

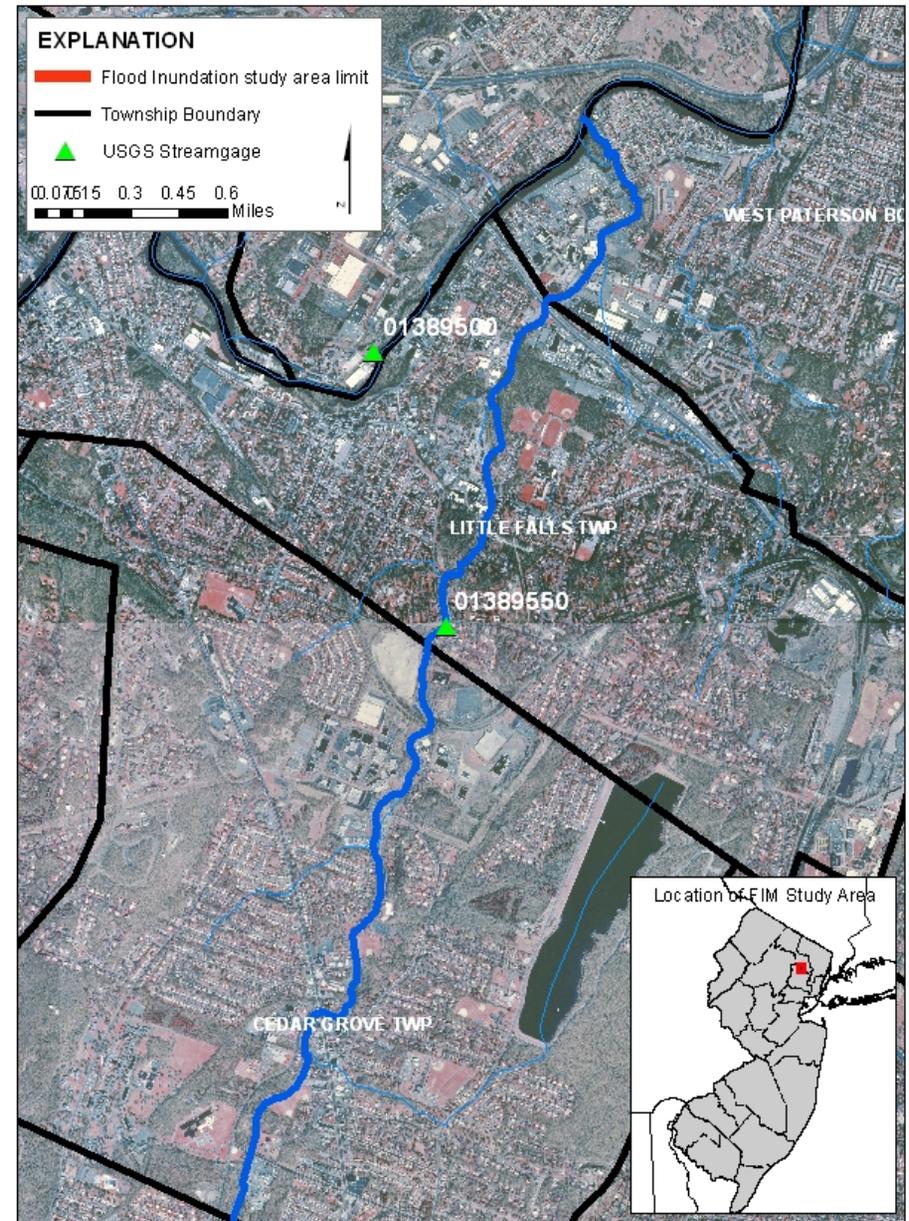


Little Falls Study Area

- Peckman River from West Paterson to Cedar Grove, NJ
 - Exact distance upstream and downstream of USGS streamgage 01389550 Peckman River at Little Falls, NJ yet to be determined



 Flood Inundation Mapping- Peckman River at Little Falls, NJ



Deliverables...

USGS Flood Inundation Mapping Science (http://water.usgs.gov/osw/flood_inundation)



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Provisional data, subject to review



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FLOOD-INUNDATION PROJECTS

- Georgia
 - † Flint River at Albany
- Illinois
 - † Du Page County
 - † Lake County
- Indiana
 - † **White River near Nora, Indiana**
 - † Flood of June 7-9, 2008
- Kansas
 - † Cowskin Creek, Wichita
- Missouri
 - † Upper Blue River, Indian Creek, and Dyke Branch
- North Carolina
 - † LIDAR Applications, Tar River Basin
 - † Tar River Basin Mapping
 - † Tar River Basin Mapping (NOAA/NWS/AHPS)
- Ohio
 - † Blanchard River, Findlay
 - † Blanchard River, Findlay (NOAA/NWS/AHPS)-
- Washington
 - † Snoqualmie River Basin, 1986 Flood
 - † Delivery of Forecast-Flood Inundation Maps, Snoqualmie River
- Wisconsin
 - † Flood of June 2008



FLOOD-INUNDATION PROJECTS

- Georgia
 - † Flint River at Albany
- Illinois
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 - † Blanchard River, Findlay (NOAA/NWS/AHPS)-
- Washington
 - † Snoqualmie River Basin, 1986 Flood
 - † Delivery of Forecast-Flood Inundation Maps, Snoqualmie River
- Wisconsin
 - † Flood of June 2008

Flood Inundation Map Library for the White River near Nora, Marion County, Indiana



FLOOD-INUNDATION PROJECTS

- Georgia
 - † Flint River at Albany
- Illinois
 - † Du Page County
 - † Lake County
- Indiana
 - † **White River near Nora, Indiana**
 - † Flood of June 7-9, 2008
- Kansas
 - † Cowskin Creek, Wichita
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 - † Tar River Basin Mapping
 - † Tar River Basin Mapping (NOAA/NWS/AHPS)
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 - † Blanchard River, Findlay (NOAA/NWS/AHPS)-
- Washington
 - † Snoqualmie River Basin, 1986 Flood
 - † Delivery of Forecast-Flood Inundation Maps, Snoqualmie River
- Wisconsin
 - † Flood of June 2008

A digital GIS-based flood inundation mapping library for a 6-mile reach of the White River near Nora, Marion County, Indiana was created by the USGS Indiana Water Science Center. The library consists of GIS flood surfaces tied to the gage height recorded at USGS streamgage 03351000, White River near Nora, Marion County, Indiana and forecast at the collocated NWS Flood Forecast Point NOR13, White River at Nora; there are one surface produce at each 1-ft gage height from just below bank-full to the maximum expected flood level. Emergency managers, community planners, and the public will be able to access the maps quickly and relate them to forecast flood gage heights through the NWS AHPS Web service for White River at Nora.



Flood-inundation areas for White River near Nora, Indiana (station 03351000)

Use the links below to download flood-inundation images and geospatial data. For each stage, data is offered in three formats:

- † JPG: Low resolution images (800 Kb)
- † PDF: High resolution images (48 Mb)
- † KMZ: Used by applications, as in Google Earth, to display geospatial data (8 Kb)

	JPG (low resolution)	PDF (high resolution)	KMZ
Stage of 11.0 feet, 721.5 feet NAVD88			
Stage of 12.0 feet, 722.5 feet NAVD88			
Stage of 13.0 feet, 723.5 feet NAVD88			
Stage of 14.0 feet, 724.5 feet NAVD88			
Stage of 15.0 feet, 725.5 feet NAVD88			
Stage of 16.0 feet, 726.5 feet NAVD88			
Stage of 17.0 feet, 727.5 feet NAVD88			
Stage of 18.0 feet, 728.5 feet NAVD88			
Stage of 19.0 feet, 729.5 feet NAVD88			
Stage of 20.0 feet, 730.5 feet NAVD88			
Stage of 21.0 feet, 731.5 feet NAVD88			
Stage of 22.0 feet, 732.5 feet NAVD88			
Stage of 23.0 feet, 733.5 feet NAVD88			

[GIS layers; ESRI raster and vector files, and associated metadata files \(3 Mb ZIP file\)](#)

USGS Home Water Resources Bio
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[U.S. Department of the Interior](#) |
 URL: <http://water.usgs.gov/osw/>
 Page Contact Information: [Moon](#)
 Page Last Modified: Friday, 13-A





Flood Inundation Mapper Beta Version

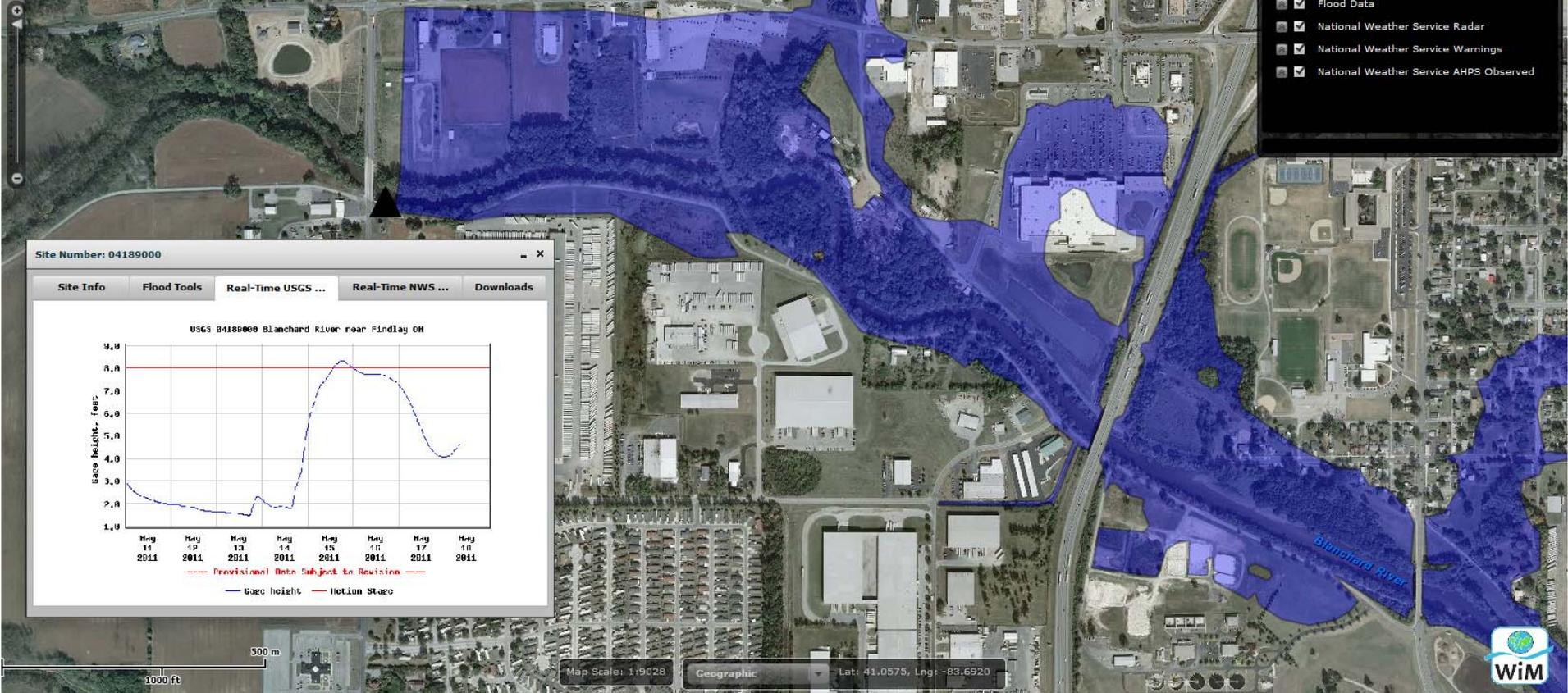
Previous Extent Next Extent Full Extent Print Map

Streets Imagery Imagery/Labels Topo

Find Location

Available Layers

- Flood Data
- National Weather Service Radar
- National Weather Service Warnings
- National Weather Service AHPS Observed



Example of Flood Inundation Mapper

Note the real-time hydrograph of the USGS gage, the sliding scale to adjust the extent of flood inundation, and the user-defined map options such as the map types (Streets, Imagery, Imagery/Labels, & Topo) and layers (Stream Gage Sites, Flood Data, & NWS Radar), as well as the adjustable opacity of those layers.



Alternative to NWS Forecast Point

- WaterAlert

- <http://water.usgs.gov/wateralert/>

- USGS StreamMail

- <http://water.usgs.gov/wateralert/streammail.html>

How to Have the Data ALERT YOU...

USGS WaterAlert

- Threshold notification system
- WaterAlert sends e-mail or text (SMS) messages when certain parameters, as measured by a USGS real-time data-collection station, exceed user-definable thresholds
- Real-time data from USGS gages are transmitted via satellite to USGS offices once every hour.
 - **Emergency transmissions, such as during floods, are more frequent (typically every 15 min)**
- Notifications will be based on the data received at these site-dependent intervals.

How to Have the Data ALERT YOU...

USGS WaterAlert

USGS
science for a changing world

New Jersey Water Science Center

home water data projects publications hazards news about us contact webcams internal

Water Resources of New Jersey

Surface Water Groundwater Water Quality

Welcome to the USGS New Jersey Water Science Center Web page. This is your direct link to water-resource information on New Jersey's rivers and streams, groundwater, water quality, and biology. Data collection and interpretive studies are done by the Center to support statewide water-resource infrastructure and management needs and are part of the [USGS science strategy](#) to address the water-resource priorities of the Nation and global trends in:

- ▶ Ecosystem status and change
- ▶ Climate variability and change
- ▶ Energy and mineral management
- ▶ National hazard risk and assessment
- ▶ Environmental risk to human health
- ▶ Water use and availability

[View NJ Monthly Hydrologic Conditions](#)

[View NJ Annual Data Report, Water Year 2009](#)

[View Water-Resources Data for the US: Water Year 2010](#)

View Hydrologic conditions: [2009 SW](#) | [2010 GW](#) | [2009-10 QW](#)

QUICK LINKS

WATER DATA

[StreamStats](#) (S)

Real-time data (S)

- ▶ [Streamflow](#) (S)
- ▶ [Groundwater](#) (S)
- ▶ [Water quality](#) (S)
- ▶ [Weather](#) (S)
- ▶ [Tide telemetry](#) (S)

NWISWeb for New Jersey
(Current and historic data)

- ▶ [Streamflow](#) (S)
- ▶ [Groundwater](#) (S)
- ▶ [Water quality](#) (S)
- ▶ [Instantaneous Data Archive \(IDA\)](#) (S)

WaterWatch for New Jersey

- ▶ [Surface-Water Watch](#) (S)
- ▶ [Groundwater Watch](#) (S)
- ▶ [Water-Quality Watch](#) (S)
- ▶ [Flood Watch](#) (S)
- ▶ [Drought Watch](#) (S)

PUBLICATIONS

Real-time Water Temperature Locations

Click on Water-Quality map or tab to see data

Quick Link to Real-Time Data (S)

Enter a USGS site number:

View data site list: [SW](#) | [GW](#) | [WQ](#)

Mobile Information Center

[USGS WaterAlert](#) sends email or text messages when certain parameters measured by a USGS data-collection station exceed user-definable thresholds.

[USGS StreamAlert](#) sends email response with real-time stream stage and flow data for the USGS station (site) number in subject line of your email request.

Recent Events

Statements on the recent flooding, [August 14-16, 2011](#) and [Hurricane Irene](#), are currently available.

Featured Project

Trace Elements National Synthesis Project

A recently completed National study on radium occurrence indicated that the North Atlantic Coastal Plain, which underlies southern New Jersey, is one of two principal aquifers in the United States where more than 20 percent of the raw water samples from wells exceed the drinking water standard. The Appalachian Piedmont Mesozoic Basins bedrock principal aquifer, which underlies a substantial part of northern New Jersey, had a small likelihood that the raw water samples from the wells exceed the drinking water standard, a likelihood of about 3 percent, which is equivalent to the overall National frequency. The study found that geochemical conditions, such as low levels of dissolved oxygen (<1mg/L) and low pH (<6), were indicators of where radium was likely to be detected or exceed a standard. Low levels of dissolved

WaterAlert (<http://water.usgs.gov/wateralert/>)

USGS Water



USGS Home
Contact USGS

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Thank you. Your form has been submitted (ID=hBbmX).

A confirmation message has been sent to rreiser@usgs.gov.

You must reply to the confirmation message before Thursday, December 01, 2011 2:26:45 PM in order to activate this subscription.

USGS Real-Time Hydrologic Notification System subscription for:

Site number: 01463500

Site name: Delaware River at Trenton NJ

Notification Method (e): email message to rreiser@usgs.gov

Parameter Code: 00065

Parameter Name: Gage height (ft)

Notification interval: Daily

Threshold condition: value > 18

Check your "Spam" mail folder if you don't receive a confirmation email from the USGS within a few minutes

Close

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user agrees to these [Te](#)

Submit

Reset

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Water Alert Confirmation Emails

- Confirmation email sent within minutes of subscribing
- Reply to the email within 48 hours to confirm subscription
 - Click reply and send without changing anything in the body of the message

Water Alert's Email Message When Threshold Reached

Gage height of 18.5 ft exceeds subscriber threshold of 18.0 at
2011-08-28 06:15:00 EDT

01463500 00065 Delaware River at Trenton NJ

Notification interval, no more often than: Daily

For Realtime Data at this station:

http://waterdata.usgs.gov/nwis/uv/?site_no=01463500

For Subscription Help:

<http://water.usgs.gov/hns?m3cPv:01463500>

To Sign up for New Notifications:

<http://water.usgs.gov/wateralert>

Send Questions to: wateralert@usgs.gov



Water Alert's Help Page

- Send email replies to wateralert@usgs.gov
- How to:
 - Pause this Specific Alert for 5 days
 - Pause all Alerts for 5 days
 - Continue (unpause) this or ALL alerts
 - Delete (signoff) this alert
 - List Settings
 - List Settings for all Notifications at same site
- To Modify a threshold, set a "new" notification with the same email address, site number and parameter

USGS StreamMail

(<http://water.usgs.gov/wateralert/streamail.html>)

Sample Email

U.S. Geological Survey (USGS) StreamMail:
The latest river stage and streamflow values you requested from StreamMail.

Site: 02336300
Station name: PEACHTREE CREEK AT ATLANTA, GA
Date: 09/30/2010
Time: 09:00:00
Stage: 2.95 feet
Streamflow: 90 cubic feet per second (cfs)

Link to charts for 02336300:

Stage: http://waterwatch.usgs.gov/wwapps/zchart.php?i=nwis2&&vt=uv&&cd=00065&site_no=02336300

Streamflow: http://waterwatch.usgs.gov/wwapps/zchart.php?i=nwis2&&vt=uv&&cd=00060&&site_no=02336000

Sample SMS Text Message

From: streamail@usgs.gov
Site 02336300 09:30
Stage: 3.29
Flow: 34



USGS StreamMail

Provides immediate water information from the USGS Real-Time Network. Send an e-mail to streammail@usgs.gov; in the subject line enter a USGS station number. After a few minutes, get back an e-mail with the most recent real-time stage and streamflow.



Hydrologic information can be e-mailed to devices such as cell phones and personal digital assistants



Current USGS real-time stations available to StreamMail

For more information contact:
Howard Perlan
Georgia Water Science Center
hperlan@usgs.gov
770 903-9114

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

Further Information

- Heidi Hoppe (hhoppe@usgs.gov)
- Kara Watson (kmwatson@usgs.gov)
- USGS New Jersey Water Science Center Home Page
 - <http://nj.usgs.gov>
- Data Requests
 - USGS NJ Water Science Center
810 Bear Tavern Road, Suite 206
West Trenton, NJ 08628