Abstract

Maps of incorporated areas within Cerro Gordo County depict the 100year floodplain depth grid as defined by the lowa Flood Center for parcels anticipated to incur physical and structural damages.

Damage estimations for each incorporated city within Cerro Gordo County are estimated based on agricultural, commercial, industrial or residential land use. A total of \$3,800,718 is estimated for overall losses to structures within the incorporated areas of the County.

Materials and Methods

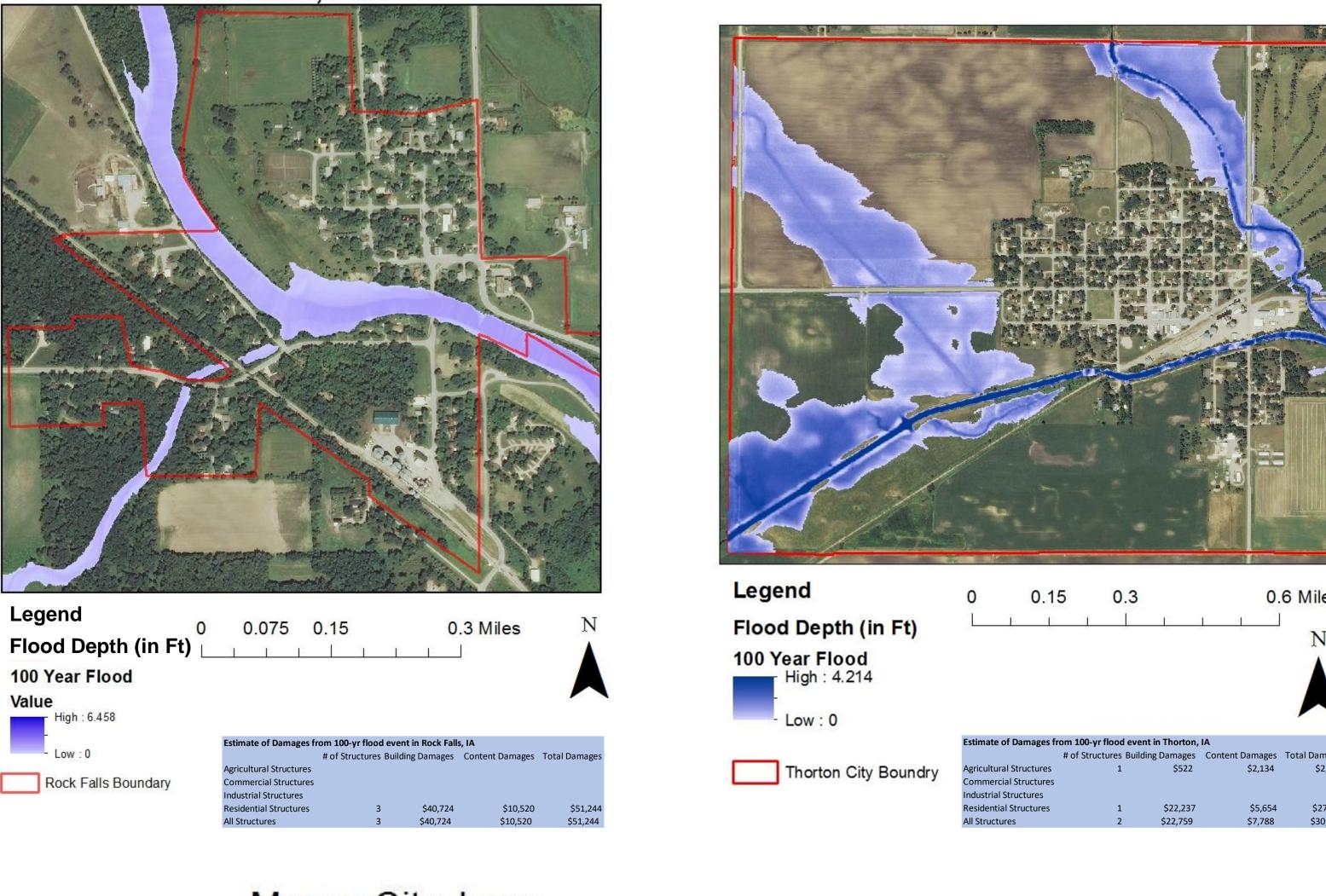
The Iowa Flood Center IFC depth grid was created via computer-based simulations using statewide light detection and ranging (LiDAR) imagery of lowa's river and stream networks at a three-meter resolution. This resolution provides a higher level of accuracy for land elevation and estimating flood depth grids at varying storm return frequencies, and follows FEMA specifications for floodplain delineation.

Damage curve estimations were calculated based on methods developed for the HAZUS multi-hazard damage and loss estimation model. The model operates in conjunction with ArcGIS 10.4 software.

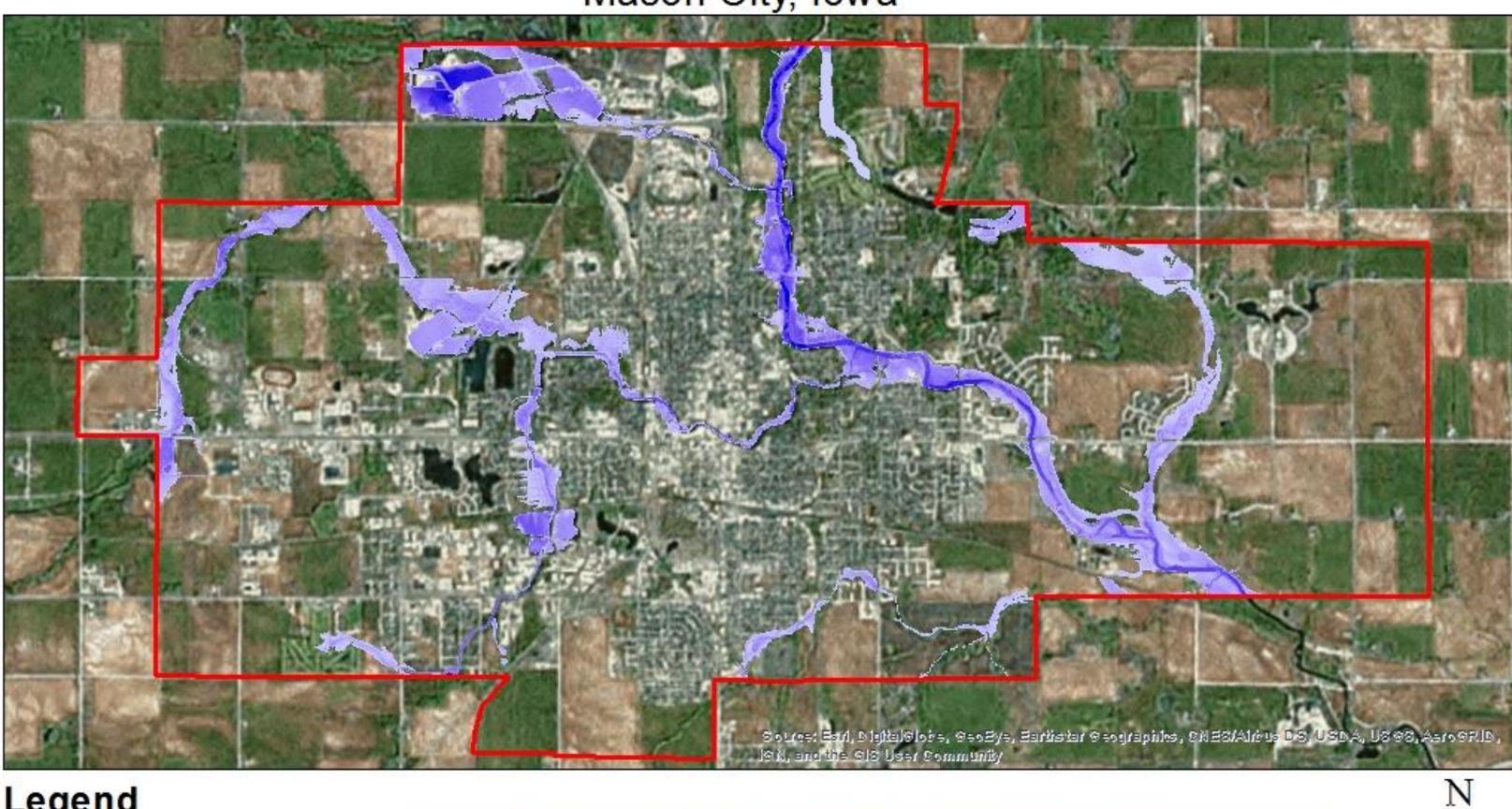
Total Estimated Losses By Incorporated Area

City	Parcels	Total Dan
Clear Lake	16	\$3
Mason City	78	\$3,8
Plymouth	4	
Rock Falls	3	\$
Rockwell	1	
Thornton	2	\$
Ventura	2	
Total	106	\$4,4





_egend	0.075
Flood Depth (in Ft) $$	
100 Year Flood	
/alue	
High : 6.458	
- Low : 0	Estimate of Damag
	Agricultural Structur
Rock Falls Boundary	Commercial Structu
	Industrial Structures Residential Structure



nages 390,799 ,837,254 \$93,094 \$51,244 \$1,657 \$30,547 \$8,616 ,413,211



Estimate of Damages from

Agricultural Structures **Commercial Structures Industrial Structures Residential Structures** All Structures

Structural Damages & Losses by Incorporated Area

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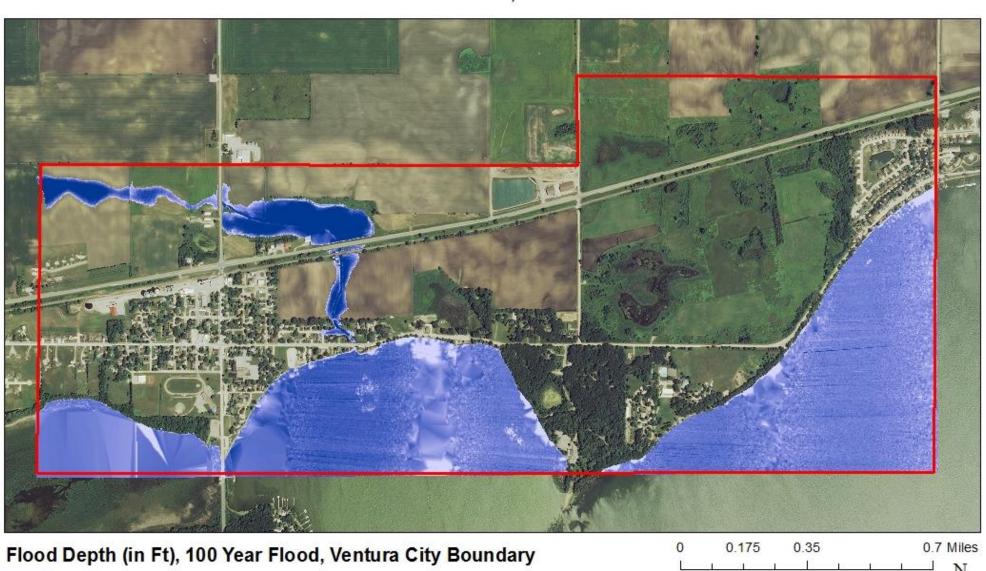
Rock Falls, Iowa

Thorton Iowa

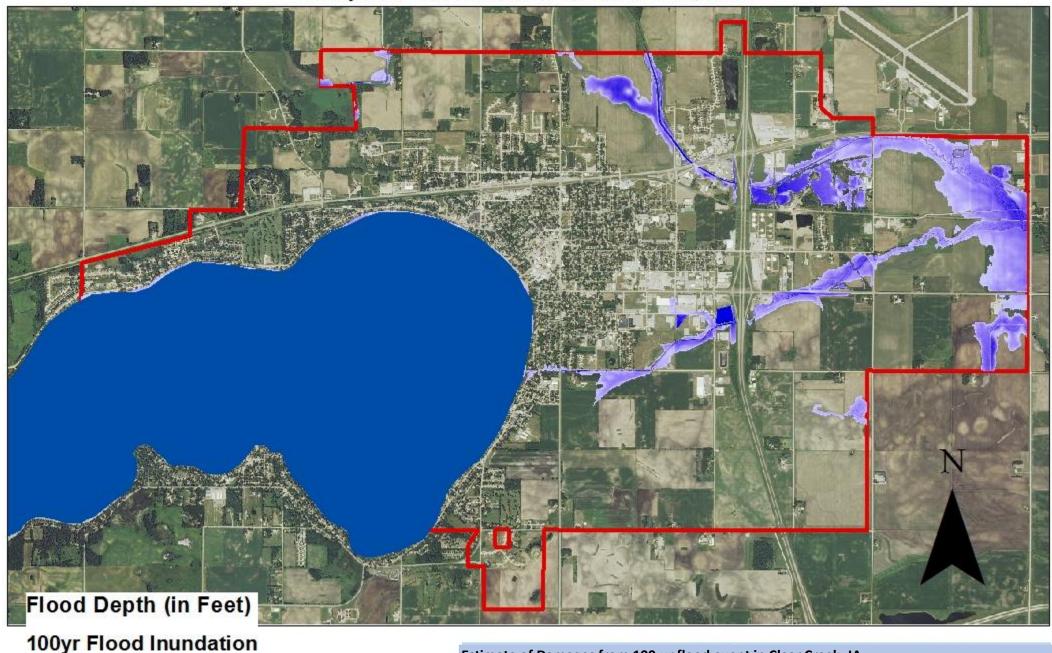
Mason City, Iowa

m 100-yr flood event in Mason City, IA						
# of Struct	ures	Building Damages	Content Damages	Total Damages		
	2	\$1,987	\$6,795	\$8,781		
	13	\$136,622	\$481,839	\$618,461		
	3	\$29 <i>,</i> 655	\$82 <i>,</i> 579	\$112,234		
	60	\$2,296,426	\$801,351	\$3,097,777		
	78	\$2,464,690	\$1,372,563	\$3,837,254		

0.5 2 Miles

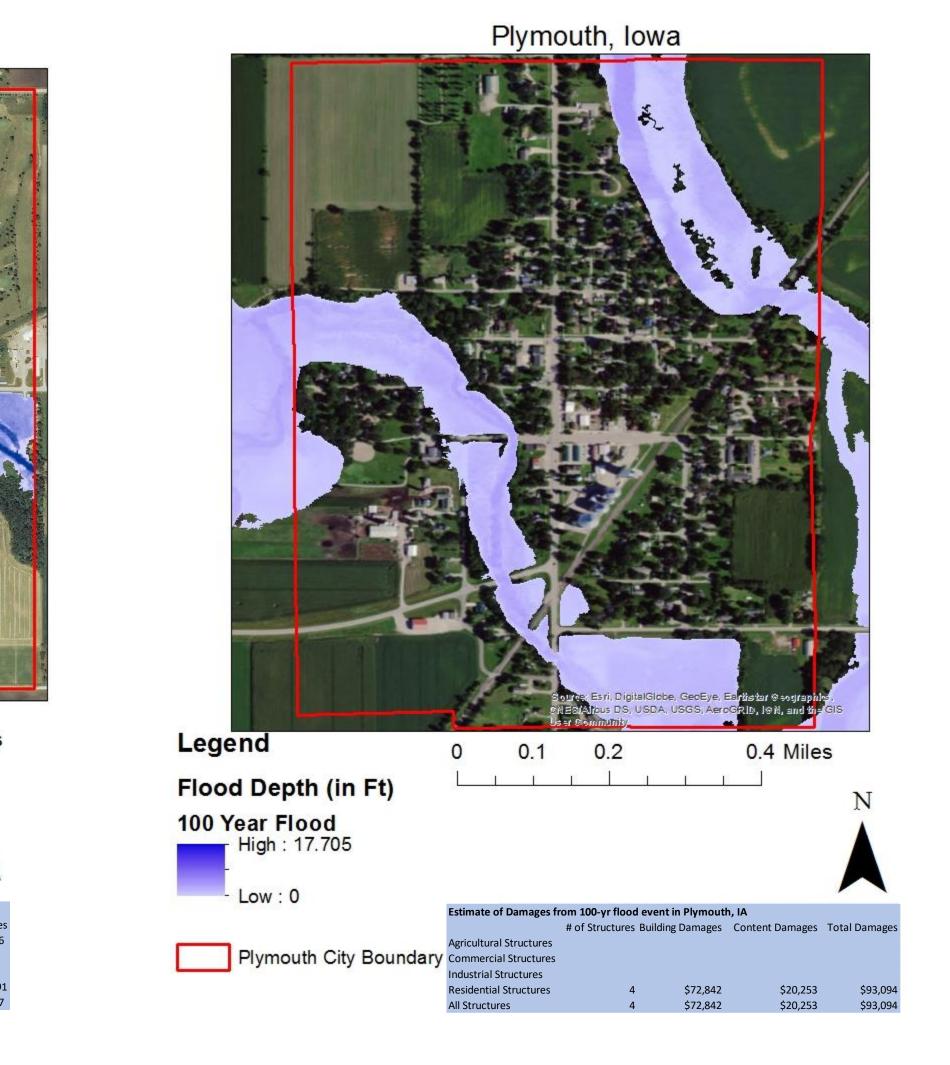


Value



- Low : 0





Ventura, Iowa

Ventura Boundary stimate of Damages from 100-yr flood event in Ventura, IA # of Structures Building Damages Content Damages Total Damage gricultural Structure ommercial Structure ndustrial Structures esidential Structure

\$2,962

\$5,654 \$8,61

\$233,31

\$157,48

\$390,799

100-year Flood Inundation for Clear Lake, Iowa

All Structures

stimate of Damages from 100-yr flood event in Clear Creek, IA # of Structures Building Damages Content Damages Total Damage Agricultural Structure ommercial Structu **\$177,085** 0 0.3 0.6 lustrial Structure esidential Structure \$116,898 \$40,589 \$173,125 \$217,674 All Structures