

# Wisconsin Flood Extent

## June 2008



### Overview

In June of 2008, Wisconsin and other Midwest states saw an unprecedented amount of rain fall on the region. A series of storms dating from June 5 - 12 caused widespread flooding that resulted in damage to thousands of homes, businesses and roads. Many local climate records were broken with up to 17-inches of rain in some parts of the state. Thirty counties were declared a "state of emergency" by Governor Doyle and eventually 31 counties received federal disaster declarations.

\*Waushara is included in this atlas, but did not receive federal aid.

### Image Analysis

The analysis of satellite imagery included imagery from several systems such as Landsat-5, SPOT-2, SPOT-4, SPOT-5, and RADARSAT-1. The goals were to:

- differentiate water from land.
- differentiate flood water from "normal" water.
- generate a GIS vector data layer (multi-polygon) in a standard projection for overlay with other GIS data.

Each of the satellite systems collected data in different ways and produce data with different characteristics. Landsat and SPOT are passive optical systems that measure surface-reflected sunlight. The radiance is recorded by onboard radiometric sensors sensitive to specific wavelengths of light at specific spatial resolutions. RADARSAT is an active microwave system that sends radar waves to the surface of the earth and records the reflected energy that returns to the satellite.

These two basic techniques, optical and radar, produce useful data because the surface features of the earth (water, soil, vegetation, urban surfaces, etc) produce different and distinguishable amounts of reflected energy. In the case of optical return, the differences are measures of red, green, blue, and infrared radiation or spectra. In the case of radar systems, the return represents different textures of surface features through "backscatter."

There are a number of limitations inherent in both of these approaches to environmental remote sensing. Satellite systems and initial signal processing systems are designed to geo-locate the data as it is received and processed. However, even with careful post-processing, data products often include geo-location errors, especially if the processing is expedited. There are also basic trade-offs between spatial resolution (amount of detail in the data) and area of extent (number of images required to cover an area). Higher resolution imagery (e.g. 4-meter pixels) may require a dozen images to cover the same area of as single moderate resolution scene (e.g. 30-meter pixels). With optical sensors, these images may take days, weeks, or even months to collect.

There are also sensor-specific limitations. Cloudy days limit optical systems with direct interference to the line of sight, but also by cloud shadows that interfere and limit reflectance. For example, water absorbs infrared radiation and returns a very weak signal. Cloud shadows also return a weak infrared signal and can cause confusion during spectral signature classification. Radar systems penetrate clouds and can operate at night giving them an advantage for timely delivery of imagery. However, surface features such as hill "shadows" and smooth fields can return values similar to water surfaces.

### Imagery Analysts

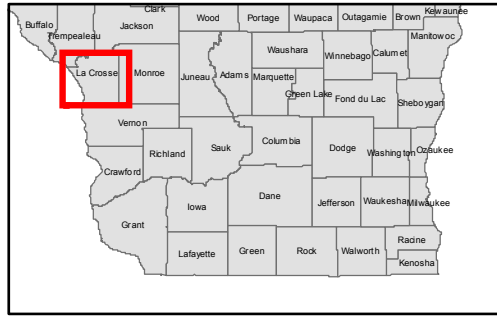
Chris Farmer – Dartmouth Floods Observatory, Dartmouth College  
 G. Bob Brakenridge - Dartmouth Floods Observatory, Dartmouth College  
 Dr. Jonathan Chipman - Dartmouth College  
 Dr. Sam Batzli - WisconsinView Director, UW SSEC

### Cartographers

Erik Binnie, Bob Busch, Nick Clemens, Cody Cook, Chris Diller, Brynda Hatch, Raquel Sanchez, Emily Szajna



# FLOOD EXTENT La Crosse County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
479.62	30.37	8.89

Water Percent	Total Percent of Land Flooded
6.33%	1.98%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

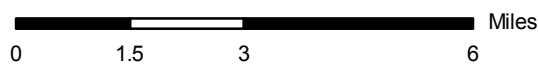
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



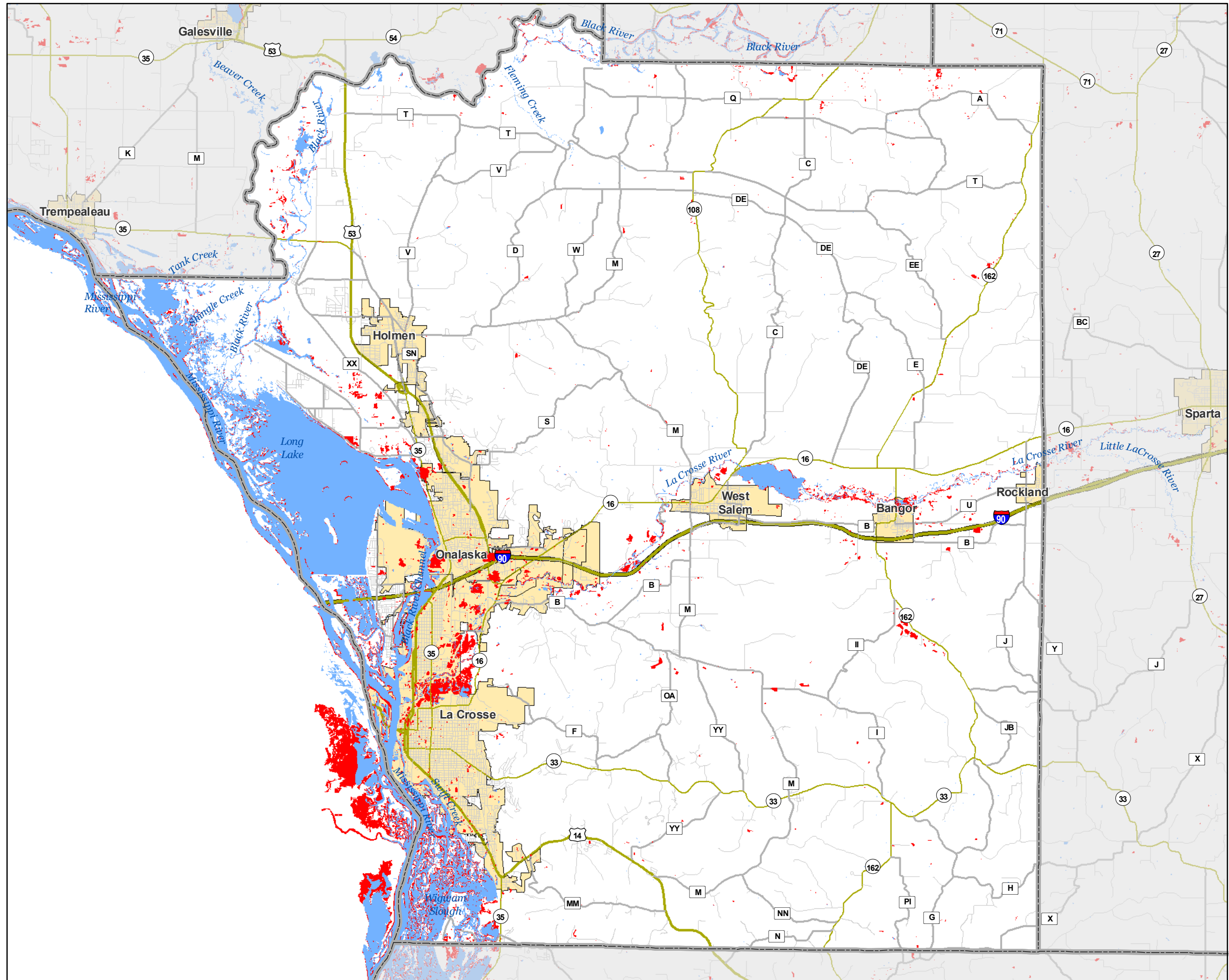
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

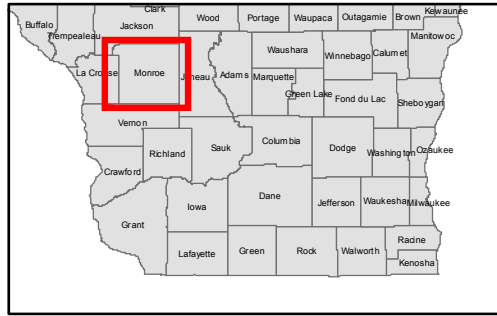


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Monroe County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
907.61	10.95	7.61

Water Percent	Total Percent of Land Flooded
1.21%	0.85%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

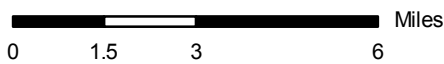
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



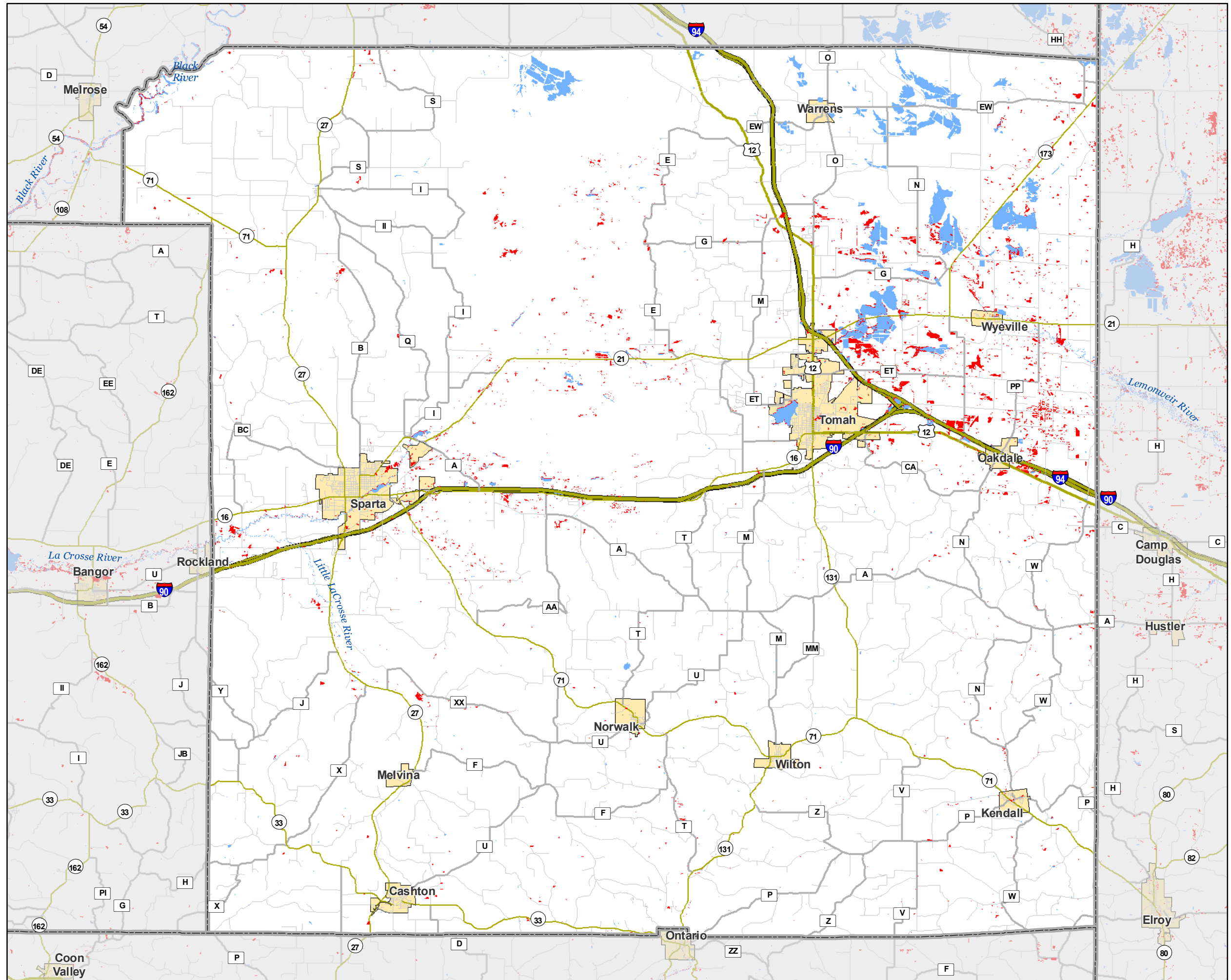
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:200,000

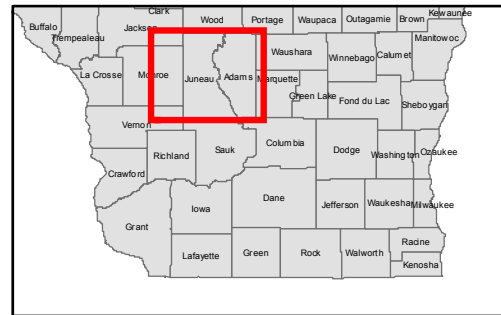


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Juneau County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
803.48	42.25	23.36

Water Percent	Total Percent of Land Flooded
5.26%	3.07%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

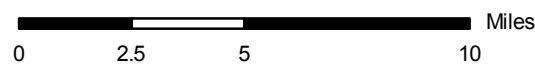
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



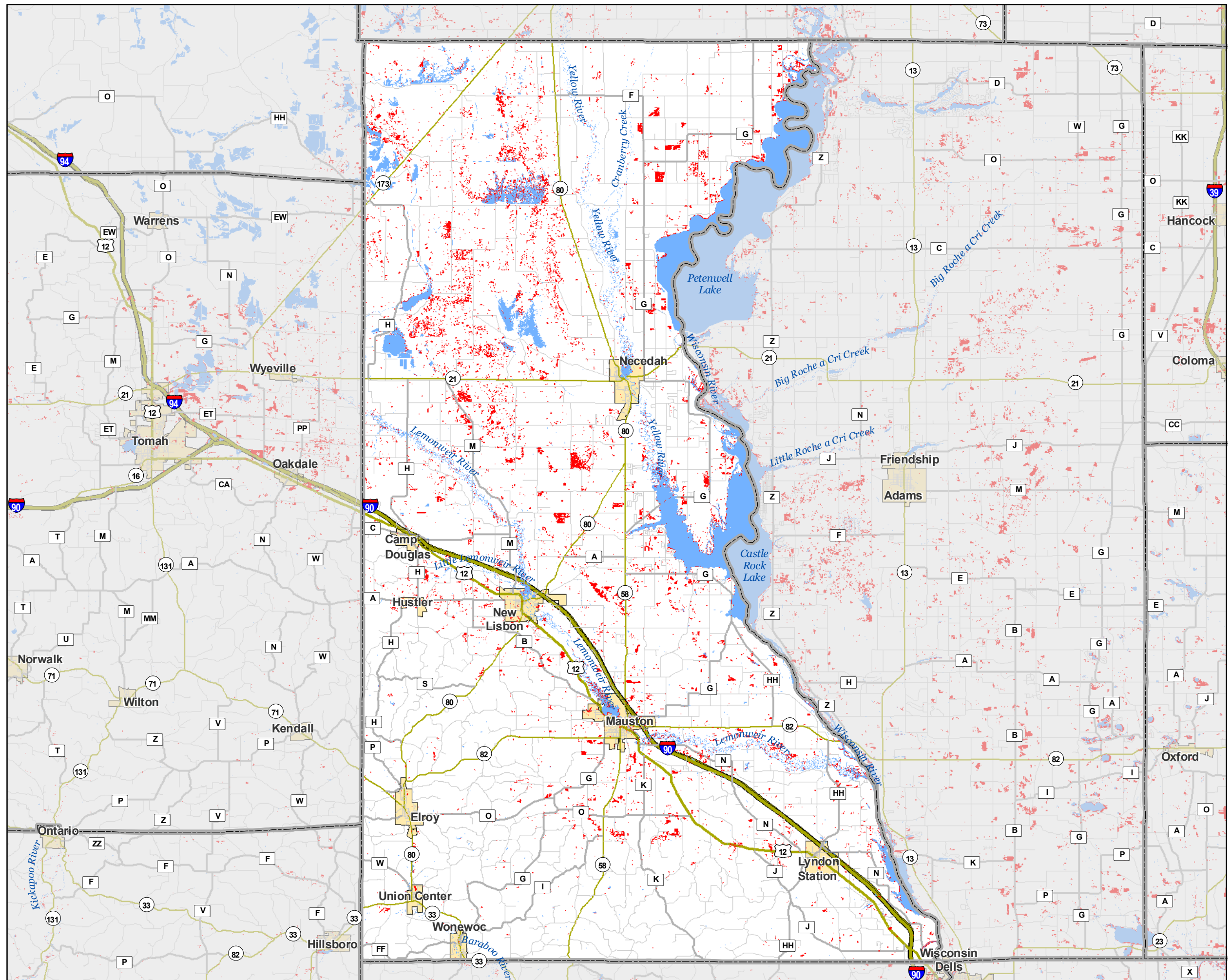
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:270,000

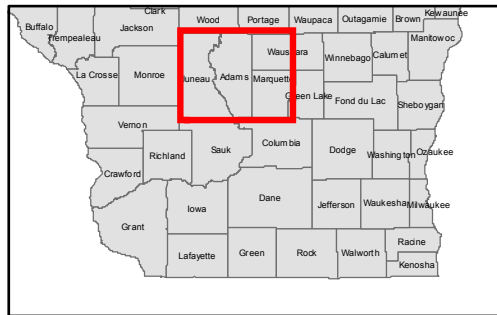


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Adams County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
687.96	42.36	20.41

Water Percent	Total Percent of Land Flooded
6.16%	3.16%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

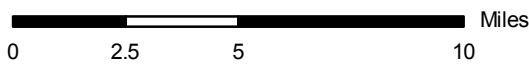
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



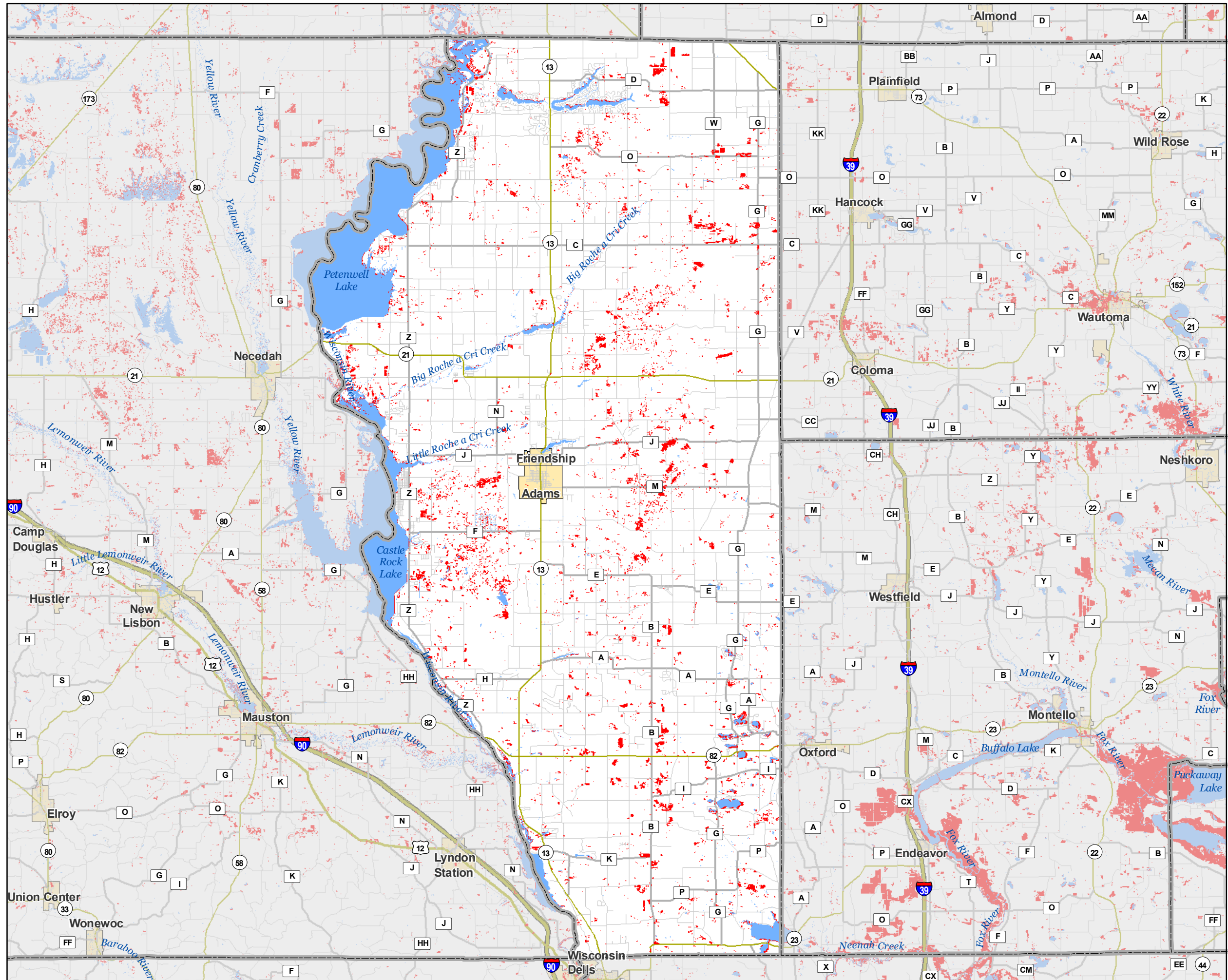
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:270,000

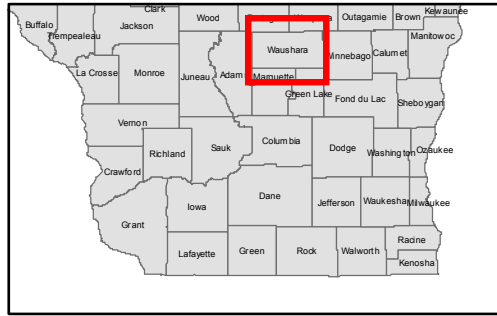


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Waushara County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
636.94	12.11	18.65

Water Percent	Total % of Land Flooded
1.90%	2.99%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

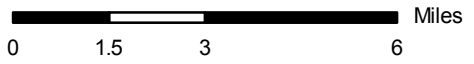
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



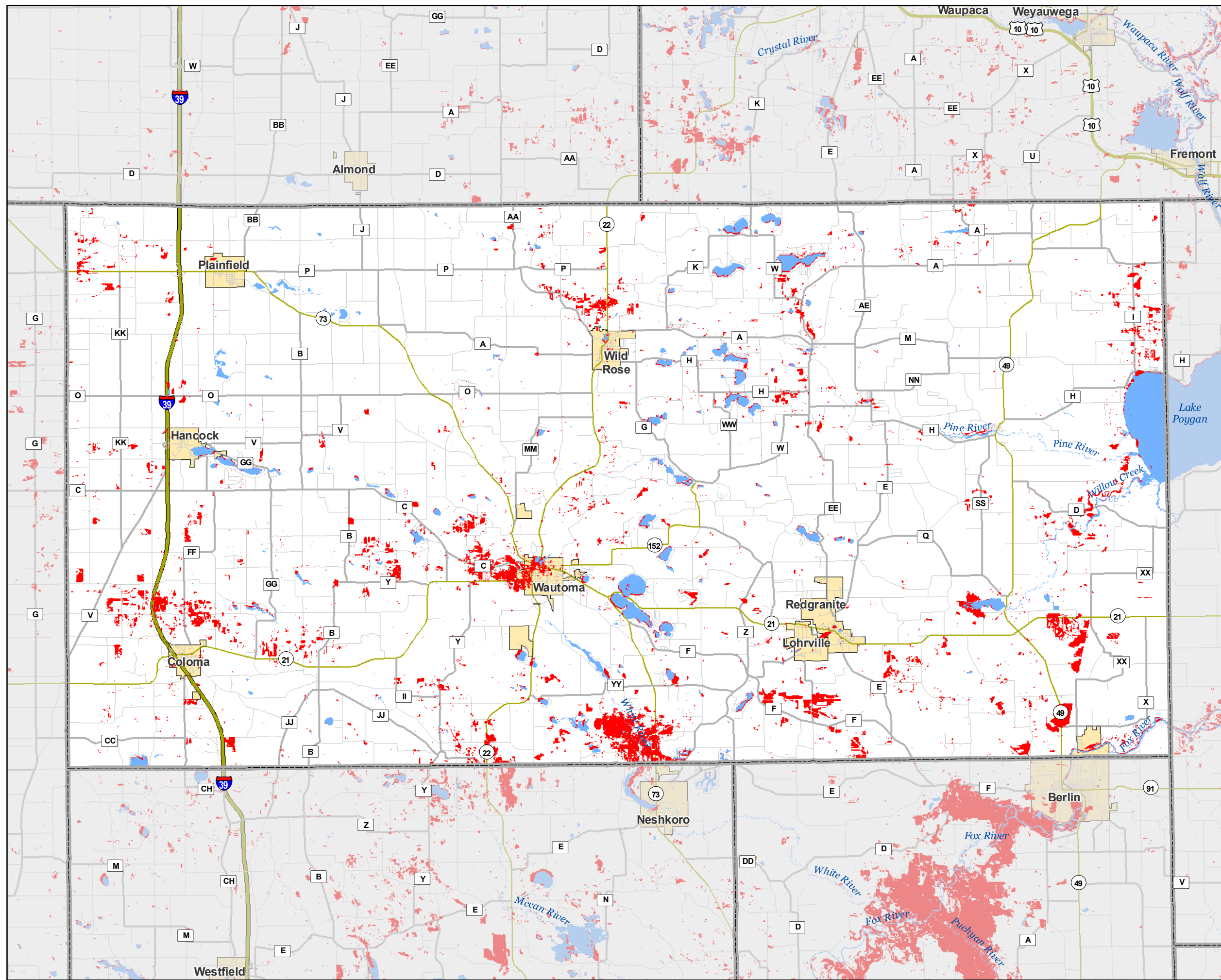
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:190,000

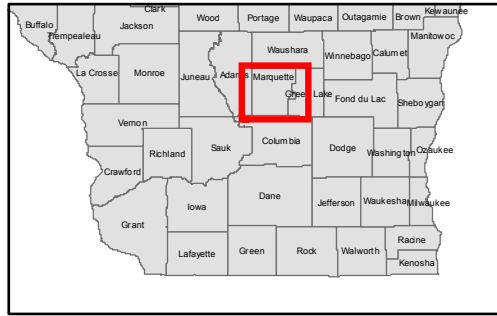


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Marquette County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
464.07	12.41	31.28

Water Percent	Total Percent of Land Flooded
2.67%	6.93%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

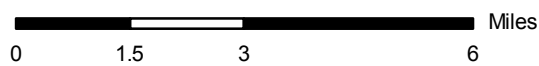
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



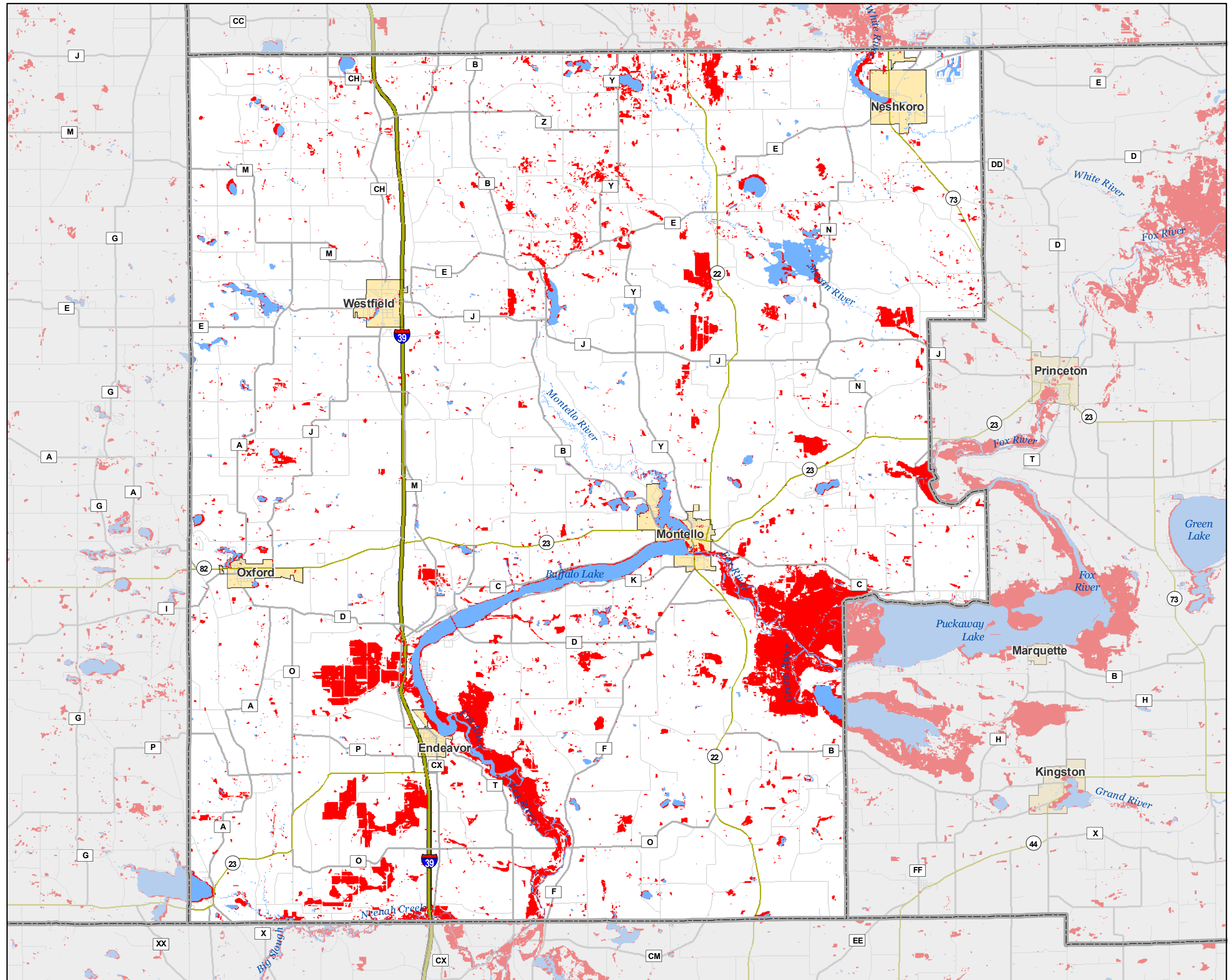
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

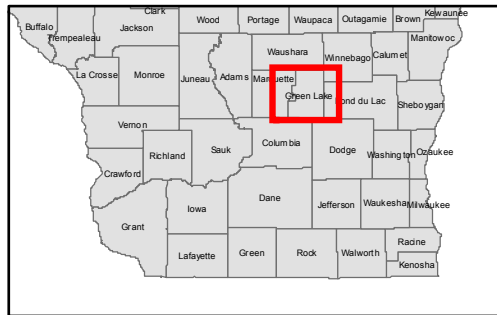


Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT

## Green Lake County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
380.18	27.72	38.64

Water Percent	Total Percent of Land Flooded
7.29%	10.96%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

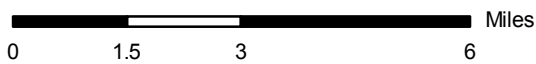
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



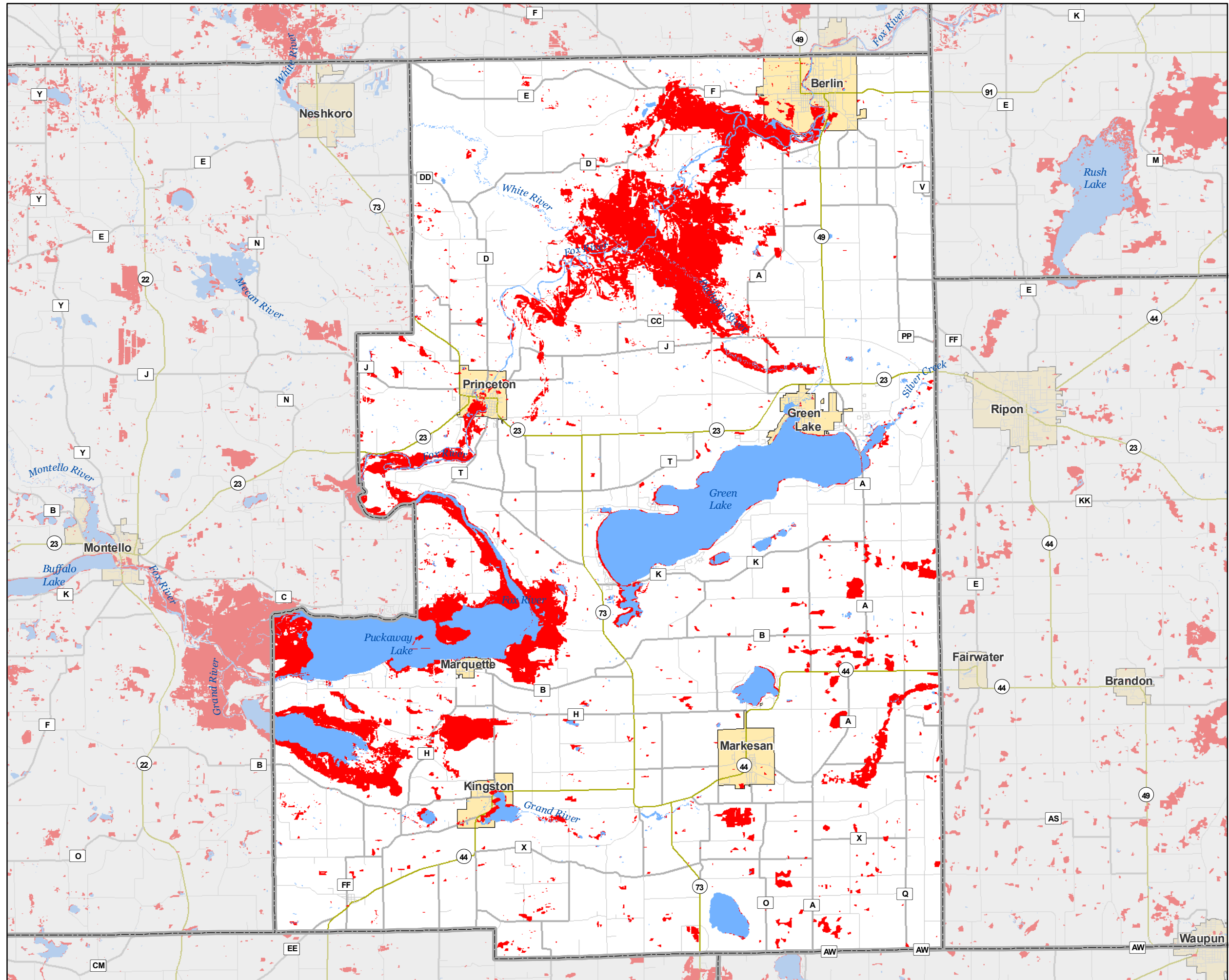
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

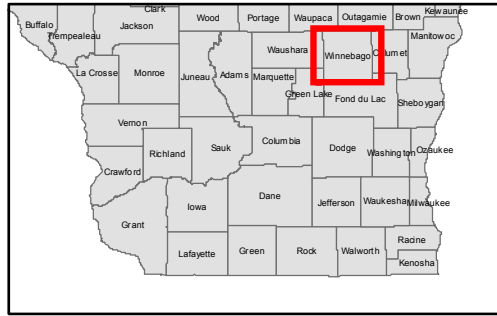


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Winnebago County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
578.40	141.25	16.74

Water Percent	Total Percent of Land Flooded
24.42%	3.83%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

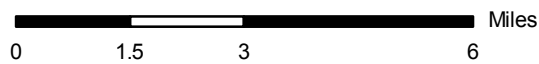
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



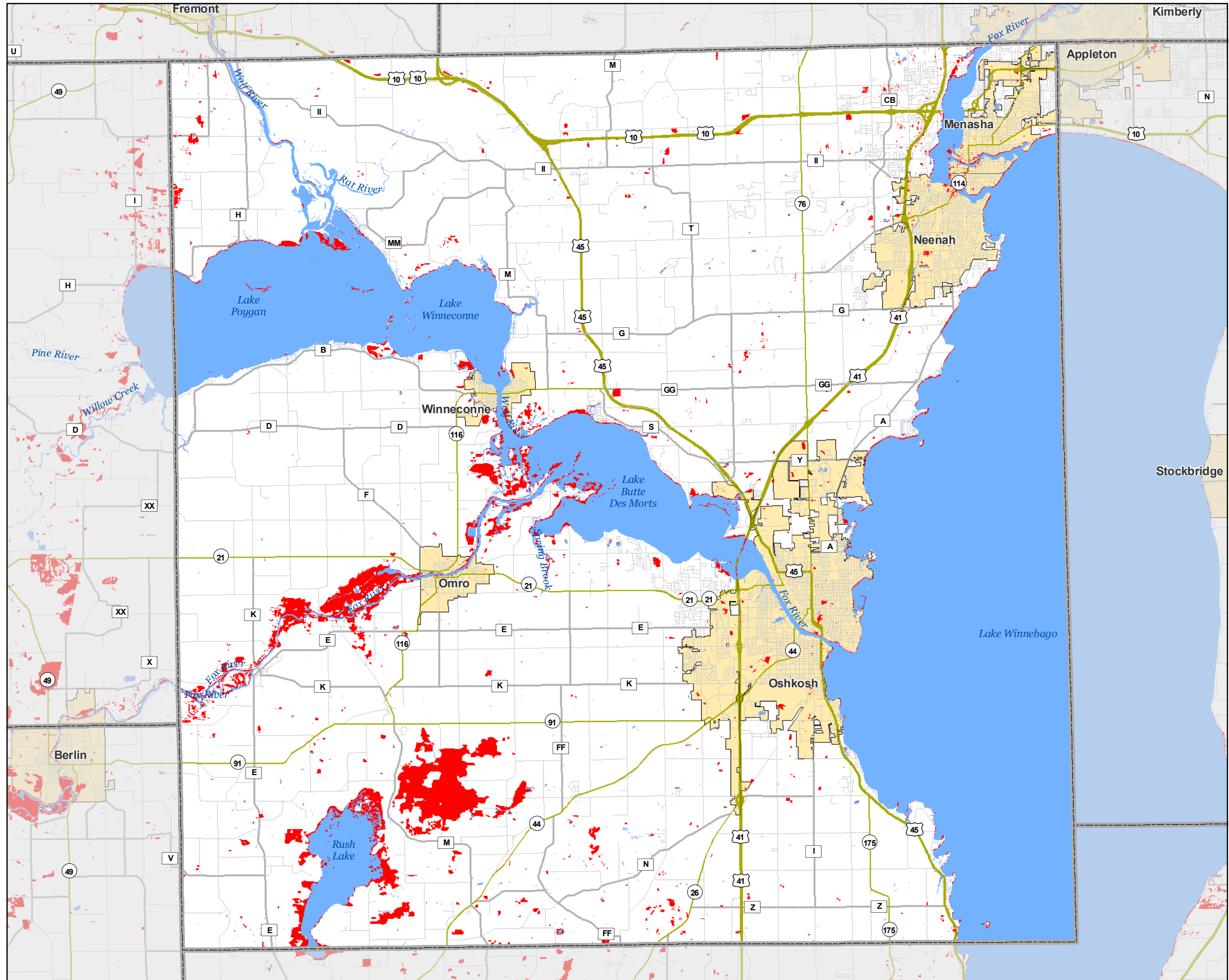
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

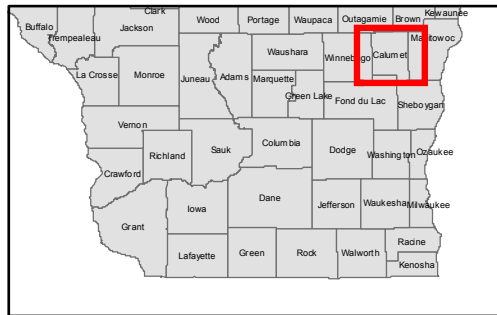
1:160,000



Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT Calumet County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
396.90	77.89	2.22

Water Percent	Total Percent of Land Flooded
19.62%	0.70%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

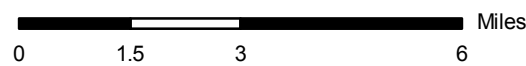
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



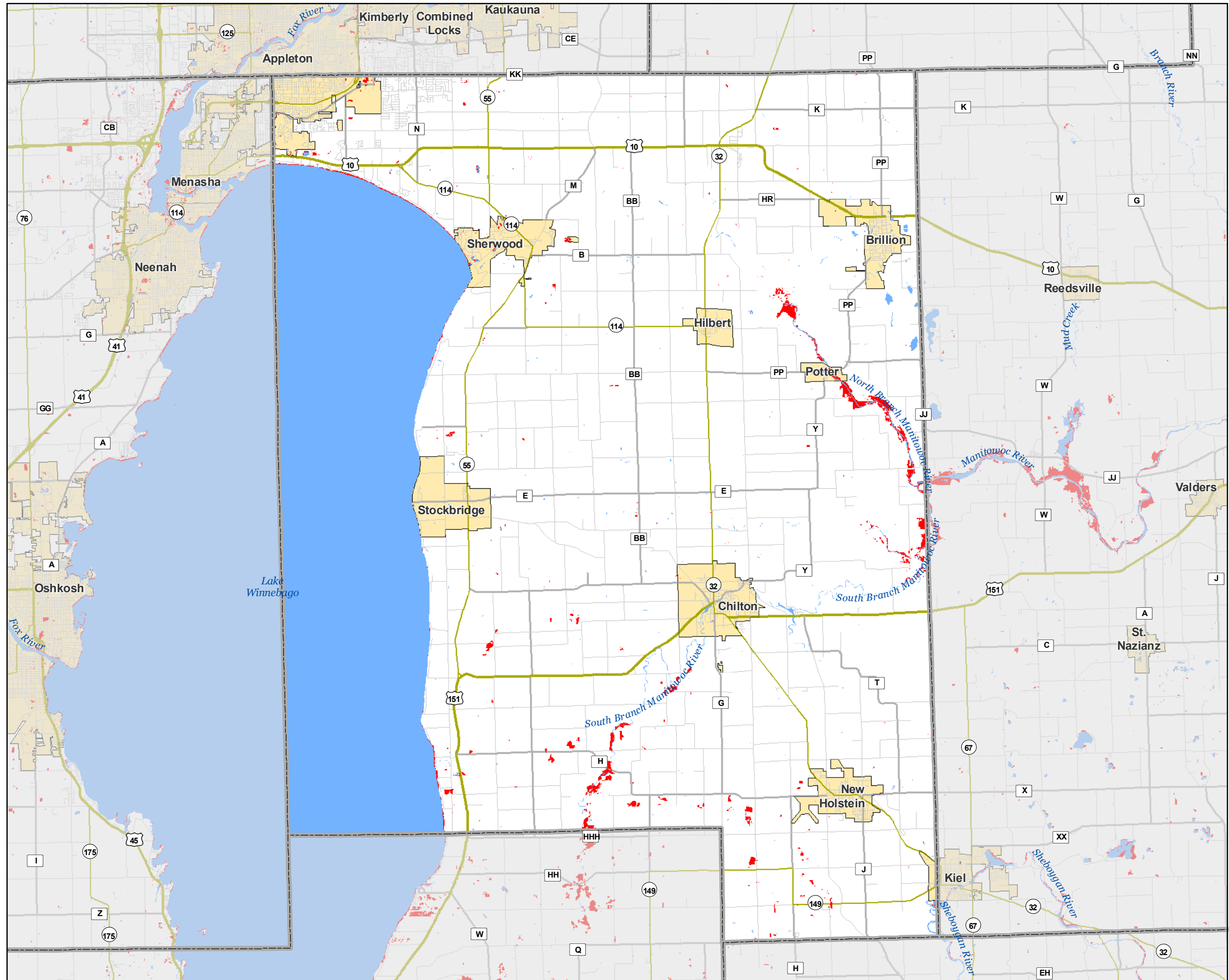
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:165,000

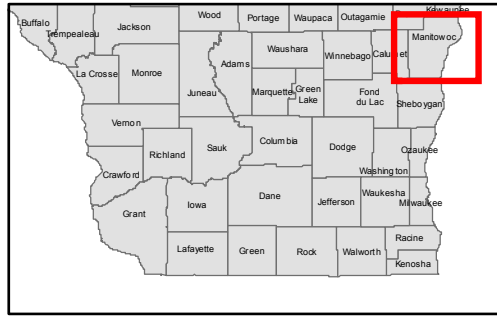


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Manitowoc County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
595.60	6.39	2.31

Water Percent	Total Percent of Land Flooded
1.07%	0.39%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

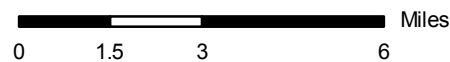
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



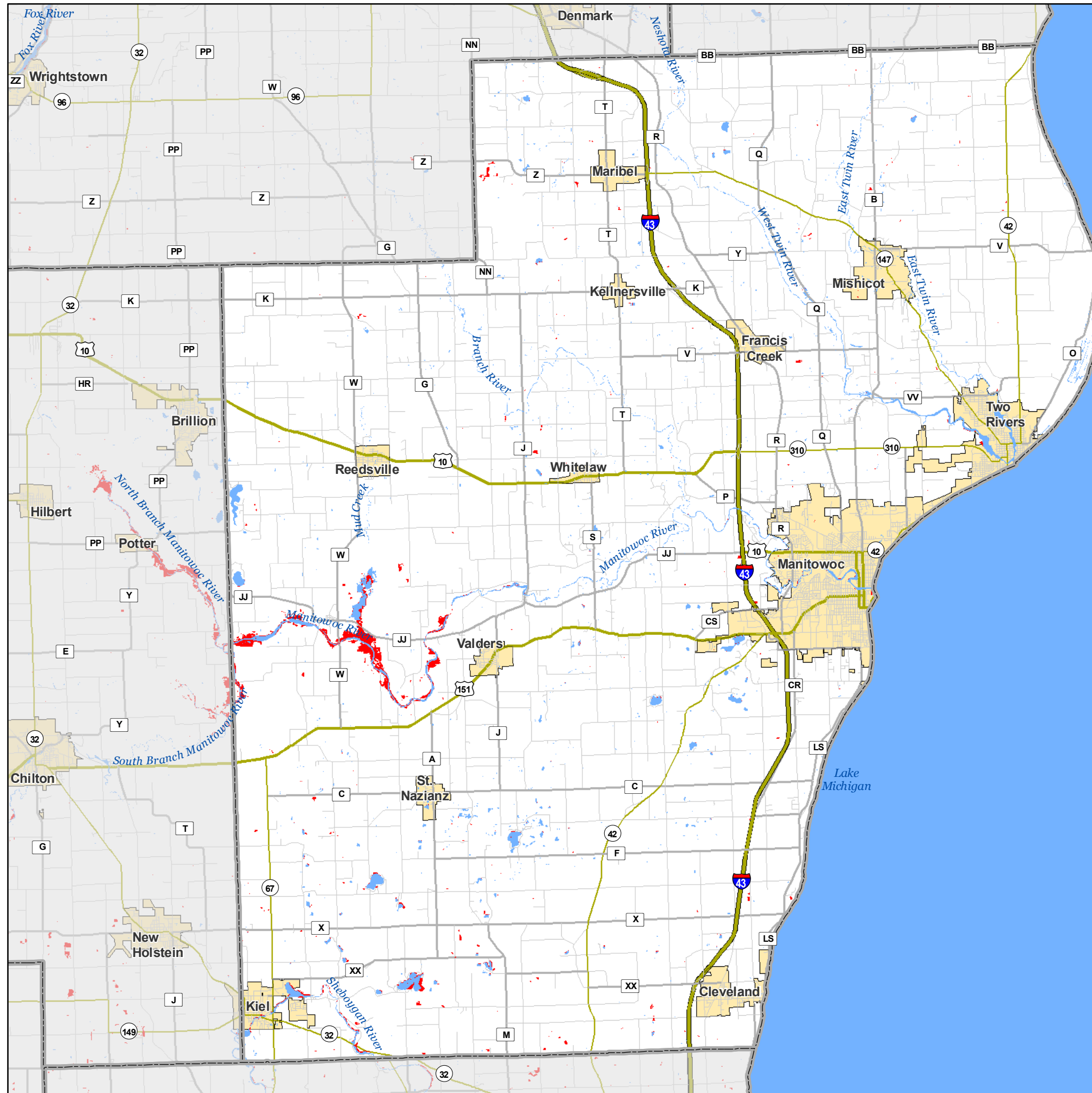
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:200,000

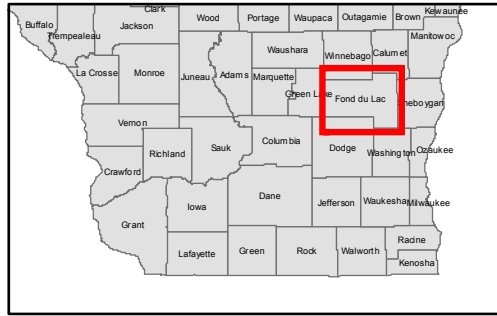


Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT

## Fond du Lac County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
765.46	44.07	41.81

Water Percent	Total Percent of Land Flooded
5.76%	5.80%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

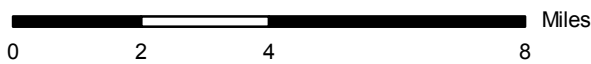
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



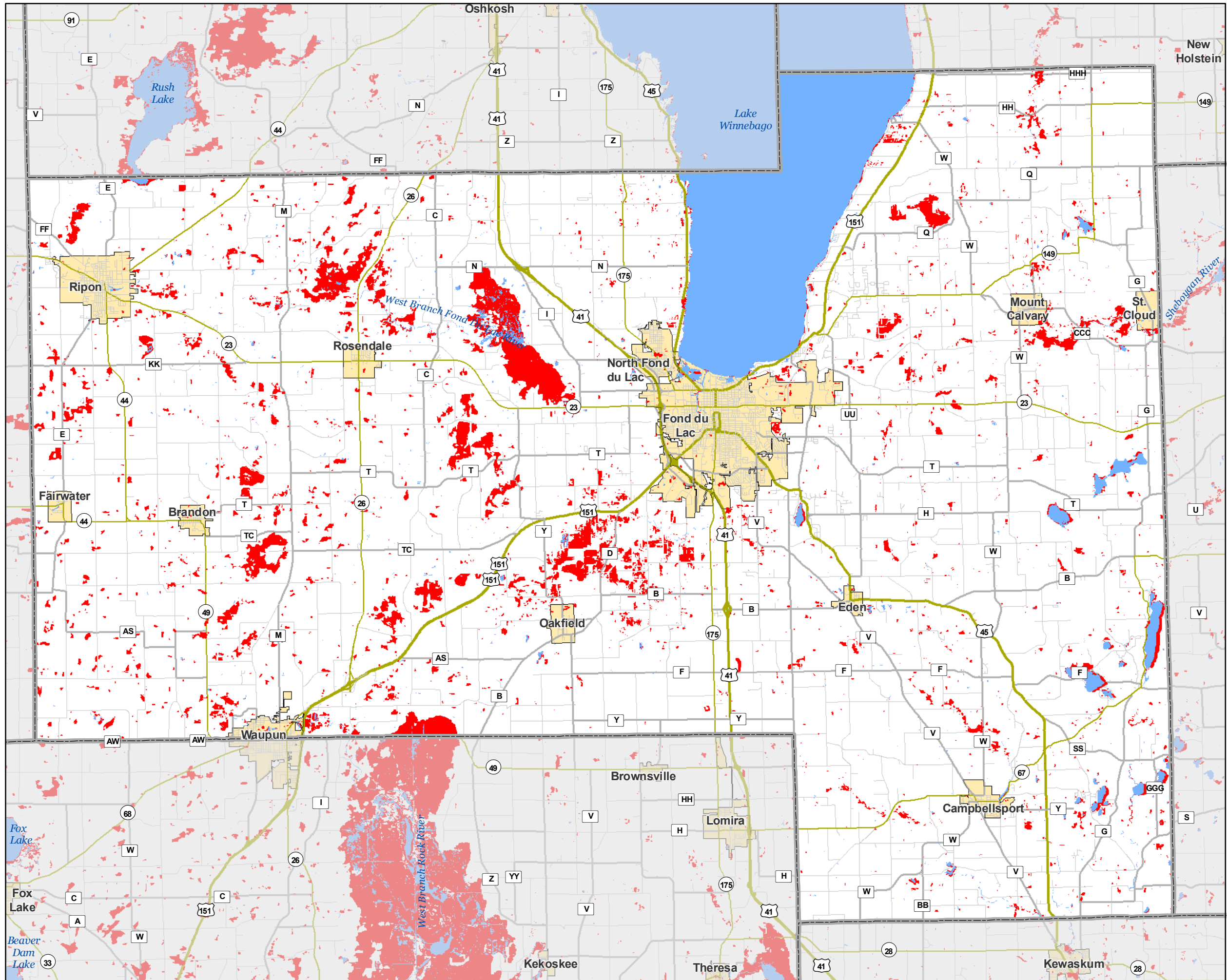
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:190,000

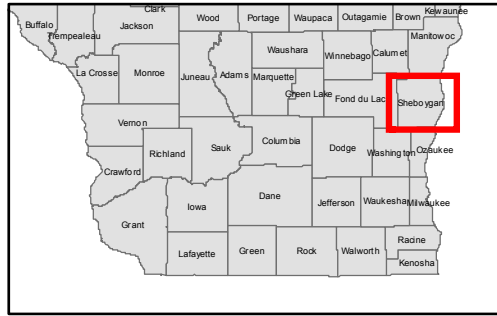


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Sheboygan County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
517.56	5.518	7.61

Water Percent	Total Percent of Land Flooded
1.07%	1.49%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

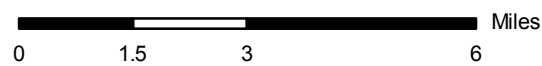
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



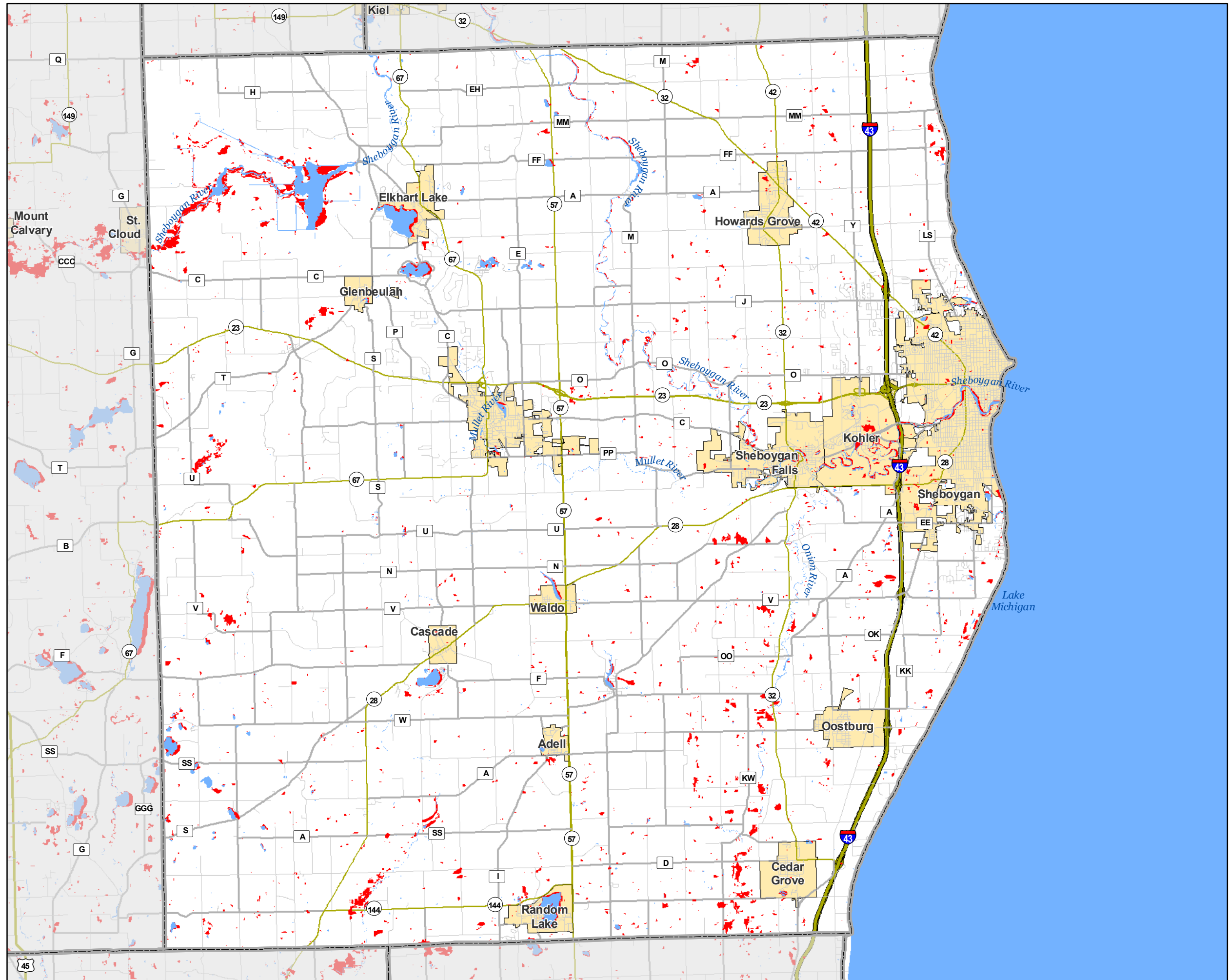
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

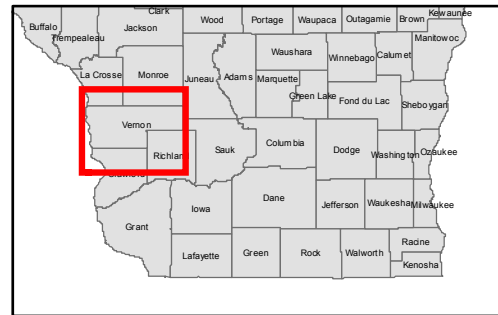
1:160,000



Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT Vernon County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
815.85	24.30	6.14

Water Percent	Total Percent of Land Flooded
2.98%	0.78%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickapoo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

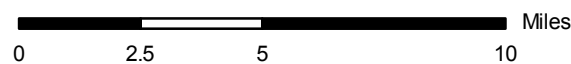
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



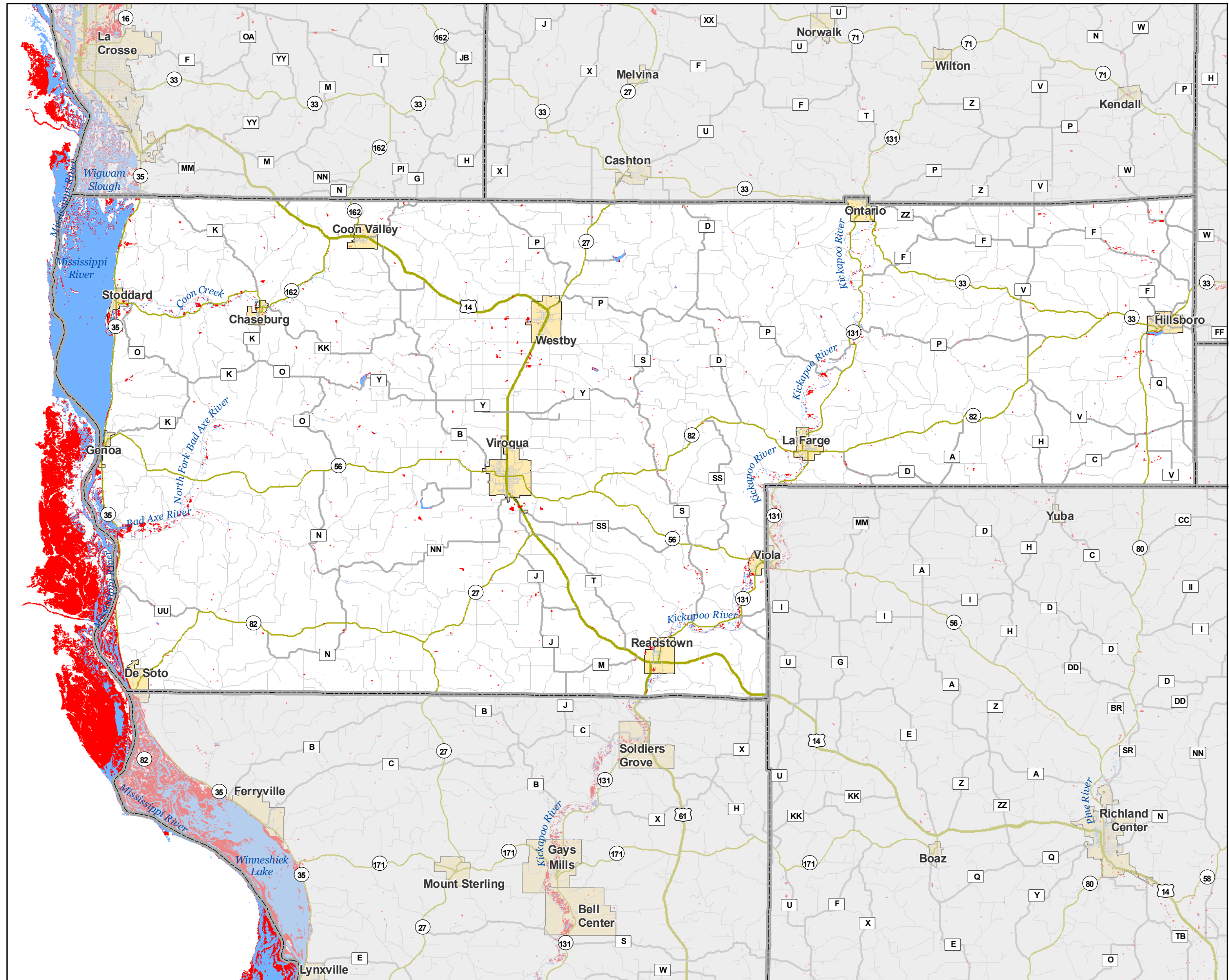
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:250,000

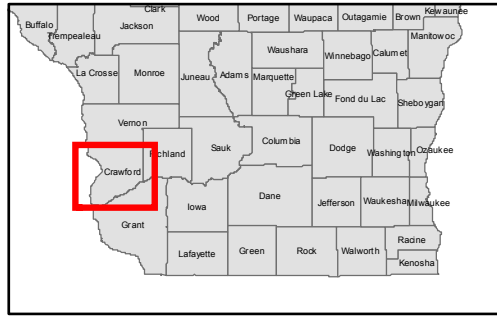


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Crawford County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
598.82	28.56	28.82

Water Percent	Total Percent of Land Flooded
4.77%	5.05%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

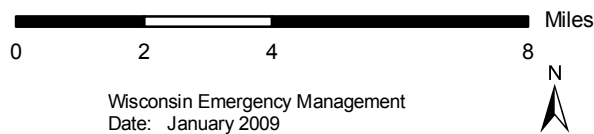
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



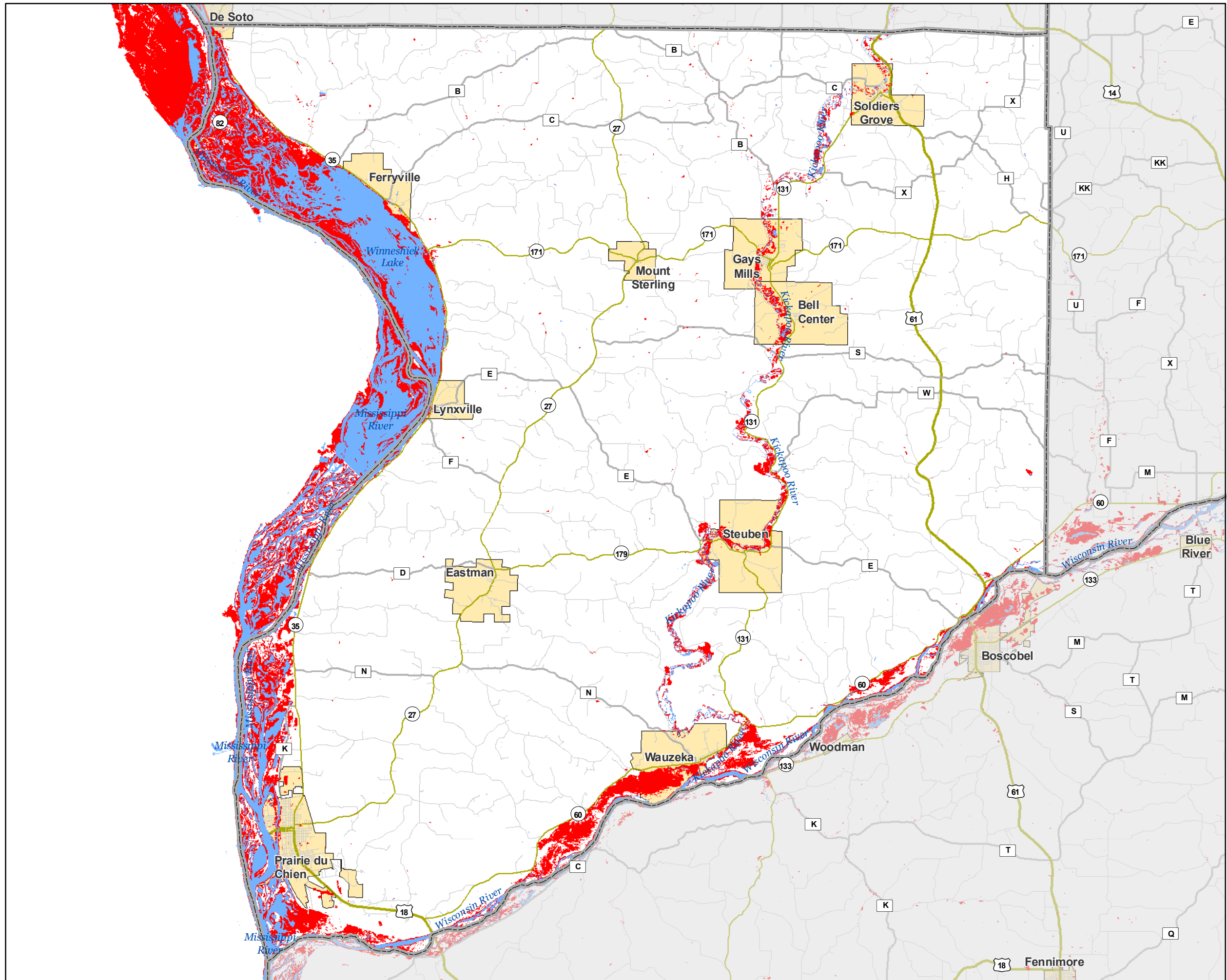
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

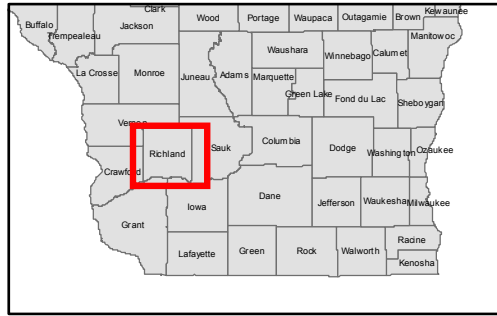
1:190,000



Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT Richland County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
588.92	3.67	4.33

Water Percent	Total Percent of Land Flooded
0.62%	0.74%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

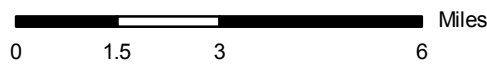
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



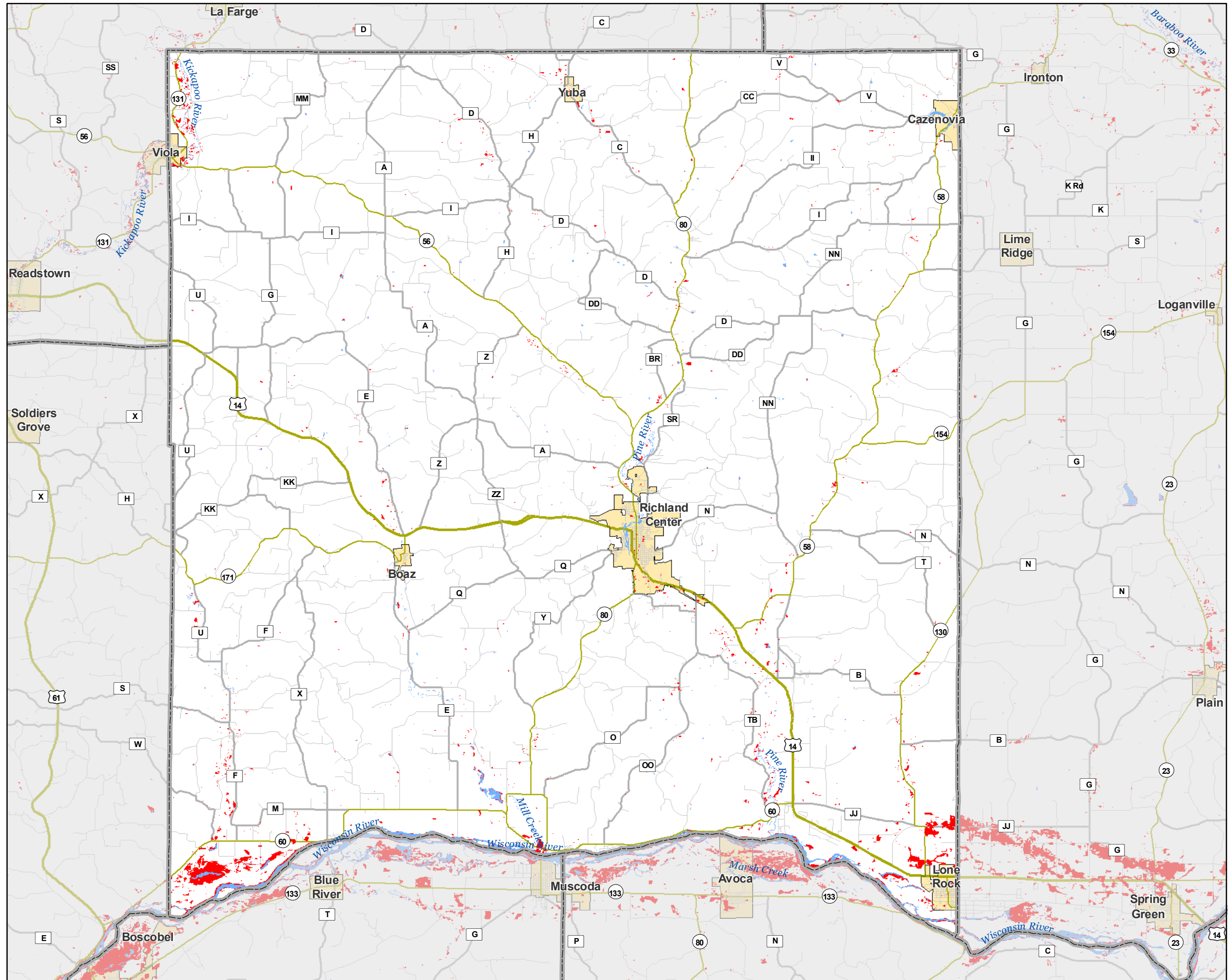
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:180,000



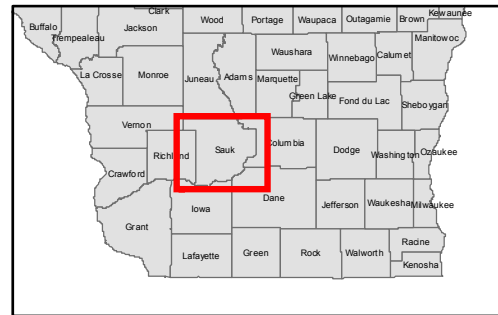
Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT

## Sauk County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
847.74	13.21	30.92

Water Percent	Total Percent of Land Flooded
1.56%	3.70%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

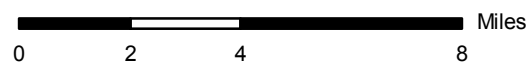
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



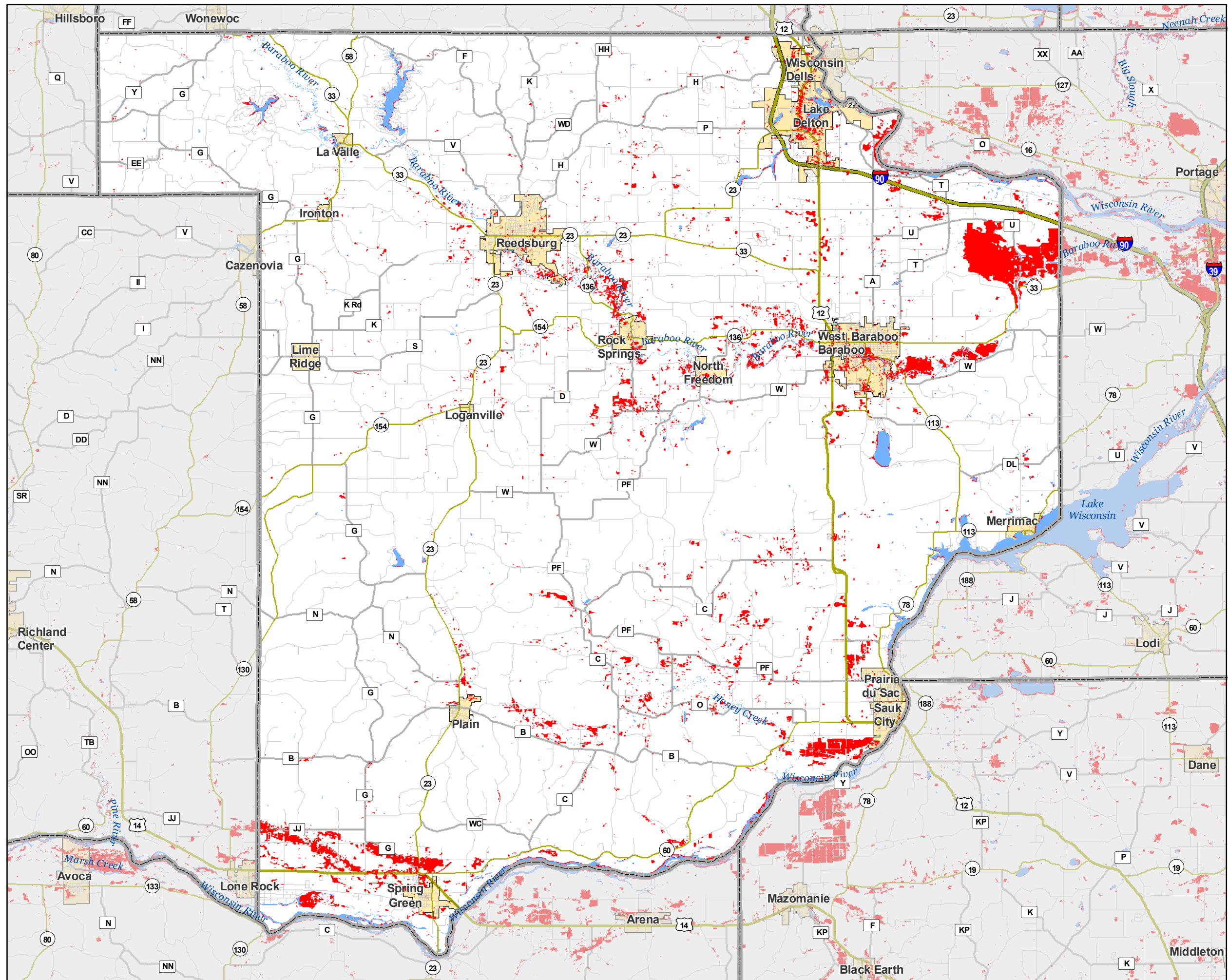
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:220,000

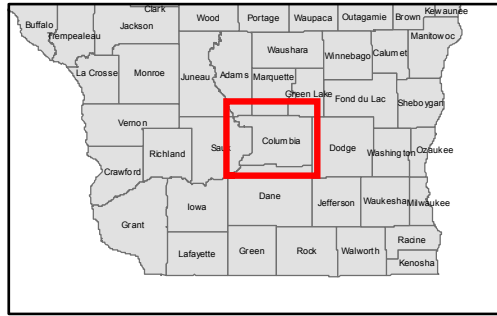


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Columbia County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
795.12	25.00	42.44

Water Percent	Total Percent of Land Flooded
3.14%	5.51%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



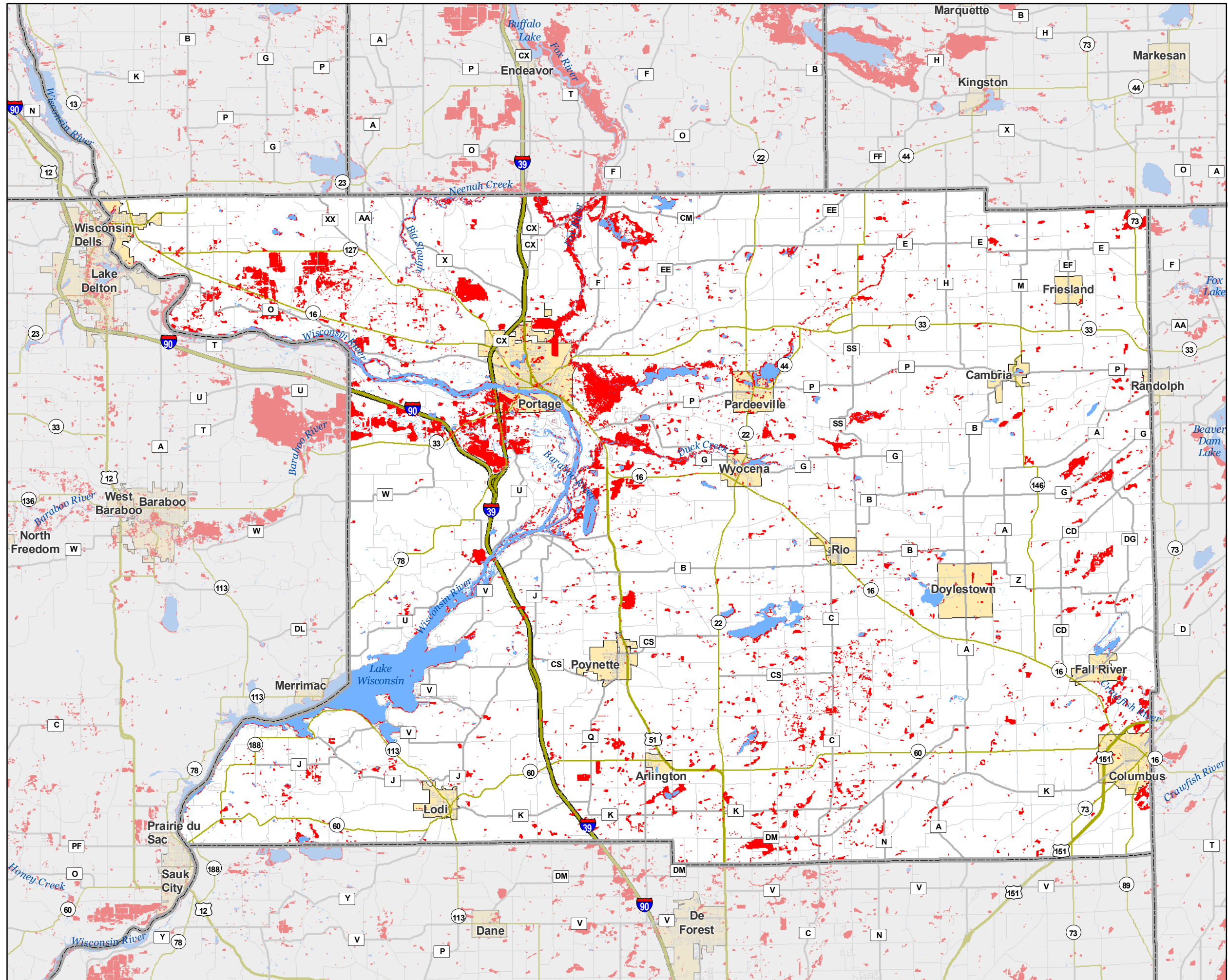
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:220,000

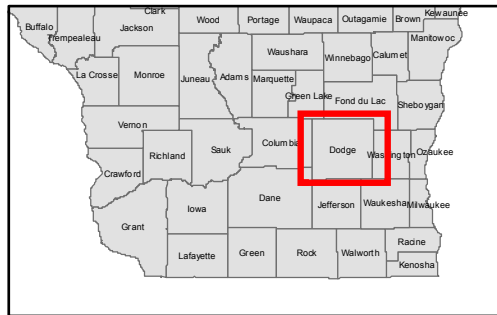


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Dodge County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
906.50	28.11	158.38

Water Percent	Total Percent of Land Flooded
3.10%	18.03%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

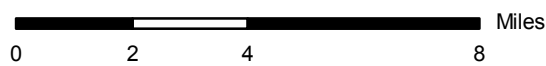
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



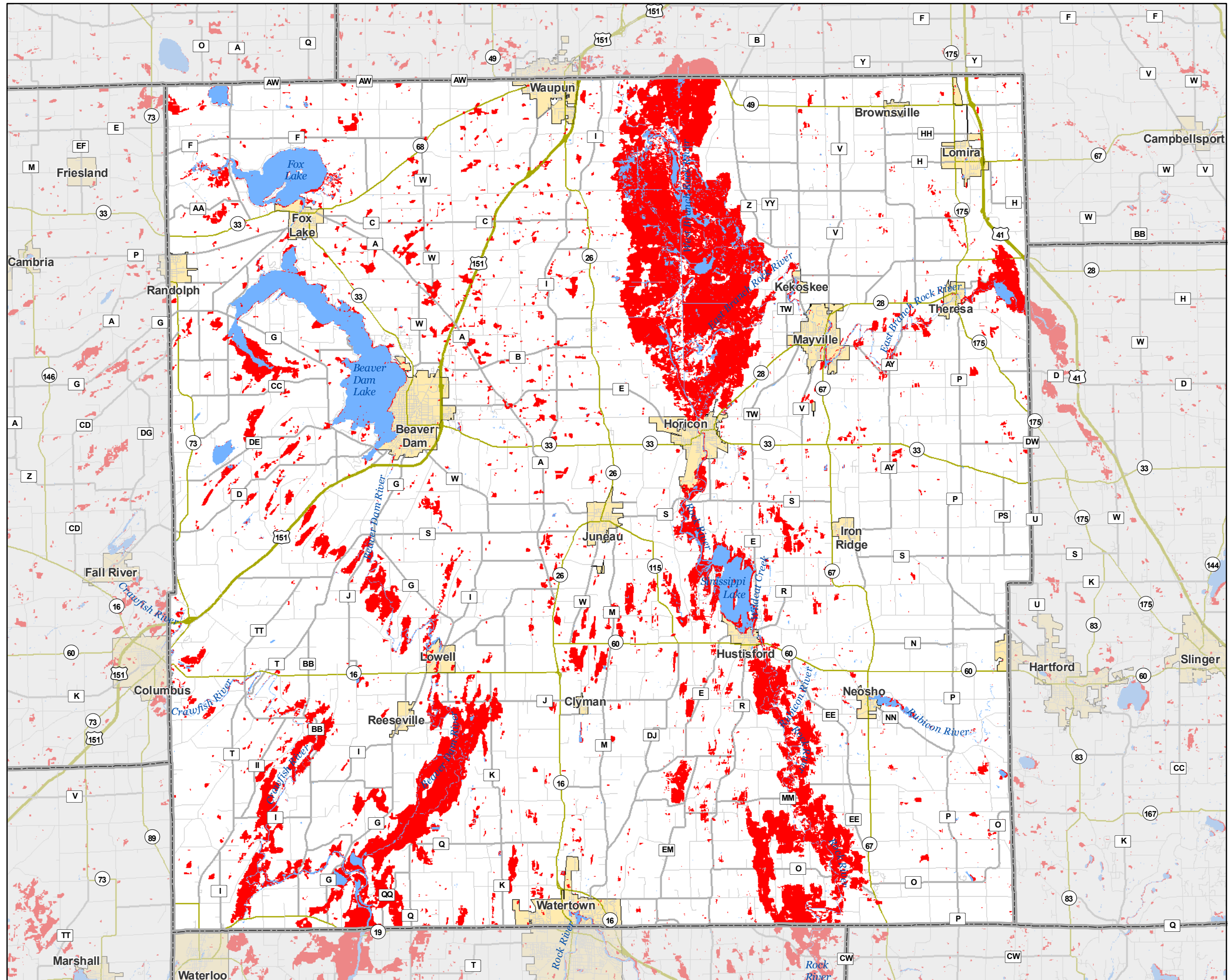
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:210,000

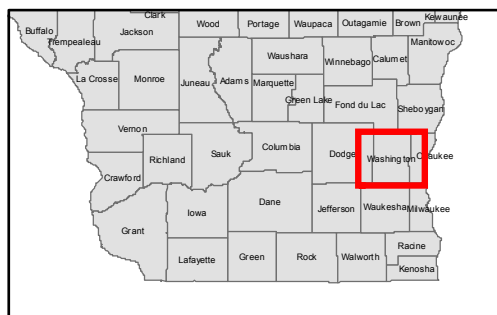


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Washington County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
435.75	6.91	13.62

Water Percent	Total Percent of Land Flooded
1.59%	3.18%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

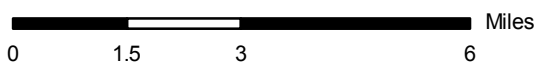
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



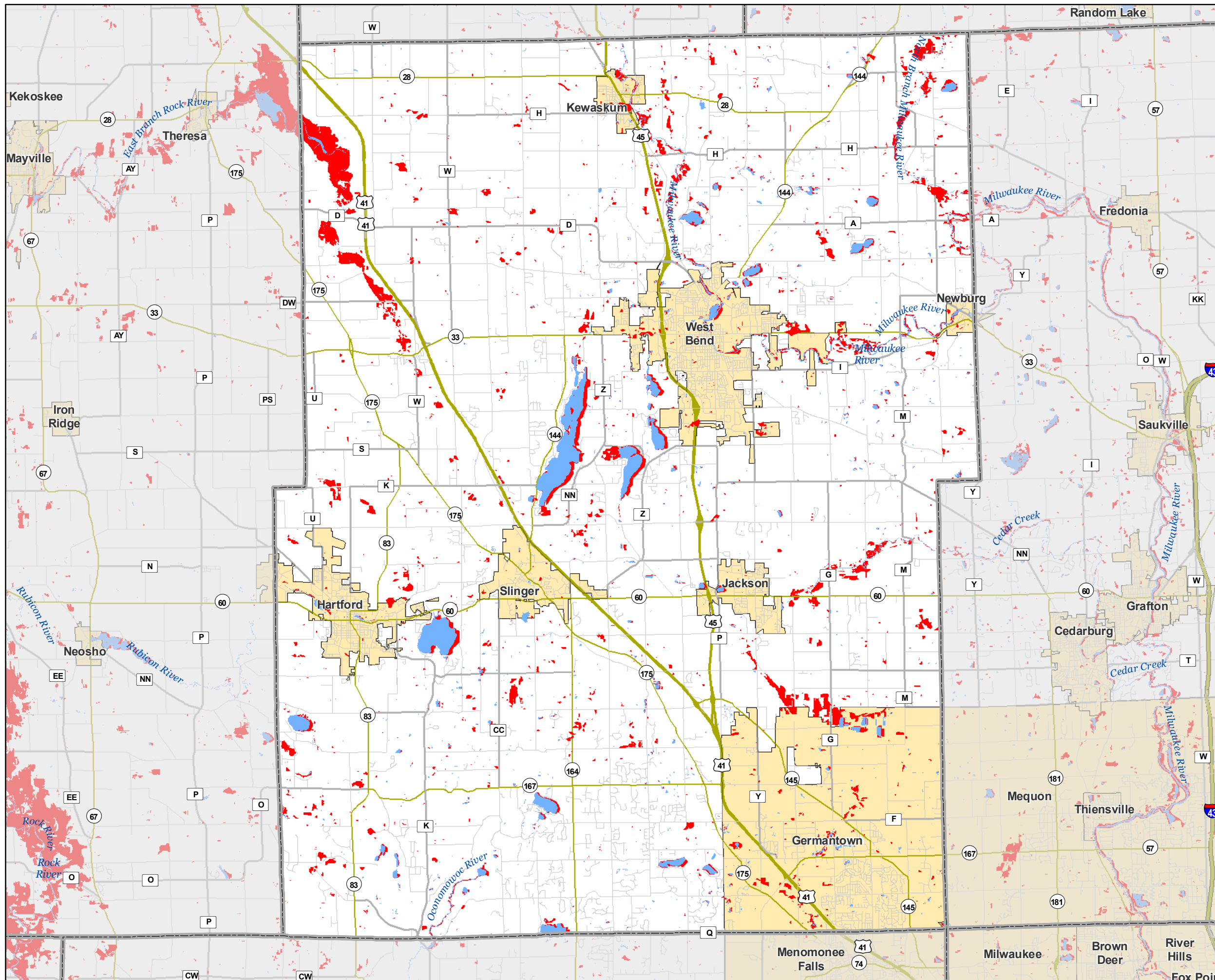
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

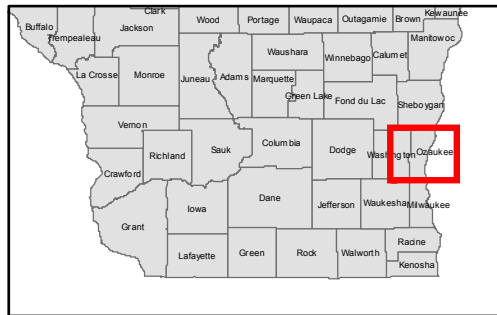


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Ozaukee County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
234.21	2.84	5.19

Water Percent	Total Percent of Land Flooded
1.21%	2.24%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

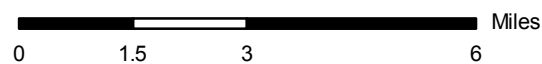
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



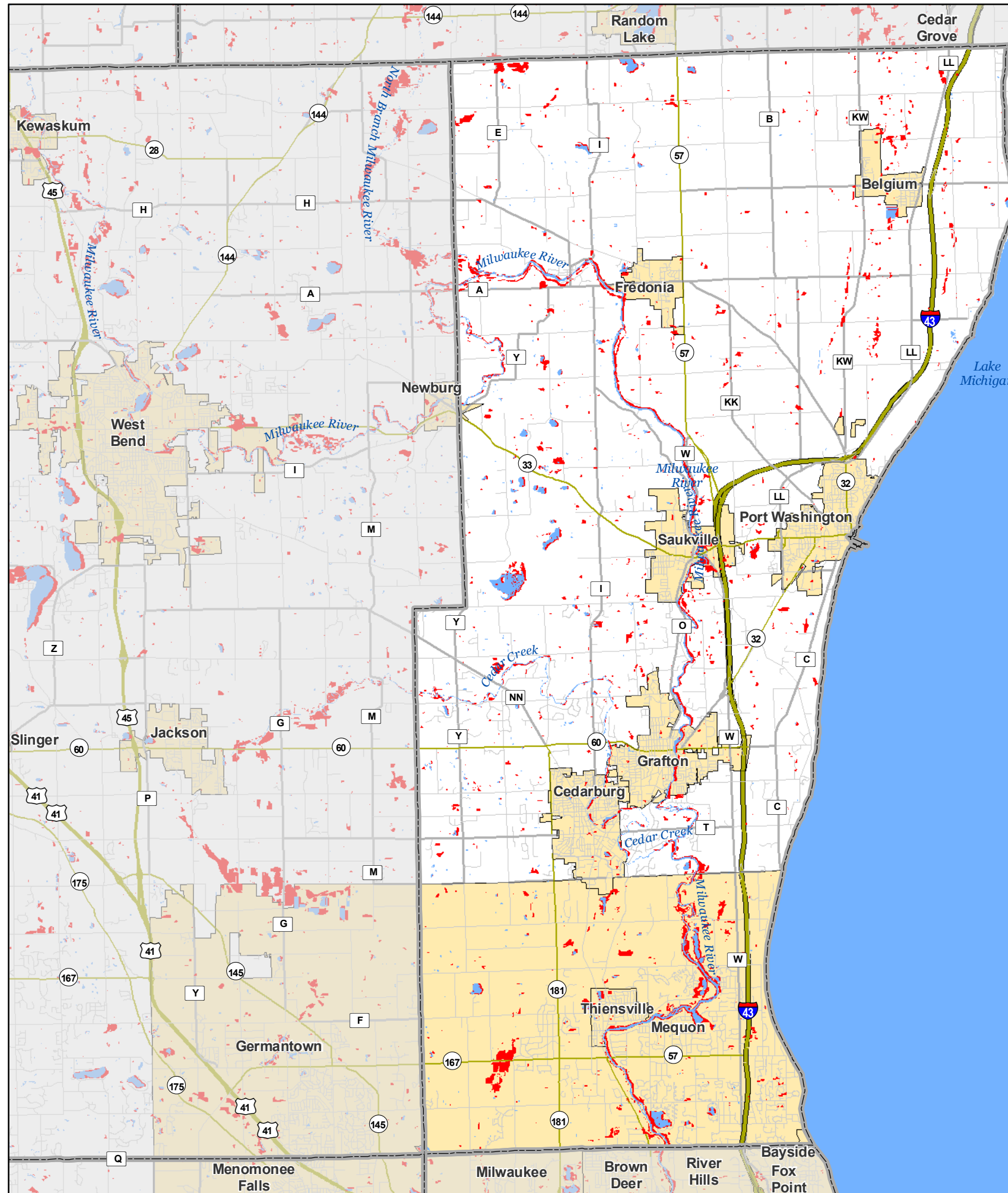
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

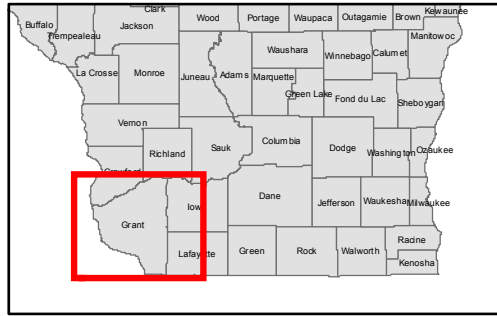


Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT

## Grant County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
1182.45	36.47	19.32

Water Percent	Total Percent of Land Flooded
3.08%	1.69%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

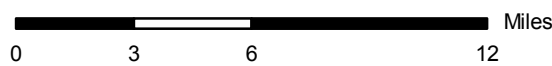
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



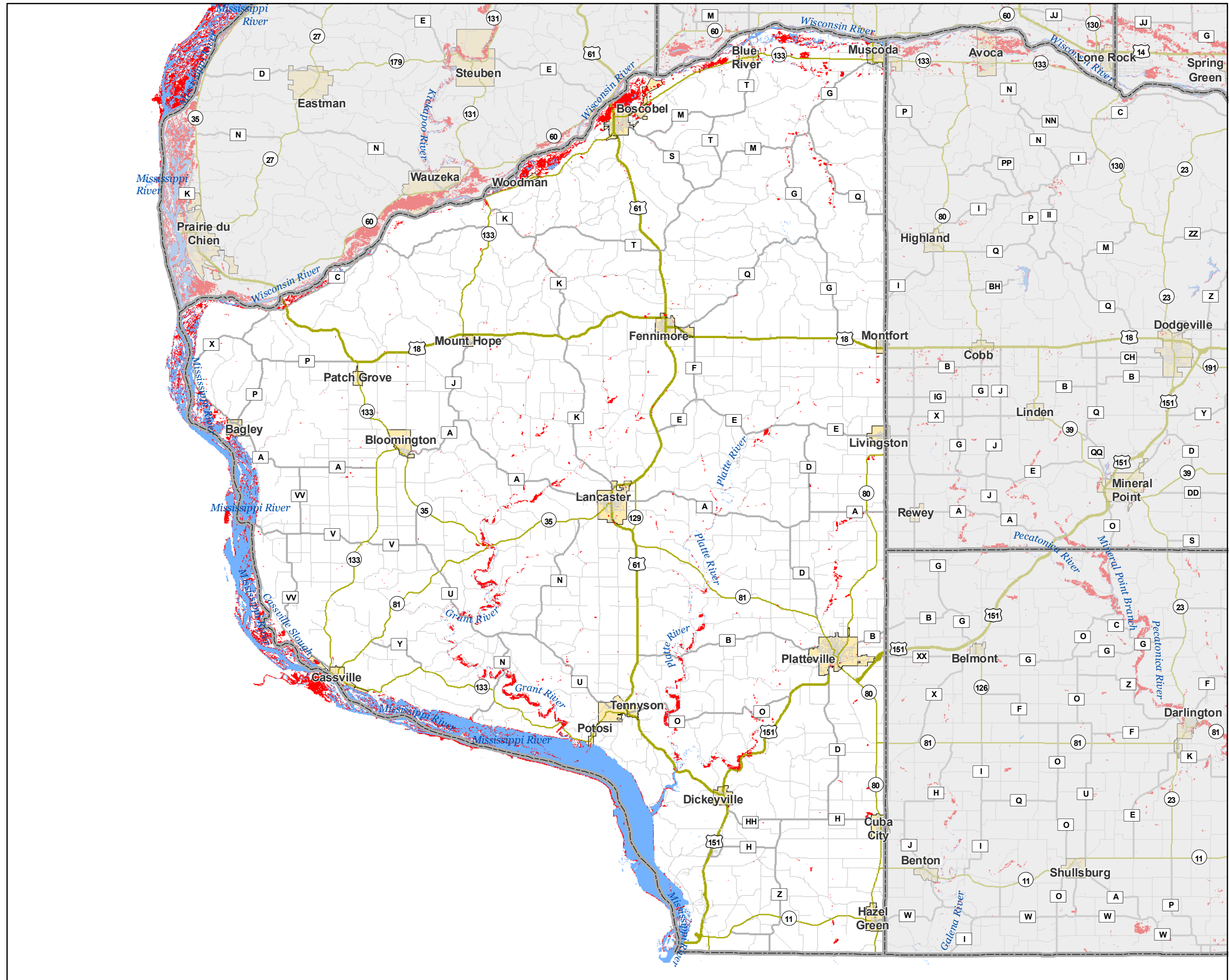
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:310,000

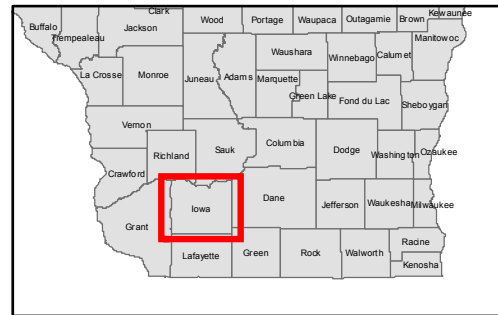


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Iowa County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
767.46	6.12	11.39

Water Percent	Total Percent of Land Flooded
0.80%	1.50%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

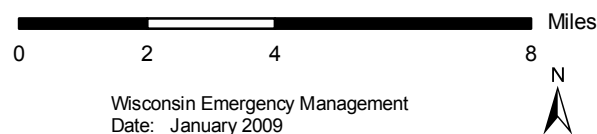
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



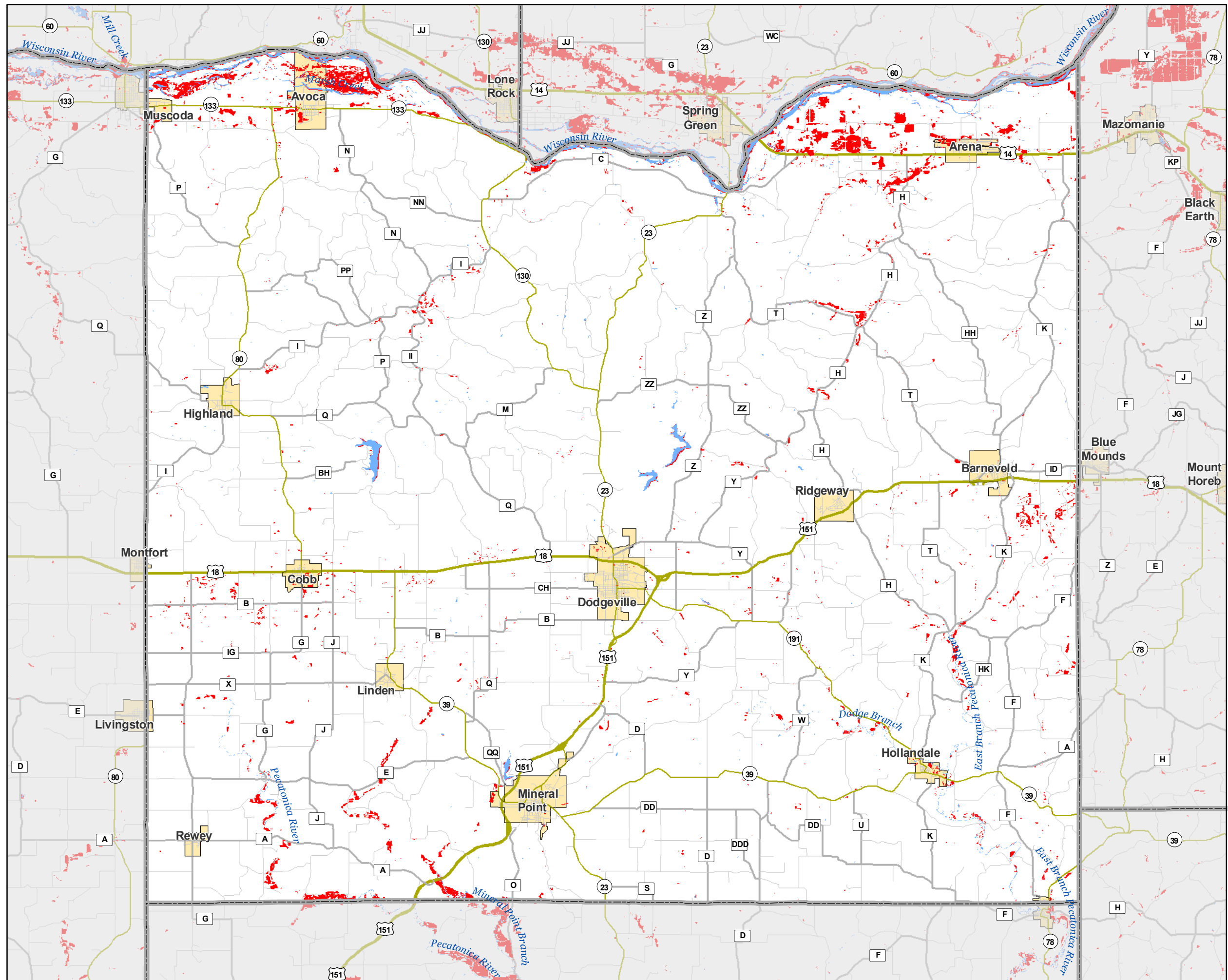
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:190,000

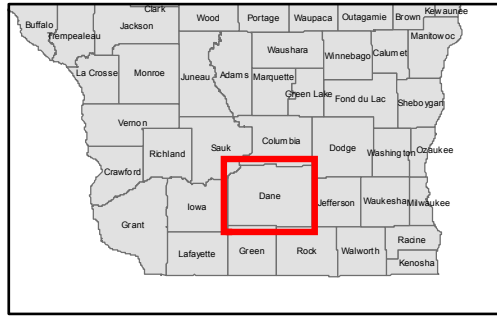


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Dane County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
1237.39	38.49	39.01

Water Percent	Total Percent of Land Flooded
3.11%	3.25%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

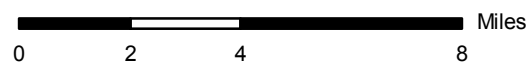
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



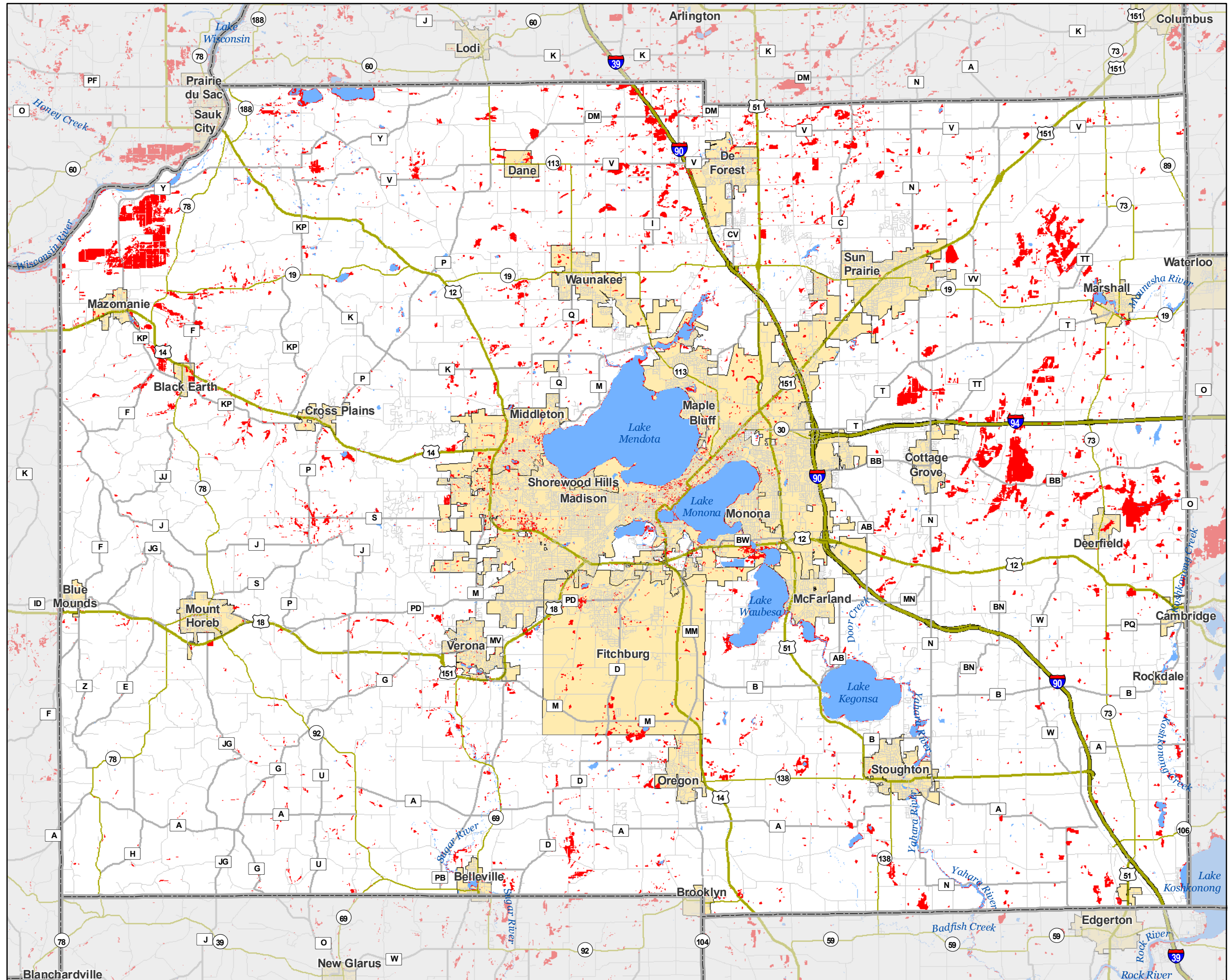
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:220,000

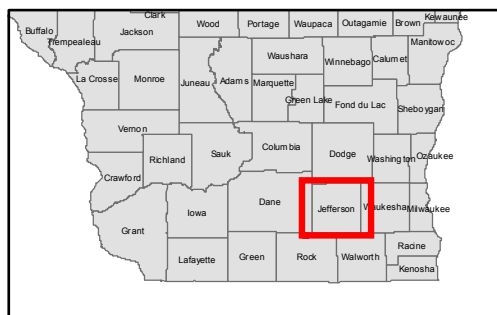


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Jefferson County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
582.42	26.41	101.94

Water Percent	Total Percent of Land Flooded
4.53%	18.34%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

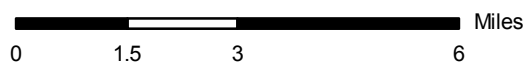
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



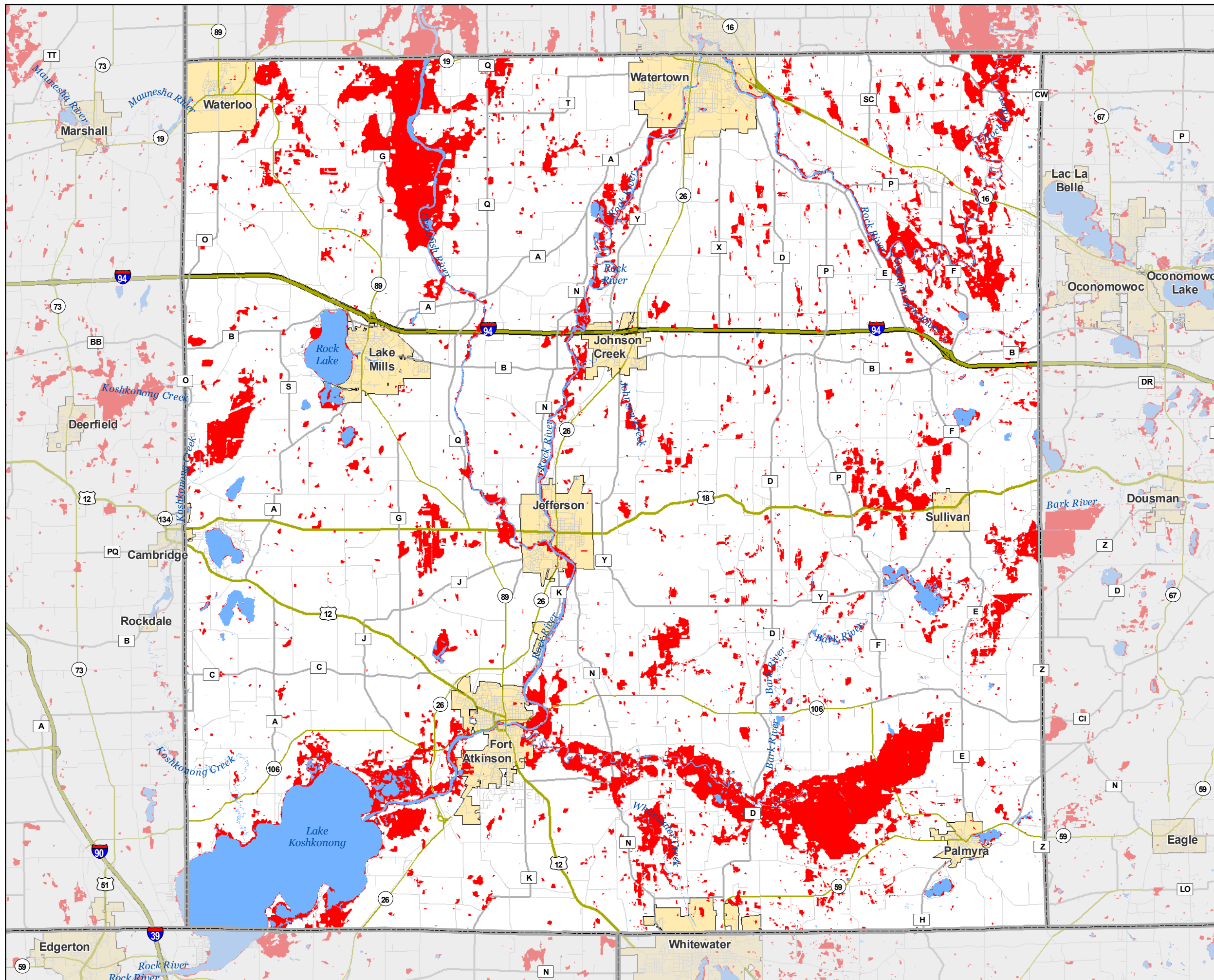
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:165,000



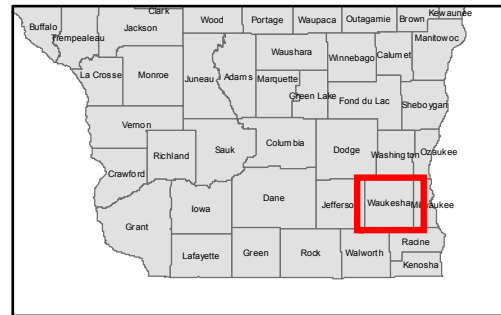
Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT

## Waukesha County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
580.29	26.69	32.93

Water Percent	Total Percent of Land Flooded
4.60%	5.95%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

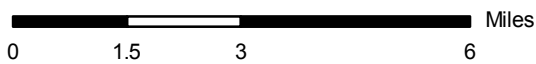
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



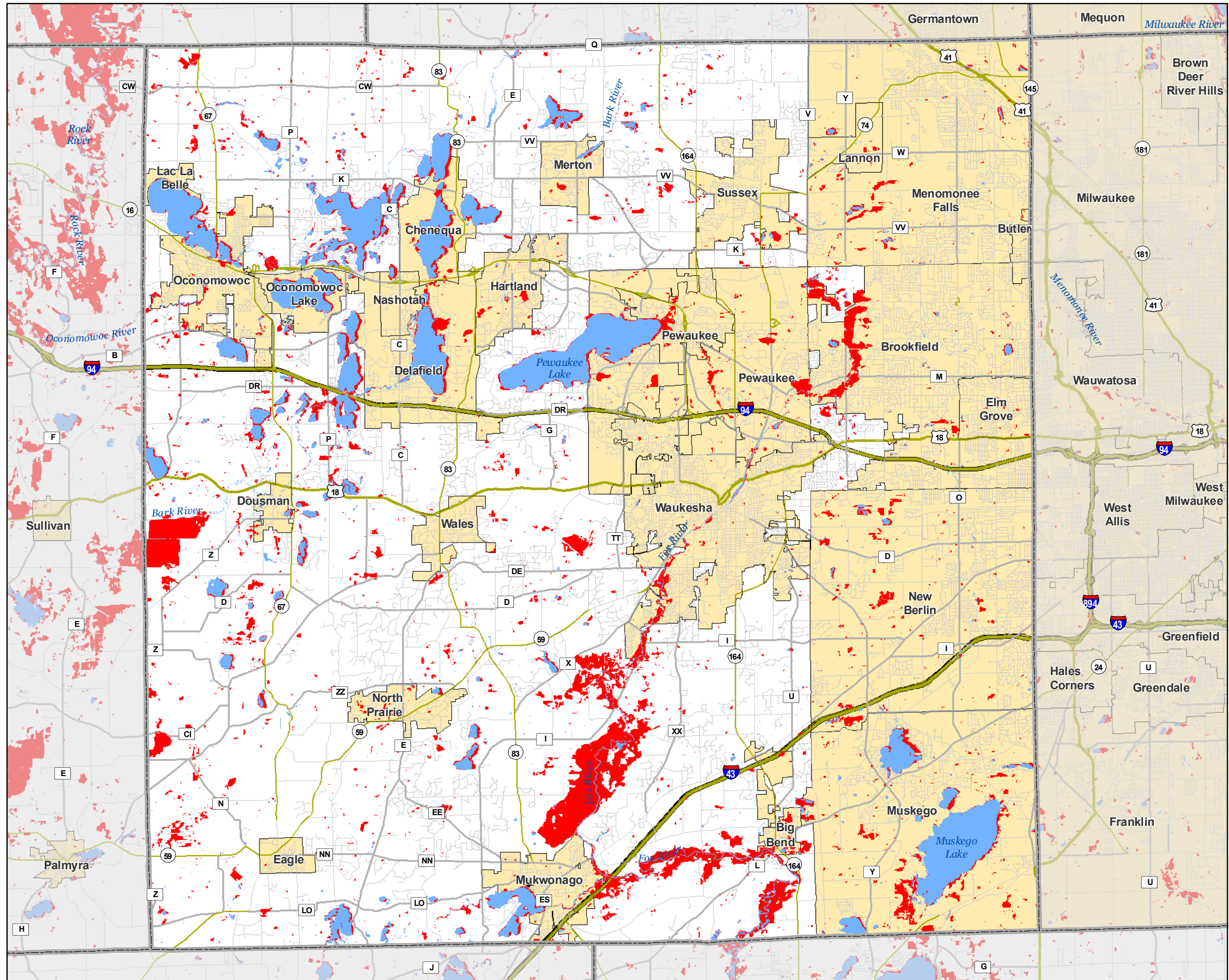
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

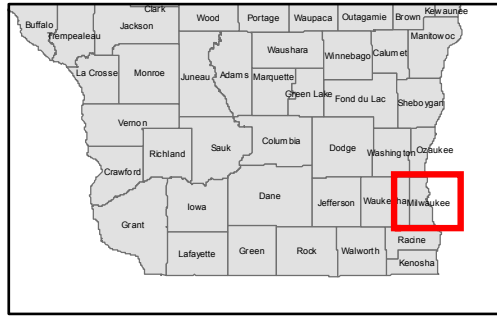


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Milwaukee County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
242.69	2.10	3.19

Water Percent	Total Percent of Land Flooded
0.87%	1.33%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

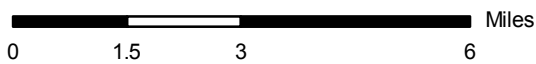
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



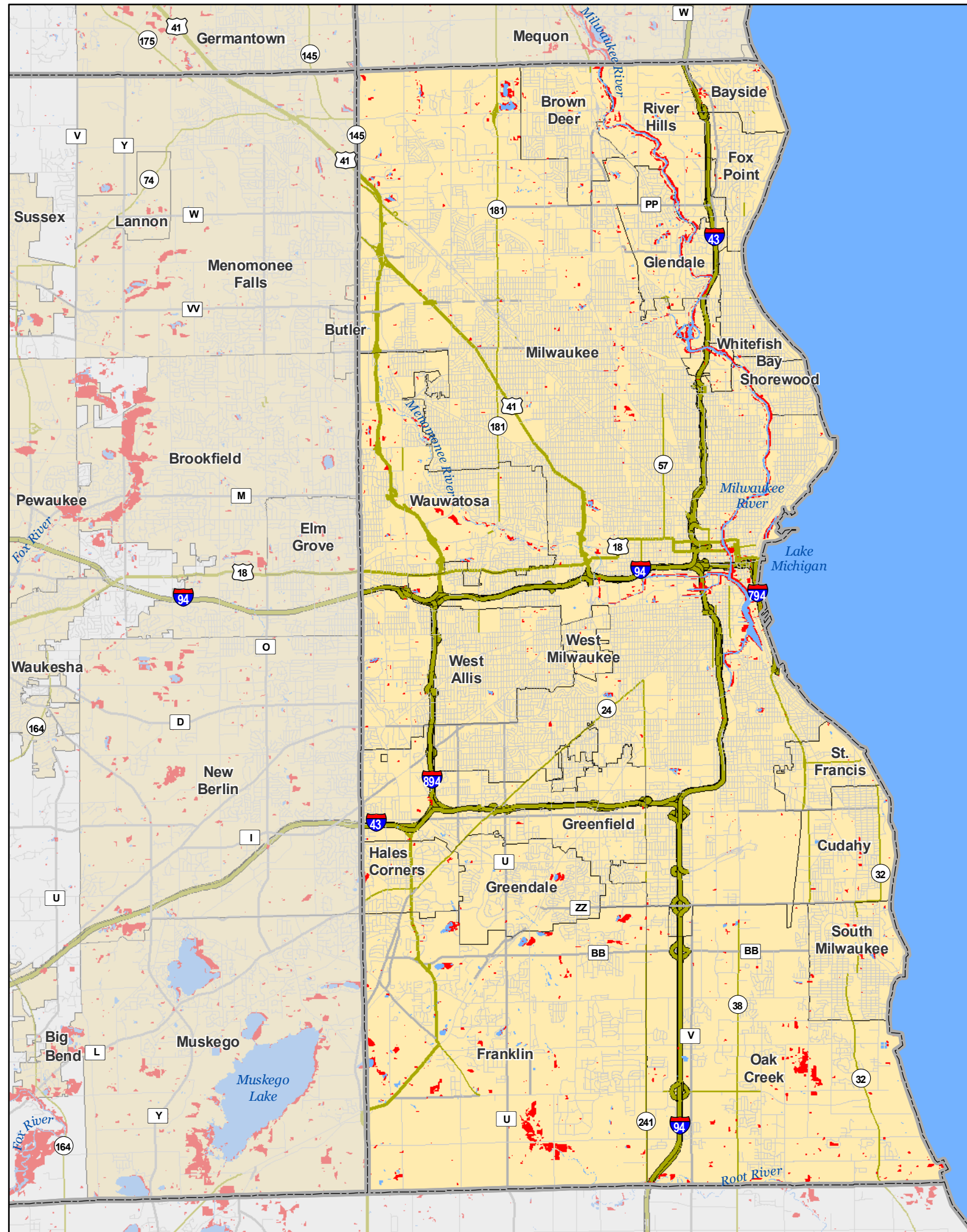
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

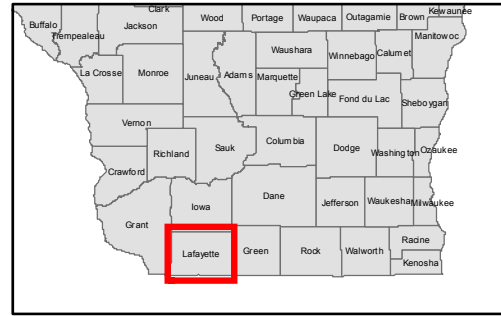
1:160,000



Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT Lafayette County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
634.05	2.69	15.89

Water Percent	Total Percent of Land Flooded
0.42%	2.52%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

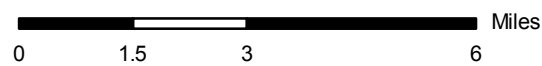
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



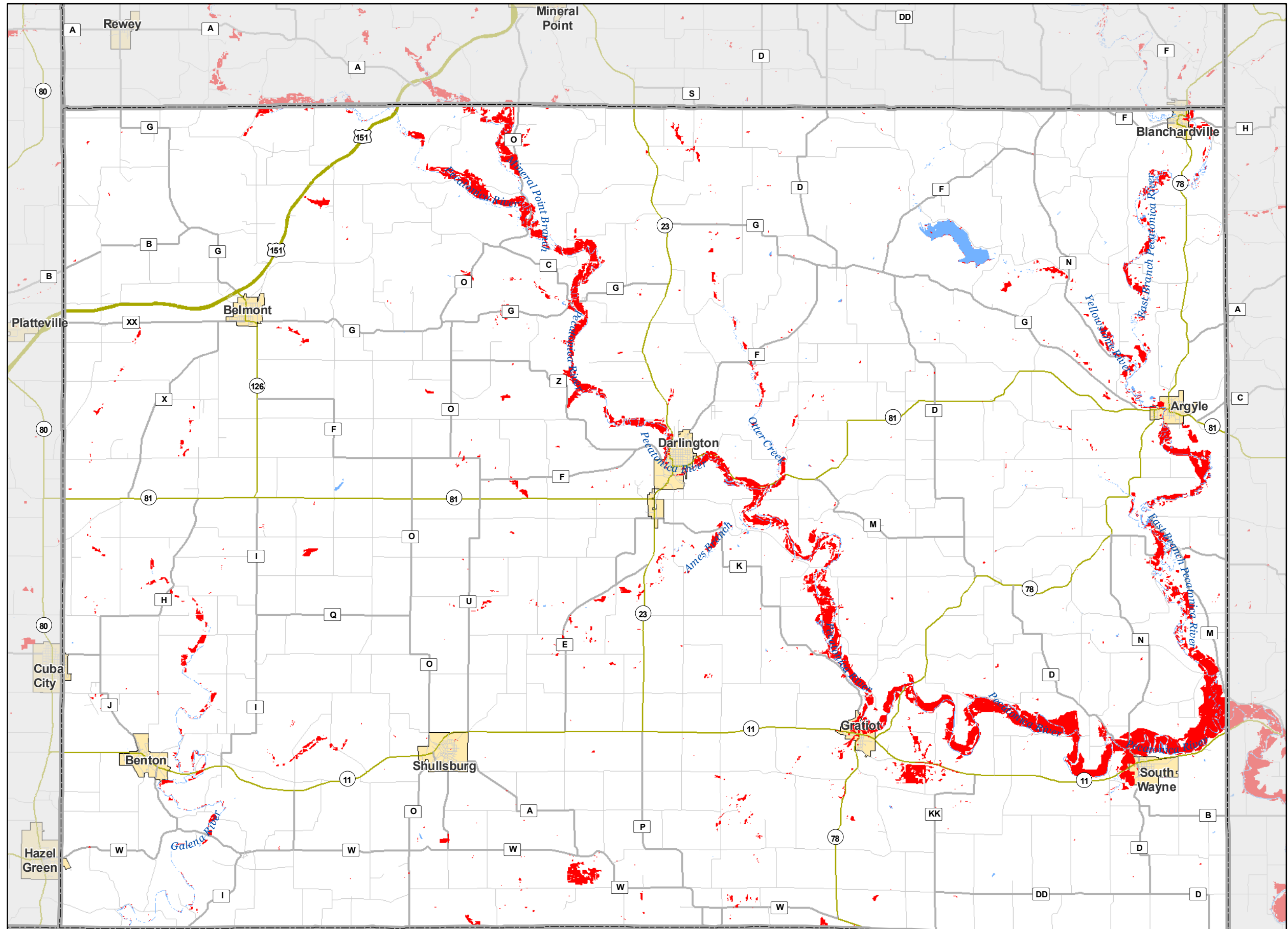
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

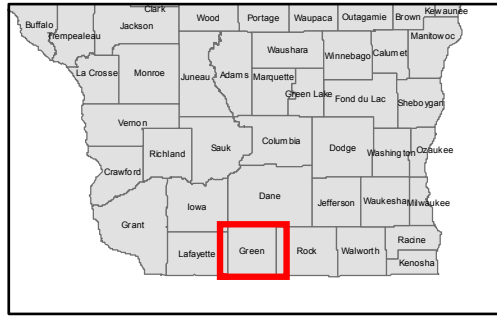


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Green County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
584.10	2.17	9.51

Water Percent	Total Percent of Land Flooded
0.37%	1.63%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

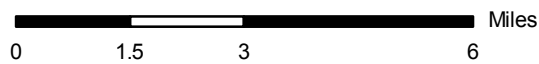
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



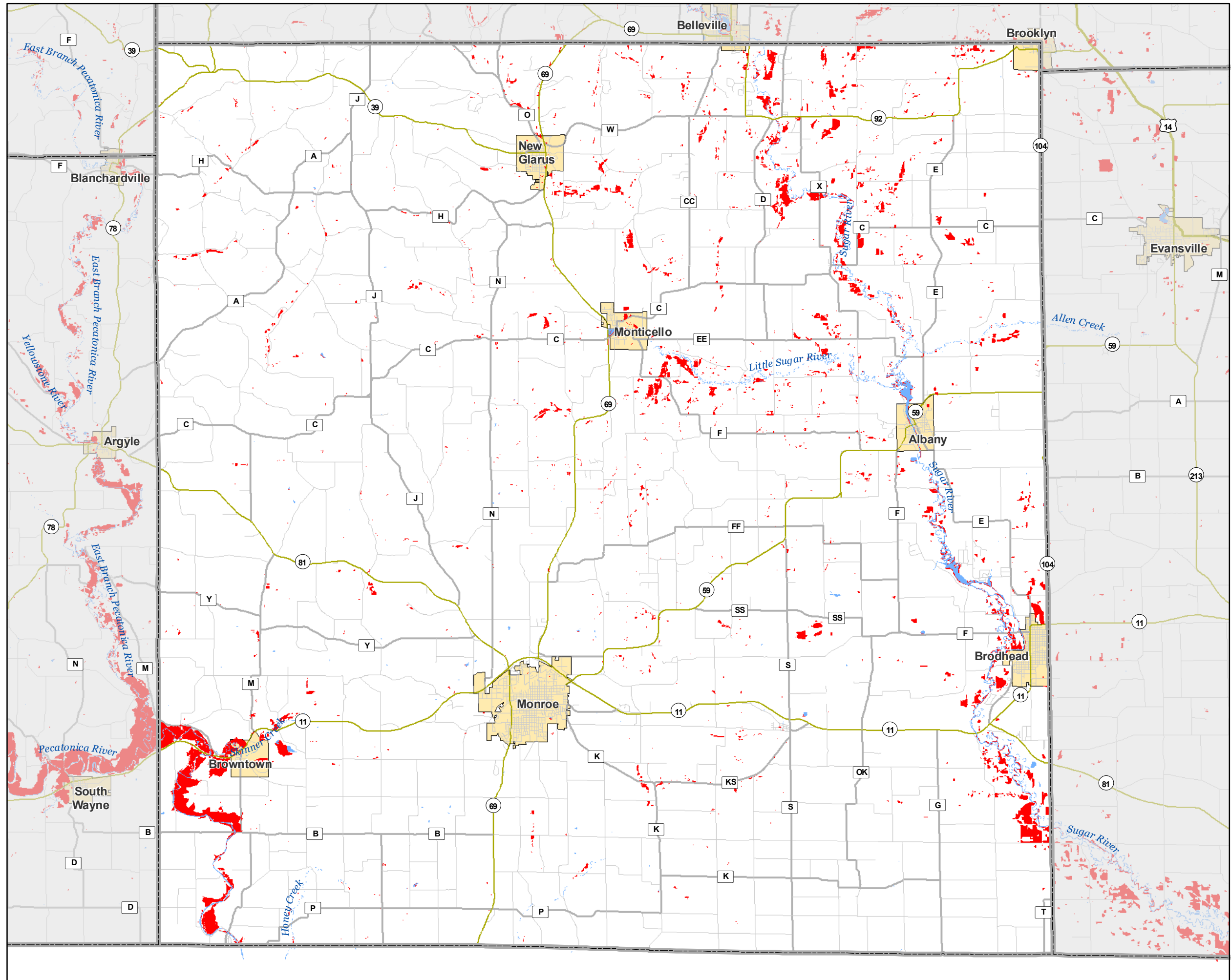
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

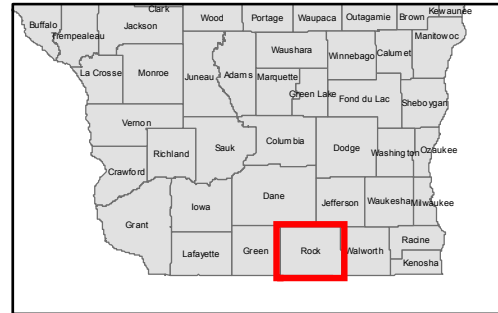
1:160,000



Wisconsin Emergency Management  
Date: January 2009



# FLOOD EXTENT Rock County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
725.71	6.96	13.69

Water Percent	Total Percent of Land Flooded
0.96%	1.90%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

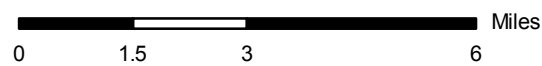
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



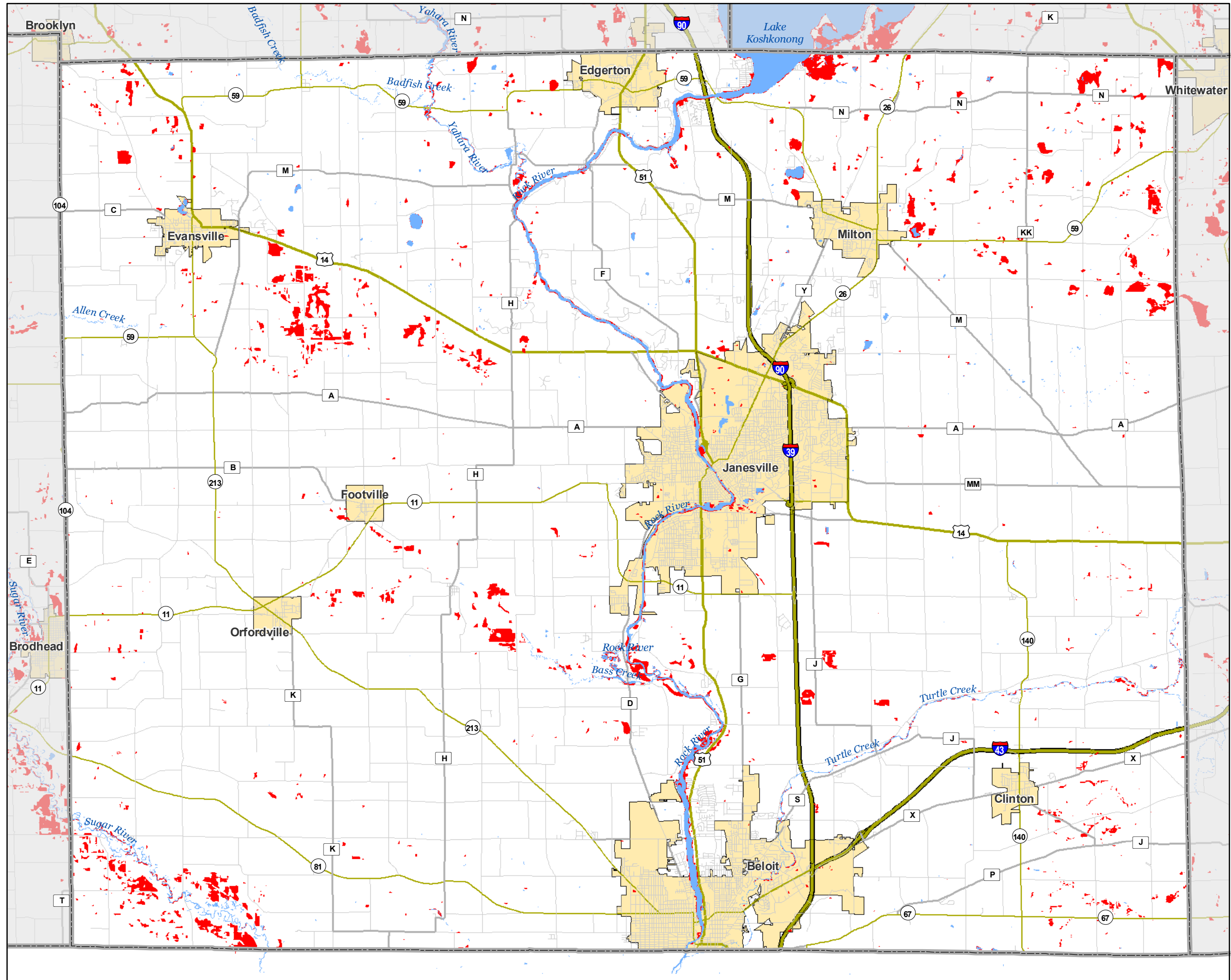
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

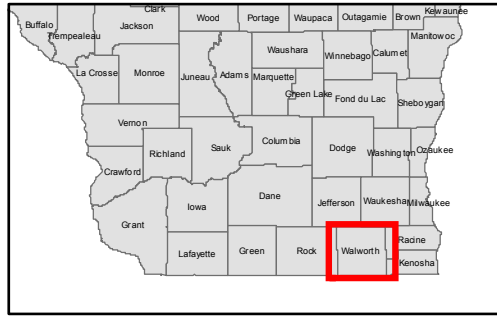


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Walworth County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
576.24	22.48	22.62

Water Percent	Total Percent of Land Flooded
3.90%	4.08%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

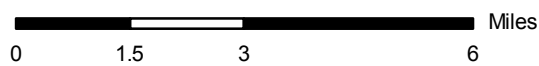
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



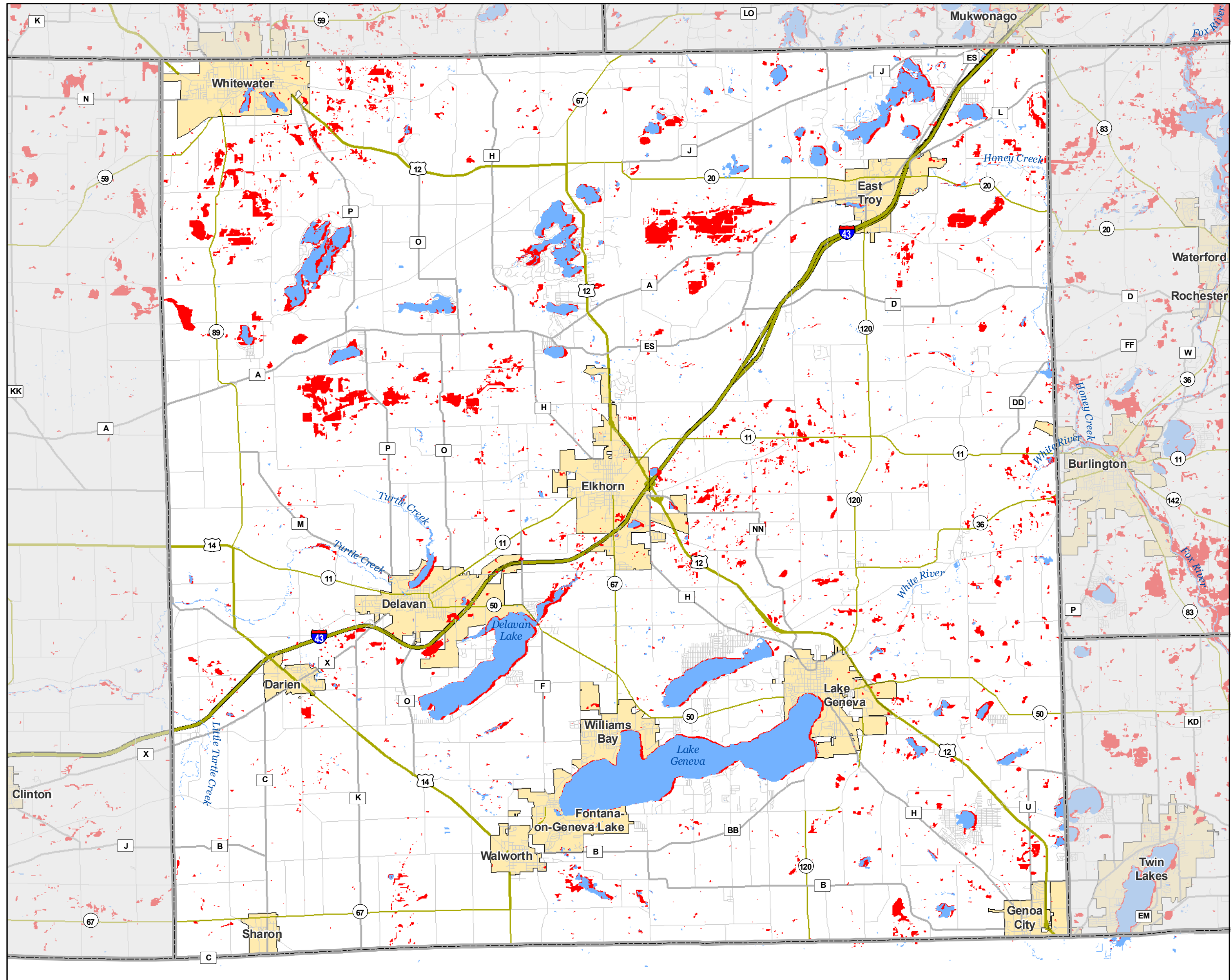
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000

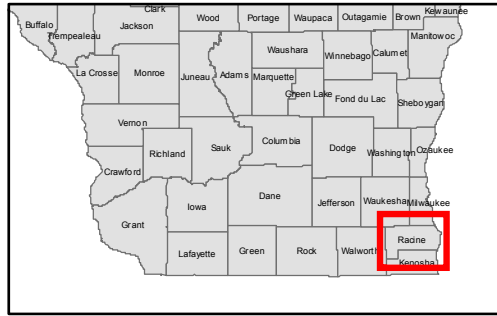


Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Racine County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
340.11	7.96	18.69

Water Percent	Total % of Land Flooded
2.34%	5.63%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

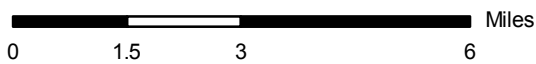
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



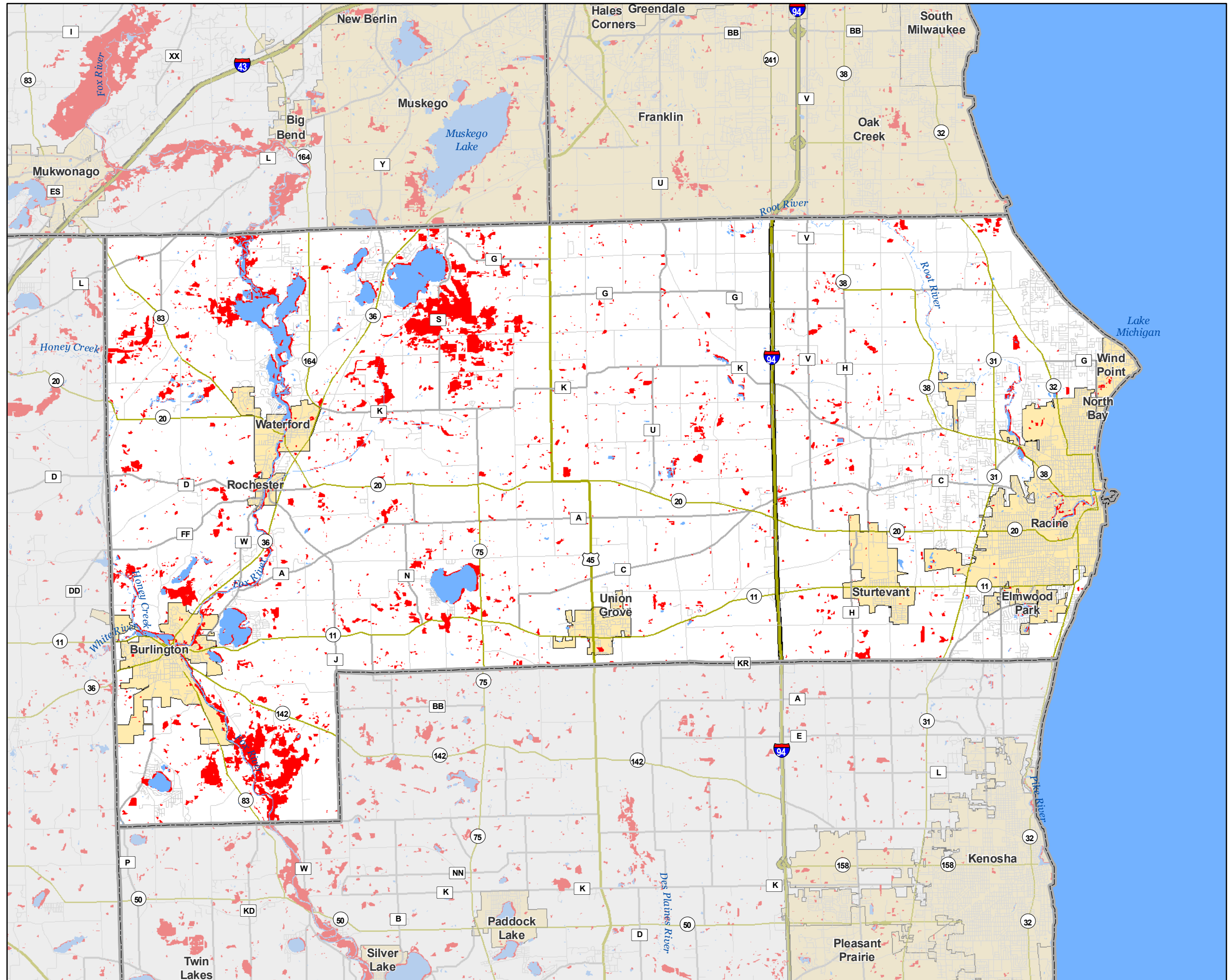
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000



Wisconsin Emergency Management  
Date: January 2009





# FLOOD EXTENT Kenosha County Wisconsin



- Local Roads
- County Highways
- State Highways
- Interstates
- US Highways
- Counties
- City/Village
- Flood Water
- Water

Total Sq Miles	Water Sq Miles	Total Flood Sq Miles
279.16	7.64	12.73

Water Percent	Total % of Land Flooded
2.74%	4.69%

The red patches on this map represent the potential extent of the June 2008 flooding. Three different sensors (SAR, TM, MSI) from five remote sensing platforms (RADARSAT-1, Landsat, SPOT-2, SPOT-4 and SPOT-5) were used to compile this information. From June 15 to July 1 thirty scenes were collected, compiled and analyzed. The goals were to differentiate water from land and differentiate flood water from "normal" water. Several factors may lead to improved accuracy of the data in watersheds that drain more slowly like the Rock River watershed. Watersheds like the Kickaboo drain very quickly and may have a slightly higher degree of inaccuracy. These factors include amount of cloud cover, orbit cycle, footprint size, sensor type and ground resolution. Ground-truthing techniques were also used to help verify positive values and remove erroneous data such as false positives.

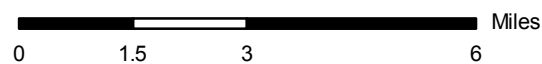
Statistics were generated using ESRI software. TIGER 2000 and the Wisconsin DNR 24k Hydro were used to aid in statistic generation. While this data could never be 100% verified it is believed to be a fairly accurate representation of the floods of 2008.



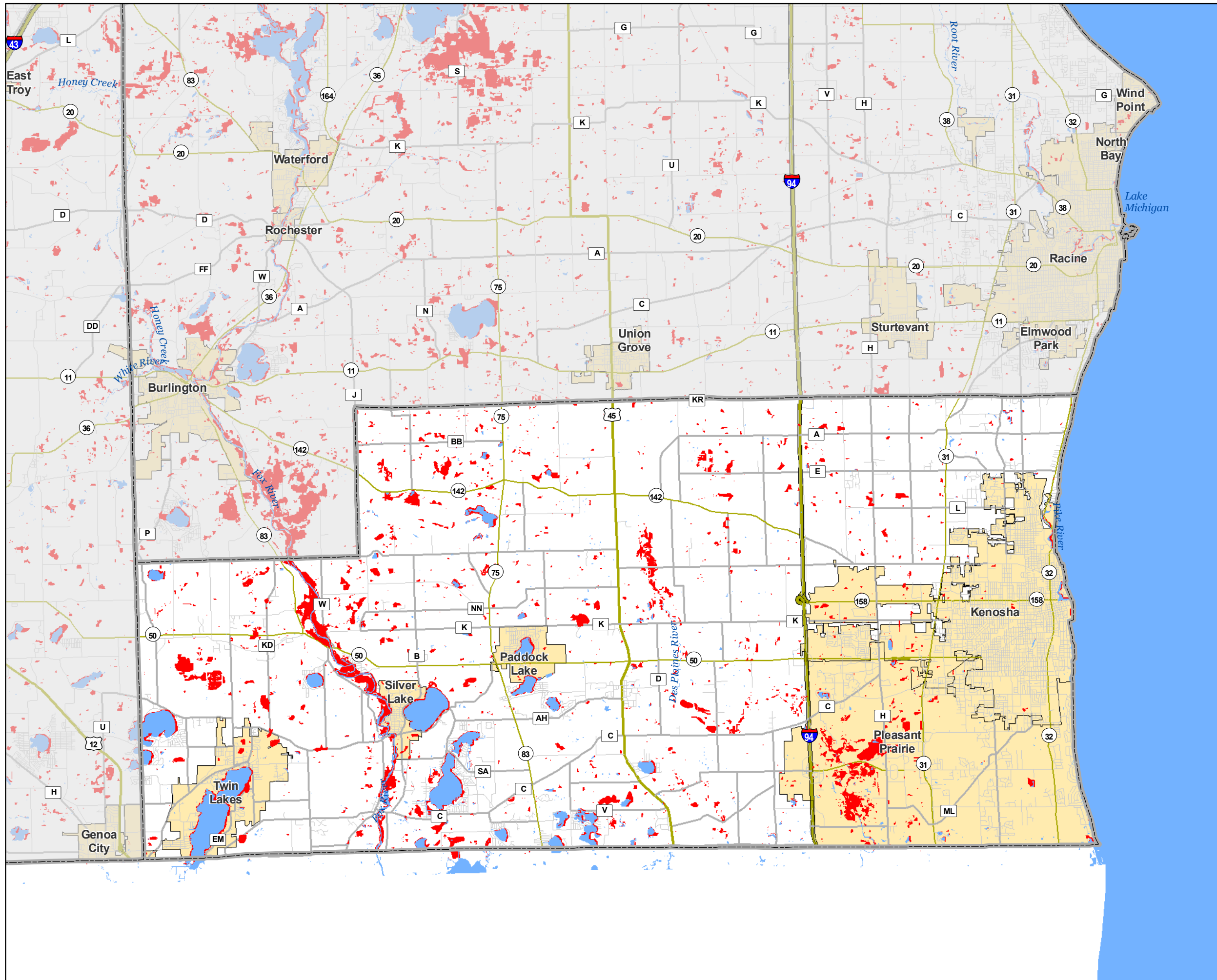
Canadian Space Agency/Agence spatiale canadienne (2008)

The maps and data available are provided "as is" without any warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the user accessing this information. Wisconsin Emergency Management makes no warranties, expressed or implied, as to the use of the maps availability through other data distribution methods (such as CD or paper reproductions.) The user acknowledges and accepts all inherent limitations of the maps, including the fact that the maps are dynamic and in a constant state of maintenance, correction and revision; as such, consolidations, or other changes may not yet be depicted on the maps.

1:160,000



Wisconsin Emergency Management  
Date: January 2009



County	County Square Miles	Water Square Miles	Total Flood Square Miles	Total Percent of Land Flooded
Adams	687.96	42.36	20.41	3.16%
Calumet	396.90	77.89	2.22	0.70%
Columbia	795.12	25.00	42.44	5.51%
Crawford	598.82	28.56	28.82	5.05%
Dane	1237.39	38.49	39.01	3.25%
Dodge	906.50	28.11	158.38	18.03%
FounduLac	765.46	44.07	41.81	5.80%
Grant	1182.45	36.47	19.32	1.69%
Green	584.10	2.17	9.51	1.63%
GreenLake	380.18	27.72	38.64	10.96%
Iowa	767.46	6.12	11.39	1.50%
Jefferson	582.42	26.41	101.94	18.34%
Juneau	803.48	42.25	23.36	3.07%
Kenosha	279.16	7.64	12.73	4.69%
LaCrosse	479.62	30.37	8.89	1.98%
Lafayette	634.05	2.69	15.89	2.52%
Manitowoc	595.60	6.39	2.31	0.39%
Marquette	464.07	12.41	31.28	6.93%
Milwaukee	242.69	2.10	3.19	1.33%
Monroe	907.61	10.95	7.61	0.85%
Ozaukee	234.21	2.84	5.19	2.24%
Racine	340.11	7.96	18.69	5.63%
Richland	588.92	3.67	4.33	0.74%
Rock	725.71	6.96	13.69	1.90%
Sauk	847.74	13.21	30.92	3.70%
Sheboygan	517.56	5.52	7.61	1.49%
Vernon	815.85	24.30	6.14	0.78%
Walworth	576.24	22.48	22.62	4.08%
Washington	435.75	6.91	13.62	3.18%
Waukesha	580.29	26.69	32.93	5.95%
Waushara	636.94	12.11	18.65	2.99%
Winnebago	578.40	141.247	16.74	3.83%
		Total	810.28	