MUSKEGON COUNTY GIS

Summer 2011
Issue 1

# GIS News

**A Quarterly Newsletter Covering GIS for Muskegon County, Michigan**

## this issue

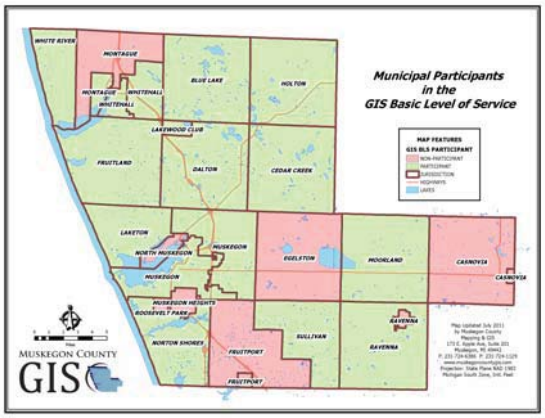


## Introducing Muskegon County GIS News

This first edition of the Muskegon County GIS News is what is planned to be a quarterly newsletter highlighting activities happening within the Muskegon County GIS community. Organized by Muskegon County GIS, it is our hope that this newsletter will become both informative and educational regarding all things GIS in Muskegon County. If you have topic ideas, questions, or anything else you would like to see in future newsletters, please contact us!

**GIS INFORMATIONAL AND TRAINING SESSION**

Wednesday, August 3, 2011
Muskegon Area Transit Center
Louis McMurray Conference Center
9:30 to 10:30 am – GIS Program update
11 am to 12 pm – GIS Users Training – Intro to ArcGIS 10




# Muskegon County GIS Basic Level of Service Program

## 12 Townships, 4 Cities, 1 Village Partner with Muskegon County GIS

It is estimated that over 80% of data generated and used by local government has a spatial (geographic) elemet involved.

In the fall of 2007, Muskegon County Equalization and GIS unveiled the GIS Basic Level of Service program to local municipalities. The Basic Level of Service program outlines base GIS layers and functionality that will be provided to the municipality in exchange for annual monetary support for the GIS program. During the GIS Strategic Planning process that was conducted in 2005 and 2006, one fundamental issue identified was the lack of clarity regarding what GIS users are to receive for their participation with Muskegon County's GIS program. The strategic plan identified that a "Basic Level of Service" program be created that clearly identifies what data, access and programs will be provided and at what defined cost to each municipality. To date, the Townships of Blue Lake, Cedar Creek, Dalton, Fruitland, Holton, Laketon, Moorland, Muskegon, Ravenna, Sullivan, White River and Whitehall, the Cities of Montague, Muskegon, Norton Shores and Whitehall, and the Village of Lakewood Club have joined with Muskegon County GIS in the program.

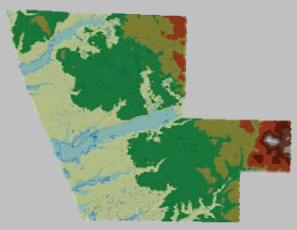
Some of the Basic Level of Service program features include unrestricted GIS layers and databases housed on the GIS warehouse, enhanced web mapping application access, technical GIS support from County GIS staff, digital parcel tax mapping, zoning, and land use / future land use mapping. Data layers include but parcels, zoning, aerial photography, elevation, LiDAR, hydrology, transportation, census, public land survey system, voting districts, educational, facilities, and many more.

The costs to participate in the program are based upon four (4) factors: area, population, parcel count and taxable value. These factors all equally weigh into a formula that is updated on an annual basis. The cost structure is also subject to the CPI indexing similar to the taxable value of property.

If your community is not yet a "Basic Level of Service" participant, if you have questions, or your municipality needs mapping assistance, please do not hesitate to contact us. We are always willing to present the GIS program to your board or council or to discuss a mapping project that may assist in your day to day operations.

## GIS Data Developments

### Contours and Elevation



Utilizing the 2004 LiDAR (Light Detection and Ranging) elevation data, Muskegon County GIS has recently developed two (2) foot contours, five (5) foot contours, a terrain model, and hillshade elevation data. These elevation data sets will be utilized for drainage district delineation, elevation modeling, and other elevation references.

### Aerial Photography

Muskegon County's "current" aerial photography dates to April of 2008. While we have started preparing for an upcoming 2013 flight, we have received 2009 and 2010 NAIP (National Agriculture Imagery Program) photography. These photos are summer leaf-on photos but help to fill the gaps between years. We have also started the process of scanning our older photography for archival purposes.


# Understanding Our World Part 1

## From ESRI's ArcNews Magazine Summer 2011

At the dawn of humankind, people made crude sketches of geography on cave walls and rocks. These early maps documented and communicated important geographic knowledge our ancestors needed to survive: What is the best way to get from here to there? Where is the water at this time of year? Where is the best place to hunt animals? Our ancestors faced critical choices that determined their survival or demise, and they used information stored in map form to help them make better decisions.

Fast-forward to the 1960s. The world had become significantly more complex than it was for our early ancestors, and computers had arrived on the scene to help us solve increasingly complex problems. The 1960s were the dawn of environmental awareness, and it seemed a natural fit to apply this powerful new computer technology to the serious environmental and geographic problems we were facing. And so the geographic information system (GIS) was born.

Today, GIS has evolved into a crucial tool for science-based problem solving and decision making. People who use GIS examine geographic knowledge in ways that would be extremely time-consuming and expensive when done manually. The map metaphor remains the dominant medium for sharing our collective geographic intelligence, and development of a GIS-based global dashboard will lead to a revolution in how we understand our world and plan for the future.

**Geographic Knowledge Leads to Geographic Intelligence**

Geographic knowledge is information describing the natural and human environment on earth. For our ancestors, geographic knowledge was crucial for survival. For our own survival, geographic knowledge plays an equally fundamental role. The biggest differences between then and now are that our problems are much more complex, and the sheer volume of data—of geographic knowledge—at our disposal is daunting. And whereas passing down geographic knowledge in the past was limited to a few cave paintings or rock drawings, GIS technology now enables a collective geographic intelligence that knows no spatial or temporal bounds.

Today we have more geographic data available than ever before. Satellite imagery is commonplace. Scientists are producing mountains of modeled data. And an ever-increasing stream of data from social media, crowdsourcing, and the sensor web are threatening to overwhelm us. Gathering all this information—this geographic knowledge—and synthesizing it into something actionable is the domain of GIS. More data does not necessarily equate with more understanding, but GIS is already helping us make sense of it, turning this avalanche of raw data into actionable information.

**Human-Made Ecosystems**

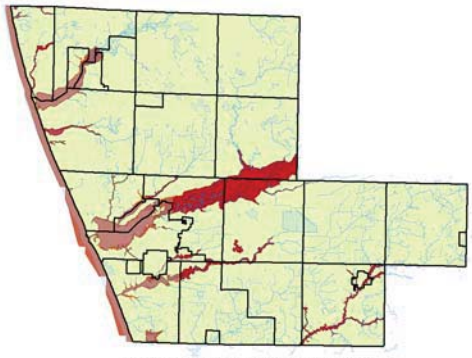
Our traditional understanding of ecosystems as natural landscapes is changing. Anthropogenic factors are now the dominant contributor to changing ecosystems. Human beings have not only reshaped the physical aspects of the planet by literally moving mountains but also profoundly reshaped its ecology.

And it's not just landscape-scale geographies that can be considered human-made ecosystems. In modern society, buildings are where we spend the vast majority of our waking and sleeping hours. Our facilities are themselves man-made ecosystems—vast assemblages of interdependent living and nonliving components. Facilities have become the primary habitat for the human species, and this is changing the way we think about collecting, storing, and using information describing our environment.

A key aspect of our social evolution is to recognize the effects we have already had on ecosystems, as well as to predict what future impacts will result from our actions. Once we achieve this level of understanding, we can direct our actions in a more responsible manner. This type of long-term thinking and planning is one of the things that make humans human.

Recognition of the overwhelming dominance of man-made ecosystems also makes us cognizant of the tremendous responsibility we have—the responsibility to understand, manage, and steward these ecosystems.

See the next issue for Part 2 of "Understanding Our World."



FEMA FLOOD HAZARD AREA MAP

# FEMA Flood Mapping for Muskegon County

## What FEMA's new Flood Insurance Rate Maps Mean for Your Community

The Federal Emergency Management Agency (FEMA) has recently completed a five-year project to update the flood insurance rate maps (FIRMs) for all communities within Muskegon County. Now, FEMA is offering opportunities for communities to participate in their flood insurance program in order to help mitigate any potential flood related issues that home and business owners may encounter in the future.

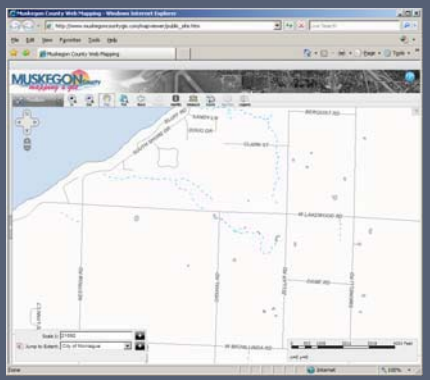
FEMA recently mailed the local municipalities (cities, villages and townships) copies of the preliminary Flood Insurance Study (FIS) and preliminary Flood Insurance Rate Maps (FIRMs) identifying flood risk in Muskegon County. The flood risk data included in the FIS and FIRM form the basis of participation in the National Flood Insurance Program (NFIP). FEMA wanted to meet with county and other local officials from within Muskegon County to briefly explain their mapping process, discuss our continued NFIP participation and seek our comments on the preliminary digital maps before hosting a public open house.

In partnership with the Michigan Department of Environmental Quality (DEQ), the FEMA Region V office recently hosted a public Flood Risk Information Open House for communities located in Muskegon County, Michigan on June 8, 2011 at the Laketon Township Hall. The purpose of the Open House was to present updated flood risk data and provide information that county and other local officials, as well as citizens, would find

All communities were encouraged to join the National Flood Insurance Program (NFIP) to enable property owners in participating communities the ability to purchase insurance as protection against flood losses in exchange for state and community floodplain management regulations that would reduce future flood damages. Otherwise, nonparticipating communities would end up being sanctioned and left-out of any NFIP policy programs for their citizens / businesses if a flood were to occur and damages ensued. Many participating, as well as more nonparticipating, communities were not in attendance of the Open House and therefore, did not receive the direct invitation from the FEMA Region V representative (Daven Patel of Atkins North America, Inc.) to either expand or begin participation in NFIP. State of Michigan DEQ representative Les Thomas reemphasized the importance of community participation in order to assist in reducing flood insurance costs for its residents.

For further information concerning FEMA's FIS, FIRM's and communities participation in the NFIP, please go to the Frequently Asked Question (FAQs) web page: http://www.fema.gov/plan/prevent/fhm/fq_main.shtm where you can further navigate to other web pages more directly related towards your needs and / or interests in the programs FEMA offers.

# Monthly Spotlight – Muskegon County GIS Website



**Have you visited the Mapping & GIS Website? We have a new site address: www.muskegoncountygis.com**

Information pertaining to Muskegon County GIS is now hosted online at the web address above. Make sure to browse the site ofen as content is constantly changing. In addition, you will find interactive mapping applications and additional materials pertaining to the Muskegon County GIS Operations.

# Muskegon Community College Student Designs New County GIS Logo

The graphics design students at Muskegon Commuinity College were challenged to design a new GIS logo for Muskegon County GIS. Drake Evans, a Graphic Design student at MCC designed the selected logo.

Drake created the design using Adobe Illustrator and Adobe Photoshop. His logo was selected by Muskegon County GIS staff for its focuson the county outline and the use of a blue color palate to emphasize the lakes, the beach and lake lifestyle that many of our residents enjoy.

Drake plans on completing his bachelor's degree at Kendall College of Fine Arts. We contragulate him on his logo design selection. .

MUSKEGON COUNTY GIS

## GIS Training & Education

Muskegon County GIS will host the first Muskegon County GIS Users Group Meeting on Wednesday, August 3, 2011. The meeting will be held at the Muskegon Area Transit System Conference Center in Muskegon Heights starting at 9:30 AM.

9:30 to 10:30 – general session about the GIS program

10:45 to 12:00 - Technical introduction to ArcGIS 10 for direct GIS Users

## Muskegon County Mapping & GIS Staff

- **Thomas Van Bruggen: Property Information Analyst/GIS Supervisor**

  Thomas Van Bruggen has a B.S. Degree in Geography from Central Michigan University, with a concentration in Cartography, Remote Sensing, and Geographic Information Systems. Thomas (Tom) began his employment with Muskegon County in 1998 as the Geographic Information Technician before any official GIS efforts were underway. Under his direction, the Mapping & GIS division has grown into a fully functional enterprise GIS system, with connections across County departments, into several municipalities, and to other organizations in Muskegon County.

- **Terry Zahniser: GIS Technician**

  Terry Zahniser has an Associates Degree in Science and Arts in Criminal Justice Geospatial Technology (CJ-GST) from Muskegon Community College. Terry is continually upgrading his education by finishing his BS in CJ and Intelligence through Ferris State University. Terry is retired from the Marines and continues his volunteer service through the Volunteer Center of West Michigan and the American Red Cross of Muskegon, Oceana and Newaygo Counties and is also a member of the Blue Lake Township Fire & Rescue Ground Search and Rescue (GSAR) Team. Terry began his employment with Muskegon County in March of 2010.

- **Kathy Crisan: GIS Technician**

  Kathy Crisan majored in Graphic Communication at Grand Valley State University. Prior to joining Muskegon County in March 2010, Kathy worked for Prein & Newhof as a GIS / Mapping Specialist working with Townships creating GIS data and maps for water and sanitary sewer systems and with municipal planners to create and maintain various planning and zoning maps for municipal use. Kathy looks forward to working with County departments and municipalities in the development of GIS.