



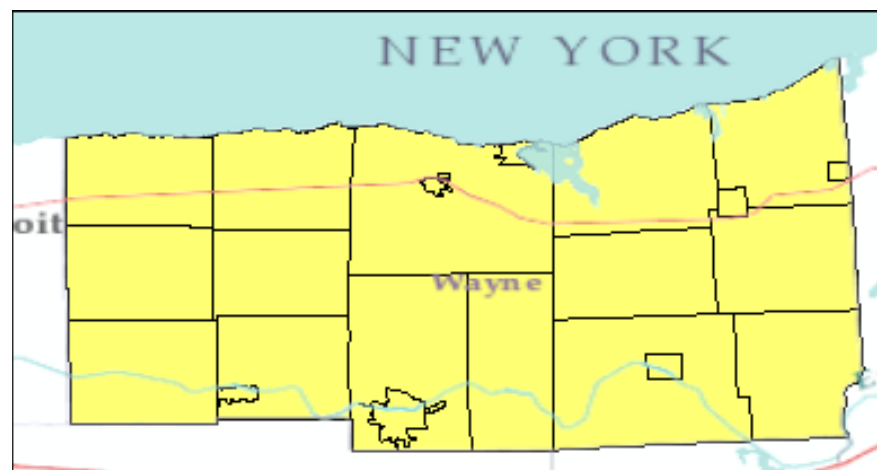
Flood Risk Project

Wayne County, New York
Kick Off Meeting

May 7, 2020



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Please introduce yourself

As partners with FEMA, it's important we create dialogue about your needs for flood risk information.

- ▶ **Name**
- ▶ **Role**
- ▶ **Organization**



Also, what do Wayne communities aspire to accomplish using today's meeting?

Today's Goals

1

The value of updated flood maps for your community

2

Recap of Flood Risk Study history, including Discovery

3

Review county-wide study scope, products and outreach process

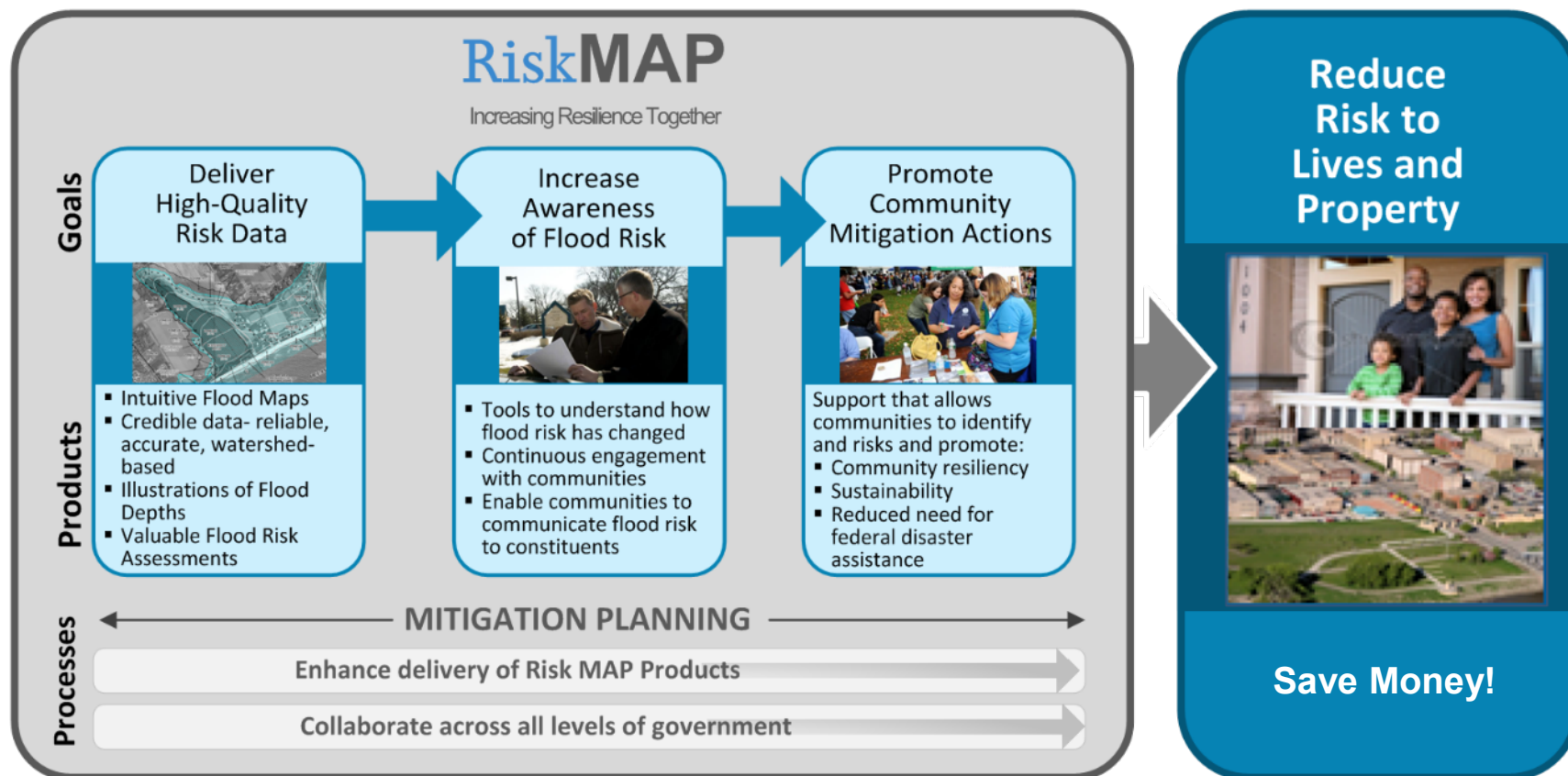


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FEMA Mitigation Division

Risk Analysis Branch

Goal: Stronger and Safer Communities



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The Value of Updated Flood Maps for Local Communities

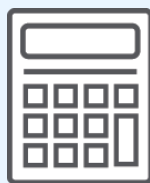


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Flood Maps Guide Progress By:



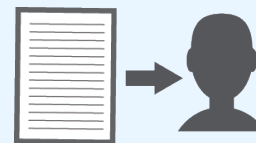
**Identifying
and
Assessing
Flood Risk**



**Establishing
Flood
Insurance
Rates**



**Determining
Local Land
Use**



**Informing
Engineers
and
Developers**



**Equipping
Emergency
Managers**



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Why we are here

We want to help communities understand flood risk and take action to reduce it because...

Risk changes over time

- All floods are different. Nature and communities change.

Flooding happens

- Communities may face flooding. It's important to understand how and where flooding could occur to assess impacts.

Mitigation is Possible

- Proactive communities plan to reduce flood impacts and other hazards.

Why Update Flood Maps?

The Federal Emergency Management Agency (FEMA) manages the National Flood Insurance Program (NFIP)

NFIP Policies for Wayne communities	NFIP Claims for affected communities	FEMA Insurance Claims Paid in affected communities	Hazard Mitigation Plan
244	214	\$2,228,174	May 2014



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How did we get here?

Review past activities



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Discovery/Post-Discovery Progress Recap

- ▶ Two separate HUC-8 Watershed level efforts
- ▶ **Lake Ontario – Irondequoit - Ninemile Watershed**
 - Meeting November 12, 2013
 - Completed July 2016
- ▶ **Seneca River Watershed**
 - Meeting May 13, 2014
 - Completed June 2015
- ▶ **FEMA reviewed community input to determine priorities**
- ▶ **Any local flood studies FEMA should be aware of?**





What is being studied now?

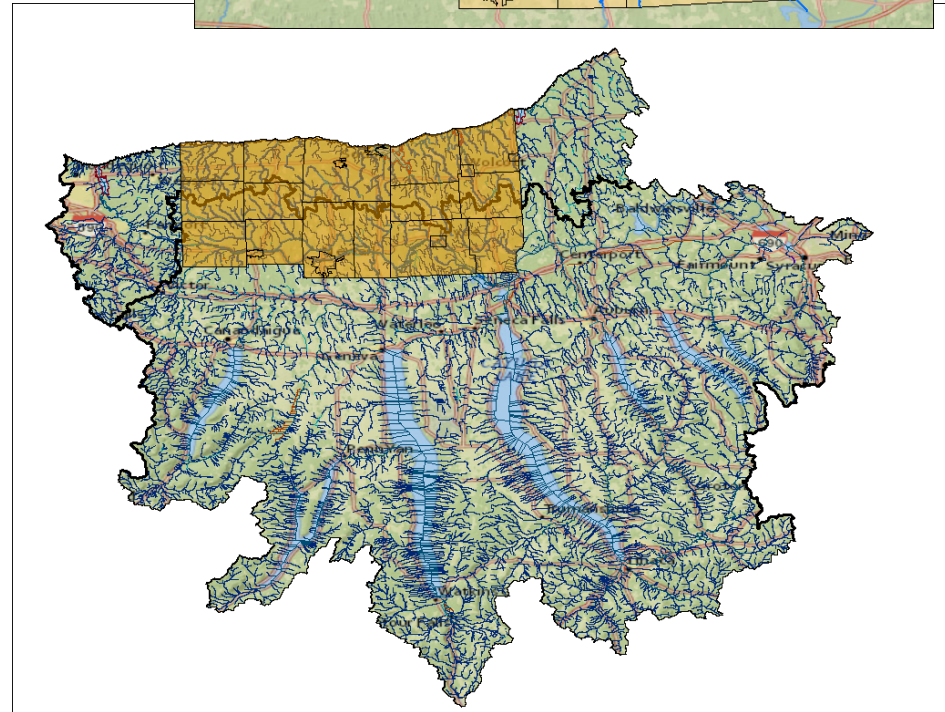
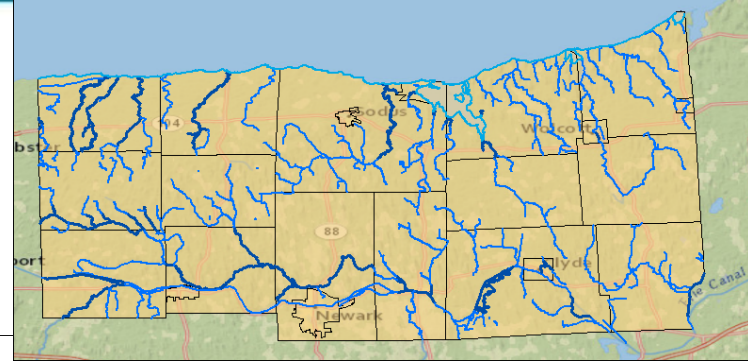
Discuss scope of new study



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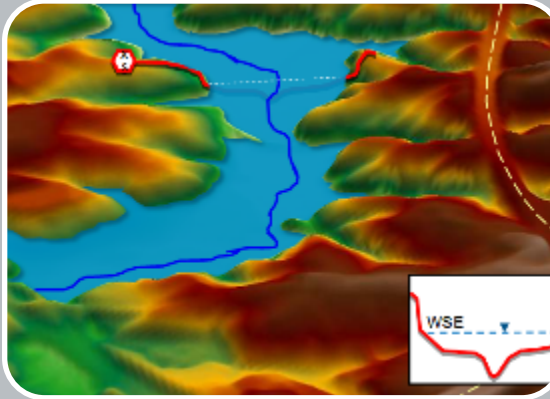
Wayne County, Countywide Flood Risk Study - Scope

- ▶ **First time digital countywide maps**
- ▶ **Flooding sources analyzed**
 - 125.3 miles of Detailed (Zone AE) streams
 - 401.1 miles - Approximate (Zone A) streams
 - 0.5 miles – Detailed Lake Mapping (Zone AE)
- ▶ **22 affected communities**
- ▶ **134 map panels**
- ▶ **Review meetings**
 - Hydrology Meeting
 - Hydraulics Meeting
 - Flood Risk Review Meeting



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Flood Risk Study Analysis



Hydrology

Volume of water?

When will storm water or runoff make it to the stream?

Hydraulics

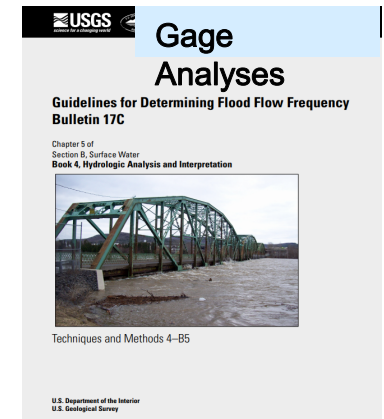
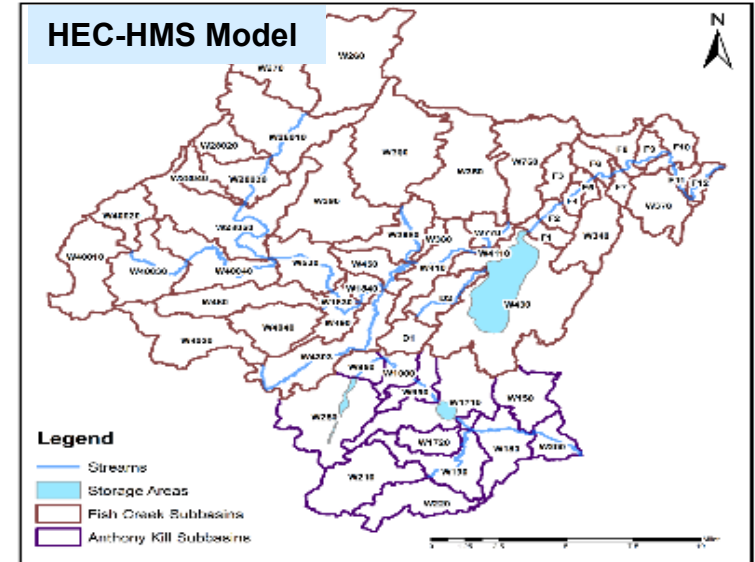
Will the stream in question be able to convey all storm water or runoff that arrives?

Floodplain Mapping

What areas of a community will be inundated based on engineering analysis?

Engineering Methods – Hydrologic Analysis

- ▶ **Typical Methods FEMA utilizes**
 - Statistical Gage Analyses
 - Regression Analyses
 - Rainfall Runoff Modeling
- ▶ **Gage/Regression are based on availability stream gage data**
- ▶ **Rainfall-Runoff physical modeling chosen due to limited gage data**
 - Using USACE's HEC-HMS Program
- ▶ **Discharges developed for**
 - 10%, 4%, 2%, 1%, 1%+, 1%-, 0.2%
 - Inputs for hydraulic analyses



Engineering Methods - Hydraulic Analysis

► Types of Analyses

- One Dimensional (1D) Steady State

► Modeling developed using USACE's HEC-RAS Program

► Terrain Data – 2012 and 2014 FEMA LiDAR

- 1 M and 2M data covering Wayne County
- Provides topographic elevation information
- Supplemented by field survey

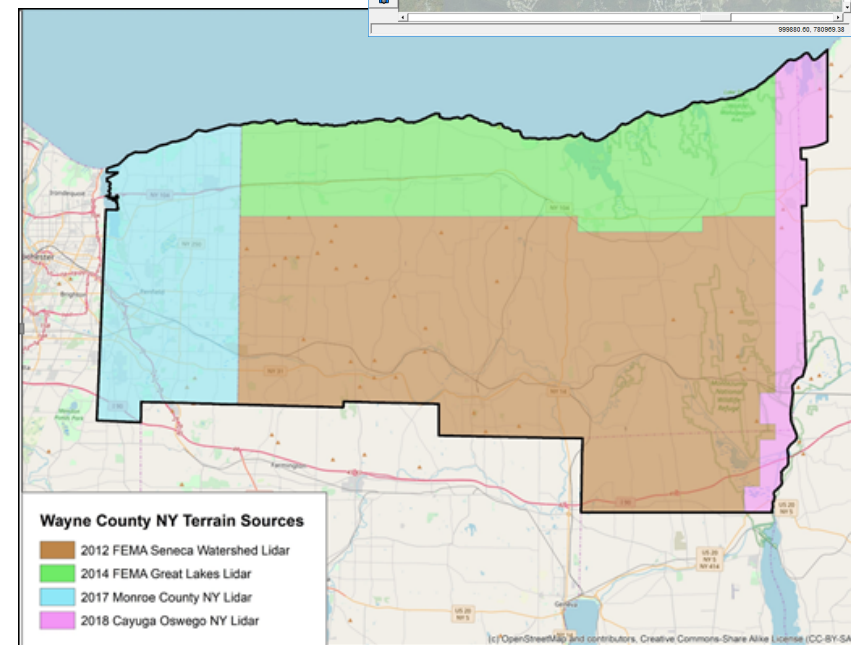
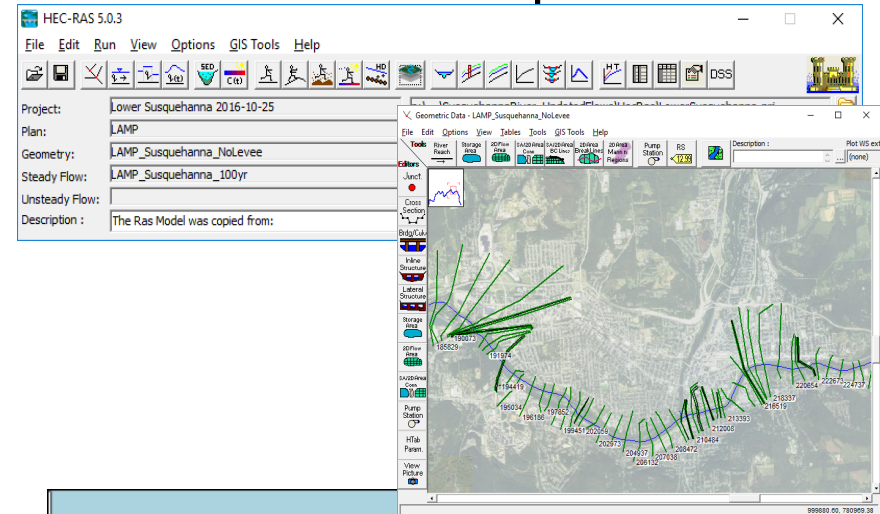
► Field Survey for Detailed only

- Collection underway: 237 structures and 559 under water channel sections

► Flood Hazard Data Generated

- Elevations: 10%, 4%, 2%, 1%, 1%+, 1%-, 0.2%
- Floodplain extents: 10%, 1%, 0.2%, Floodway

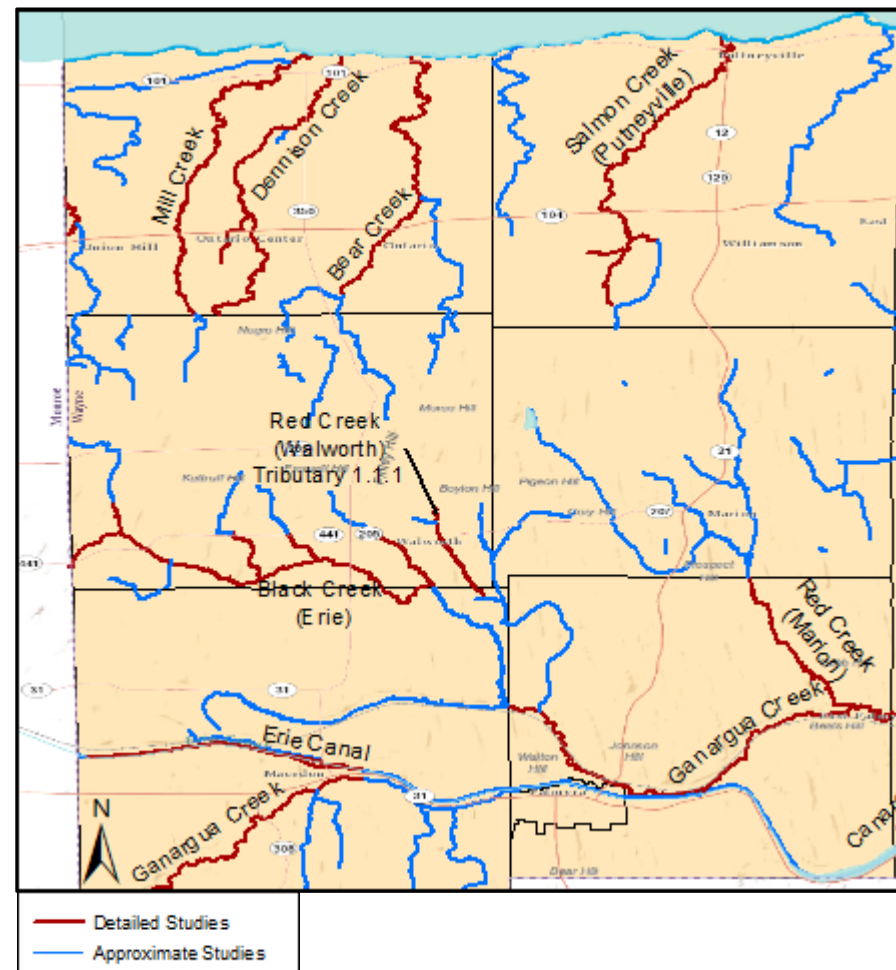
HEC-RAS Model Example



Wayne County – West Scope

Detailed (Zone AE) Study Streams

- Bear Creek – 7.8 miles
- Black Creek (Erie) - 7.1 miles
- Black Creek Tributary 1- 0.8 miles
- Black Creek Tributary 2 - 1.2 miles
- Black Creek Tributary 4 - 0.9 miles
- Dennison Creek – 7.9 miles
- Dennison Creek Tributary 2- 1.3 miles
- Erie Canal – 4.1 miles
- Erie Canal Bypass Channel – 0.9 miles
- Fourmile Creek Tributary 1 – 1.2 miles
- Ganargua Creek (SW) – 5.2 miles
- Ganargua Creek – 14.4 miles
- Mill Creek – 8.8 miles
- Red Creek (Walworth) – 1.5 miles
- Red Creek (Walworth) Tributary 1.1.1. – 2.3 miles
- Red Creek (Walworth) DS – 4.9 miles
- Red Creek (Marion) – 3.6 miles
- Salmon Creek (Putneyville) – 8.0 miles
- Salmon Creek (Putneyville)Tributary 1 – 0.5 miles
- Salmon Creek (Putneyville)Tributary 2 – 1.3 miles

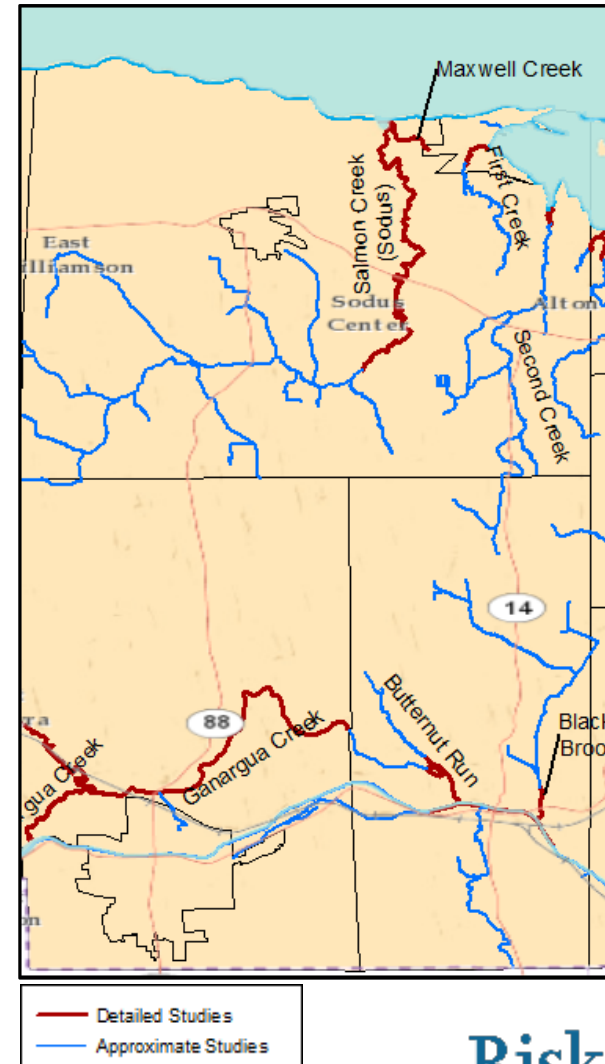


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Wayne County – Central Scope

Detailed (Zone AE) Study Streams

- Butternut Run – 0.4 miles
- Black Brook – 0.8 miles
- Canargua Creek – 1.8 miles (cont.)
- Erie Canal – 2.4 miles
- First Creek – 0.8 miles
- Ganargua Creek – 14.4 miles (cont.)
- Ganargue Creek (East) – 1.5 miles
- Maxwell Creek – 1.1 miles
- Salmon Creek (Sodus) – 8.5 miles
- Second Creek – 0.6 miles
- Third Creek – 0.9 miles



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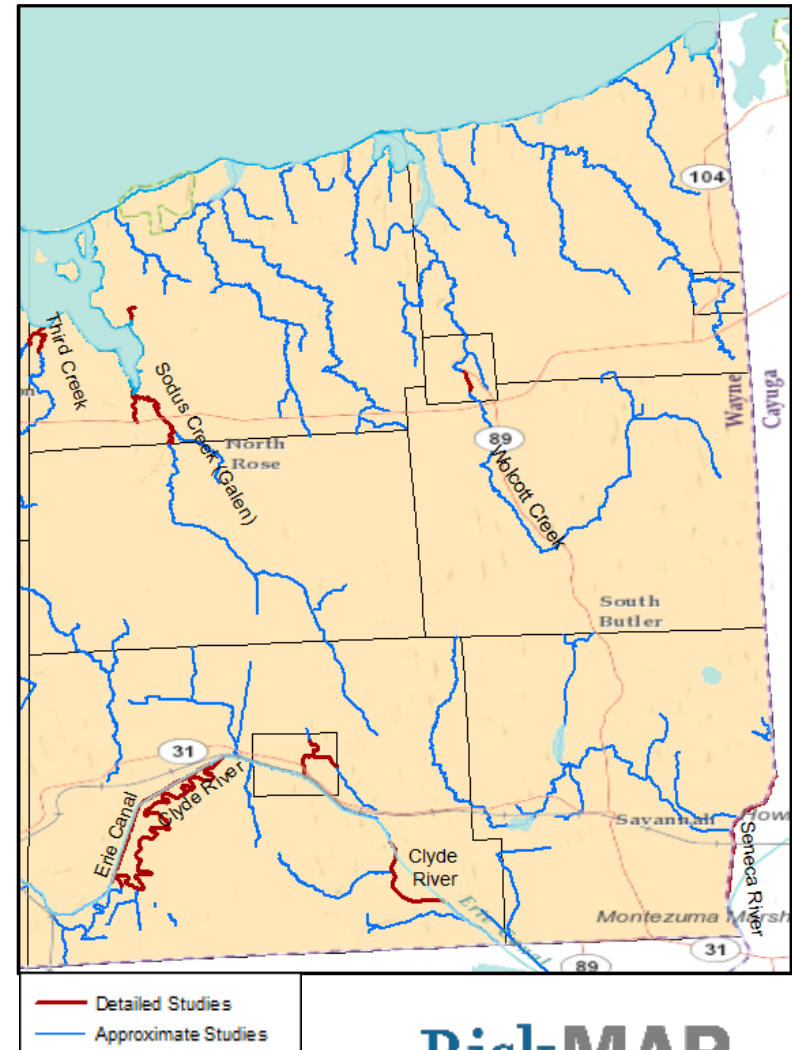
Wayne County – East Scope

► Detailed (Zone AE) Study Streams

- Clark Creek – 0.5 miles
- Clyde River (DS Parallel to Erie Canal) – 7.7 miles
- Clyde River (US) – 2.3 miles
- Clyde River Tributary – 1.2 miles
- Clyde River Tributary 1.1 – 0.6 miles
- Erie Canal – 2 miles
- Seneca River – 2 miles
- Sodus Creek (Galen) – 2.3 miles
- Sodus Creek (Galen) Tributary 1 – 0.8 miles
- Third Creek – 0.9 miles
- Third Creek Tributary 1 – 0.4 miles

► Detailed (AE) Study Lake

- Wolcott Creek- 0.5 miles



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Where are we now and what is next?

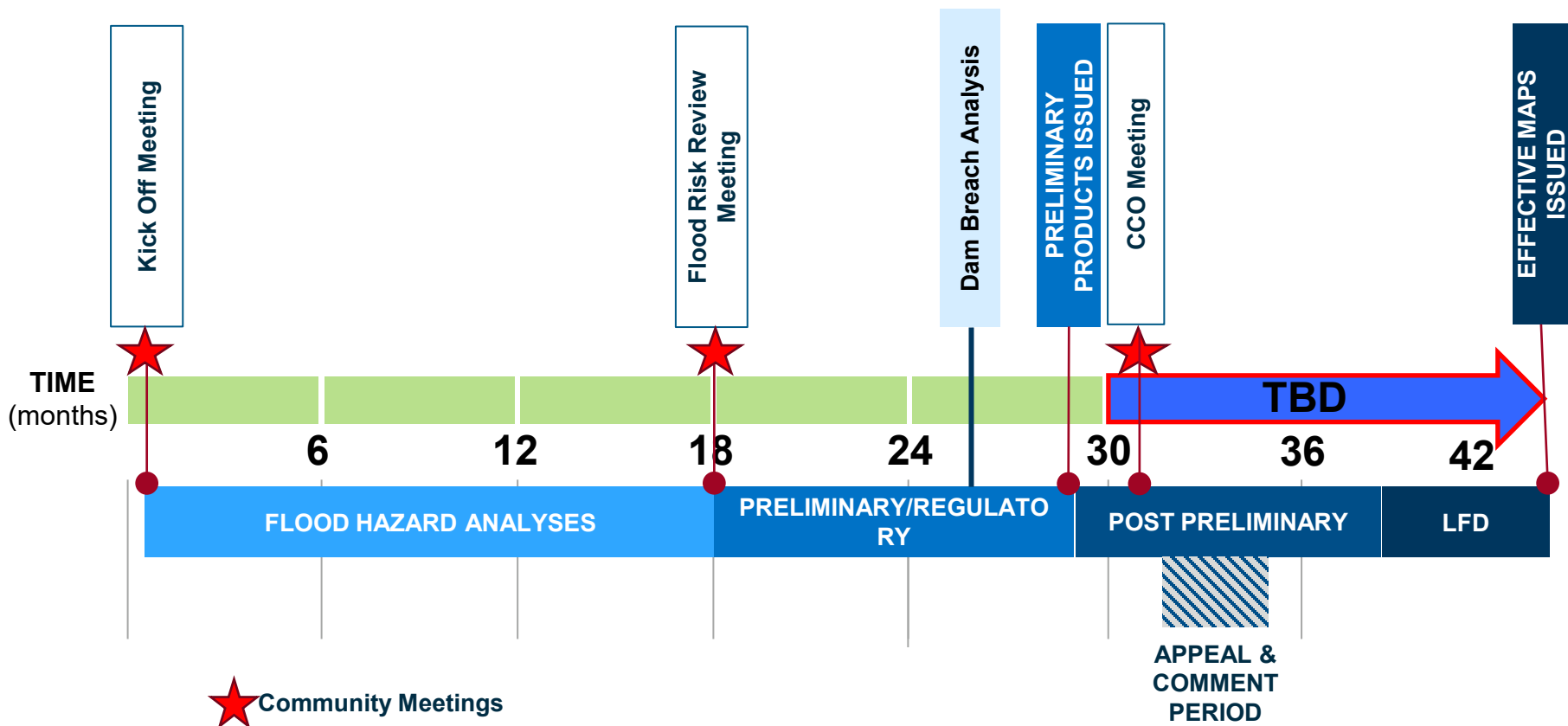
Discuss next steps



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Overall Flood Risk Project Timeline

- Community data submission requested as soon as possible



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Major Study Milestones

- ▶ **Data Development (16 months)**
 - Terrain processing
 - Engineering Methods Concurrence (620 letters)
 - Field reconnaissance and survey
 - Hydrologic modeling
 - Hydraulic modeling
 - Floodplain mapping (workmaps)
- ▶ **Flood Risk Review Meeting**
 - Review work map products with communities (18 months)
- ▶ **Regulatory Product Update (FIRM & FIS)**
 - Preliminary issuance (28 months)



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What will communities receive?

Preliminary and Planning Products



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Work Maps

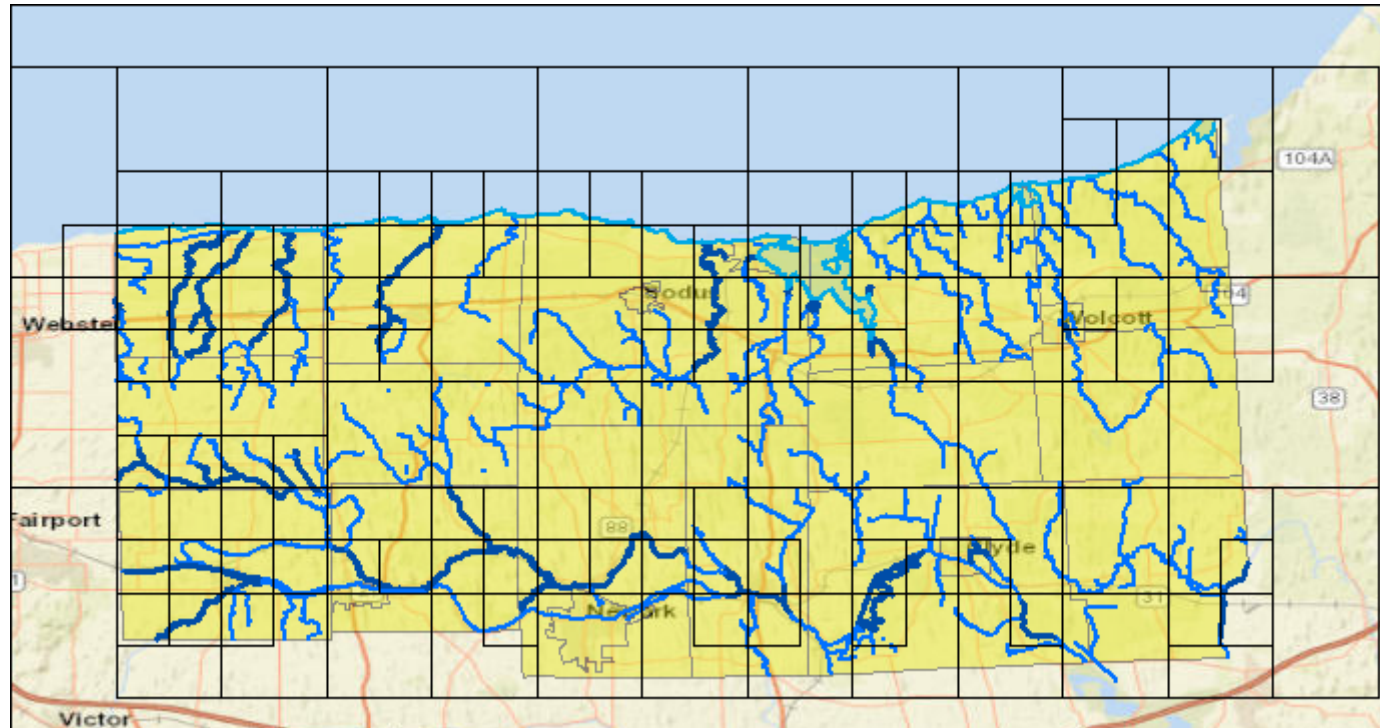
- ▶ **Draft floodplain mapping shared using work maps**
- ▶ **Flood Risk Review meeting provides a review of the new engineering analysis results, allowing communities to:**
 - Identify potential updates for Hazard Mitigation Plans
 - Provide insight and input on hydrology and hydraulic results in updated study area
 - Seek local buy-in and review possible use of analysis
 - Identify areas of large changes and potential opportunities for risk reduction
 - Identify risk communications needs and options



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Preliminary Mapping Products

- Preliminary product development after work maps comment period
- 1st Countywide Study
- Digital Flood Insurance Rate Map (DFIRM) Database
- 134 Panels
- Flood Insurance Study (FIS)



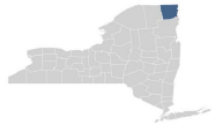
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Flood Insurance Rate Maps (FIRM), FIS, Database - *Example*

19181C_PRELIM_metadata.xml	XML Document
L_Comm_Info.dbf	dBASE Table
L_Comm_Revis.dbf	dBASE Table
L_ManningsN.dbf	dBASE Table
L_Meetings.dbf	dBASE Table
L_Mtg_POC.dbf	dBASE Table
L_Pol_FHBM.dbf	dBASE Table
L_Source_Cit.dbf	dBASE Table
L_Summary_Discharges.dbf	dBASE Table
L_XS_Elev.dbf	dBASE Table
L_XS_Struct.dbf	dBASE Table
S_Base_Index.shp	Shapefile
S_BFE.shp	Shapefile
S_FIRM_Pan.shp	Shapefile
S_Fld_Haz_Ar.shp	Shapefile
S_Fld_Haz_Ln.shp	Shapefile
S_Gen_Struct.shp	Shapefile
S_Hydro_Reach.shp	Shapefile
S_Label_Ld.shp	Shapefile
S_Label_Pt.shp	Shapefile
S_Nodes.shp	Shapefile
S_PLSS_Ar.shp	Shapefile
S_Pol_Ar.shp	Shapefile
S_Profil_BasIn.shp	Shapefile
S_Stn_Start.shp	Shapefile
S_Subbasins.shp	Shapefile
S_Submittal_Info.shp	Shapefile
S_Tnsport_Ln.shp	Shapefile
S_Wtr_Ln.shp	Shapefile
S_XS.shp	Shapefile
Study_Info.dbf	dBASE Table

FLOOD INSURANCE STUDY FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 2



CLINTON COUNTY, NEW YORK AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
ALTONA, TOWN OF	361379
AUSABLE, TOWN OF	360165
BEEKMANTOWN, TOWN OF	360166
BLACK BROOK, TOWN OF	361309
CHAMPLAIN, TOWN OF	361311
CHAMPLAIN, VILLAGE OF	360167
CHAZY, TOWN OF	361310
CLINTON, TOWN OF	361380
DANNEMORA, TOWN OF	361381
DANNEMORA, VILLAGE OF	360024
ELLENBURG, TOWN OF	361382
MOOERS, TOWN OF	361383
PERU, TOWN OF	361384
PLATTSBURGH, CITY OF	360168
PLATTSBURGH, TOWN OF	360169
ROUSES POINT, VILLAGE OF	360170
SARANAC, TOWN OF	360171
SCHUYLER FALLS, TOWN OF	360172

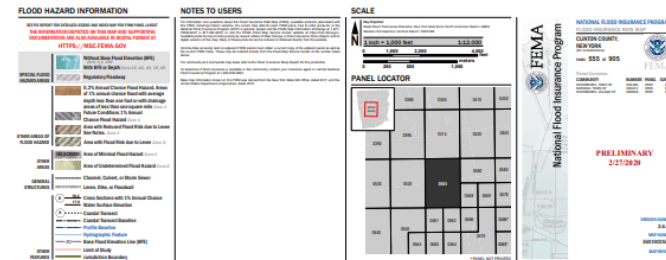
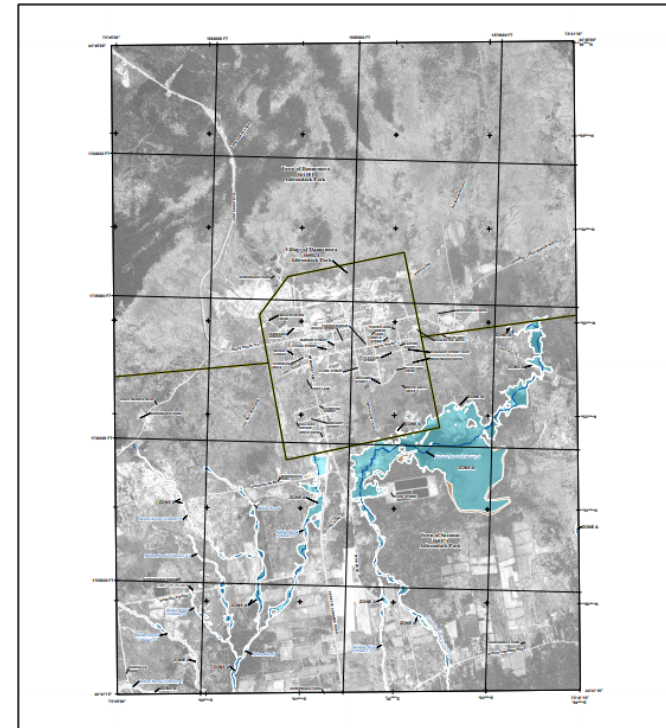
PRELIMINARY
2/27/2020

REVISED:

FLOOD INSURANCE STUDY NUMBER
36019CV000B
Version Number 2.6.3.0



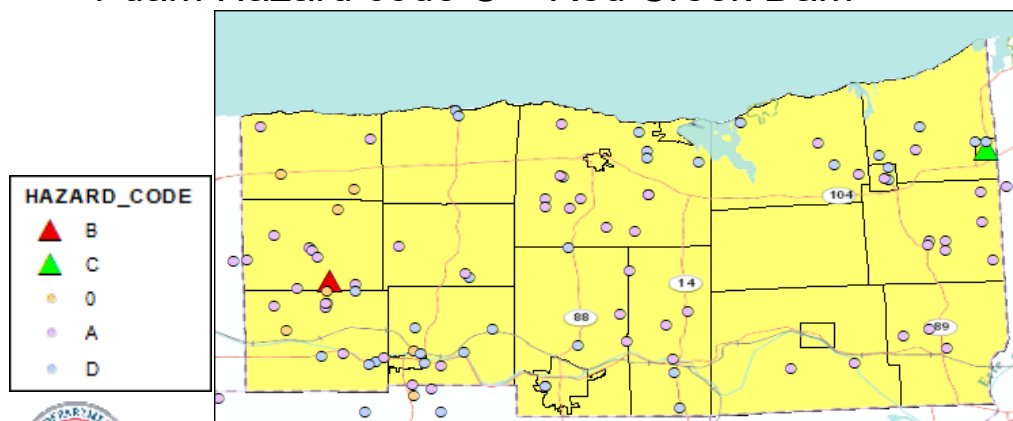
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Dam Breach Analysis

- ▶ Up to 5 Medium/High Hazard Dams analyzed
- ▶ Engineering analyses developed for FIRM will be leveraged
- ▶ Flood Inundation Maps will be developed (not the same as EAP Flood Inundation Maps)
 - 1 dam Hazard code B – Leeward Lake Dam
 - 1 dam Hazard code C – Red Creek Dam



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Knowing the Risk

Communities that develop a sound understanding of flood risk will be more empowered to...

- ▶ effectively plan use of resources for natural hazards and potential disasters;
- ▶ implement effective hazard mitigation projects;
- ▶ effectively regulate current and future development without increasing risk; and/or
- ▶ effectively communicate about natural hazards to its residents about personal and community mitigation projects that can reduce long-term risk.



Contacts

- **FEMA Project Monitor**
Shudipto Rahman
202-702-4273
shudipto.rahman@fema.dhs.gov
- **FEMA Outreach Coordinator**
Stephanie Gootman
202-802-3137
stephanie.gootman@fema.dhs.gov
- **STARR II Project Manager**
Inger Sarappo
615-812-3597
inger.sarappo@stantec.com
- **STARR II Regional Support Center Lead**
Curtis Smith
646-490-3929
curtis.smith@stantec.com
- **NY State Department of Environmental Conservation**
Regional Contact: Asheema Vats
Central Office Contact: Brienna Wirley
518-402-8185
floodplain@dec.ny.gov



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Questions? Comments?



Thank you!



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