



RAMSEY COUNTY GIS USER GROUP

An alliance of communities sharing Geographical Information Systems

Meeting Minutes
2:00 – 4:00 PM, January 5, 2012
Shoreview City Hall, 4600 Victoria St N

1. Introductions

Mark Andrle, City of New Brighton
Matt Baker, City of Shoreview
Melissa Baker, Capitol Region Watershed District
Marvin Bauer, University of Minnesota
Chad Bergo, City of Maplewood
John Jacobson, Ramsey County
Brian Jastram, Mississippi Watershed Management Organization
Kristine Jenson, Vadnais Lake Area Water Management Organization
Deb Jones, City of Falcon Heights
Don Kilberg, Minnesota DNR
Joel Koepp, City of Roseville/City of North St. Paul
Carrie Mack, Ramsey Washington Metro Watershed District
Ger Pha, City of St. Paul
Jolinda Stapleton, City of Roseville
Jan Vanderwall, Roseville Area Schools

Meeting was called to order by Joel Koepp at 14:04.

2. Additions or Corrections to the Agenda

Addition to the Agenda: Add Item '2012 RCGIS User Group Meeting Schedule' after Item 7. Move subsequent items. Addition and agenda approved by consensus.

3. Approval of December 1st, 2011 Meeting Minutes.

Minutes approved by consensus.

4. Presentation 'Mapping Urban Tree Cover'- Marv Bauer, UMN & Don Kilberg, MN DNR

Marv Bauer and Don Kilberg gave a presentation to the group regarding an urban tree cover mapping project which they conducted for the cities of Minneapolis, St. Paul, and Woodbury.

Mr. Bauer started the presentation by explaining that trees are an important component of urban environments and provide significant aesthetic, economic, and environmental benefits. Accurately measuring and quantifying canopy cover is essential for management of urban forests. Acquiring

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the dataset through field mapping is costly and the proper aerial imagery is often not available for interpretation. An alternative solution to mapping, which was more cost efficient and time effective, was developed to digitally classify high resolution multispectral imagery and LiDAR data through remote sensing, GIS analysis, and modeling.

QuickBird data, the high resolution multispectral imagery, was collected in 2009 and used in this analysis. The QuickBird imagery has four spectral bands (blue, green, red, and near infrared) at a 0.6 meter resolution. This imagery separates out vegetation and non-vegetation land cover; however, there was no vertical accuracy. Therefore trees may be classified as grasses. LiDAR data, collected in 2007, was incorporated to compensate for the lack of vertical accuracy. The LiDAR data had a 0.5 meter horizontal resolution and a 0.087 meter vertical resolution. With the exception for the City of Woodbury (in which not all data was not available), a combination of the two datasets was used in the analysis.

The QuickBird and LiDAR data were combined to produce a composite image. Mr. Kilberg explained that object based analysis of the composite image was conducted using ArcGIS, ERDAS IMAGINE, and the eCognition softwares. Unlike remote sensing, which analyzes individual pixels; object based analysis groups pixels together and views the image object as one. The ERDAS IMAGINE software was used in image analysis and performs advanced remote sensing analysis and spatial modeling. The eCognition software, traditionally used in the medical field in MRI machines, was expanded for uses in the life sciences. This software is used to developed rule sets for the analysis of remote sensing data through object based image analysis.

Ancillary GIS data (e.g. building footprints, roadways, etc.) was provided by the entities and aided in the analysis. This data required some additional editing to 'clean up' features. The eCognition had memory limitations; therefore the composite image had to be separated into individual tiles prior to analysis.

The object based image analysis was completed in a two-step process. First the imagery for a tile was segmented into image objects. Segmentation uses the spectral information about the individual pixels and groups them into larger image objects. The objects provided more information including spatial information such as shape, size, texture, and context. Once the objects were created, they were classified using several rule sets based on the spectral and spatial information.

Once the objects were classified, an accuracy assessment was performed. The individual tiles were reviewed scene-by-scene, at a 1,500 scale, for errors. Approximately 10,000-15,000 objects had to be corrected (e.g. trees removed). The resultant dataset provided the municipalities with an

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estimate of acreage and percentage of tree canopy cover which could be used to locate areas for management activities. In addition, the cities requested supplemental datasets (e.g. canopy cover by parcel/neighborhood, identify areas when canopy cover is needed, etc.) to aid in management and integrate into map viewers to supply data to constituents of the cities. Overall, tree canopy cover in Minneapolis was 33%, St. Paul was 32%, and Woodbury was 21%.

The presentation concluded with a Q & A session. Joel Koepp asked if the QuickBird imagery was purchased off the shelf. Mr. Bauer responded that each city is covered in a single image and that 'archival' data was purchased. He noted that newer data is available; however, it was significantly more costly (roughly double the cost). Jan Vanderwall asked if the analysis process was able to be refined to identify the tree species. Mr. Kilberg responded that this analysis was not able to be done with the multispectral data. He noted that it may be possible with the hyperspectral data but acquisition of that data would be substantially more expensive.

5. Nominations and Approval of the 2012 RCGIS User Group Secretary

Mark Andrie was nominated as the 2012 RCGIS User Group Secretary. Joel Koepp moved to approve Mark Andrie as the 2012 RCGIS User Group Secretary. Chad Bergo seconded the motion. The motion was approved by consensus.

6. Approval of the 2012-2014 RCGIS User Group Annual Membership Fees

Chad Bergo provided a handout to the group (see attached document) detailing the proposed 2012-2014 annual membership fees for each individual member organization. This same handout was provided to the group and discussed at the November 2011 meeting. The only change to the handout was a decrease in population for Roseville Schools which was adjusted due to a boundary issue. Overall membership fees will be decreasing. The decrease in fees amounts to approximately \$700, annually.

Joel Koepp moved to approve the proposed 2012-2014 RCGIS User Group annual membership fee structured. Deb Jones seconded the motion. The motion was approved by consensus. Member organizations can expect to receive an invoice sometime in February.

7. Approval of the 2012 RCGIS User Group Budget

Chad Bergo provided another handout (see attached) outlining the 2012 User Group budget. The financial balance, as of January 2012, was \$189,230. 2012 annual membership fees will generate approximately \$37,000 in revenue. Expenditures for the User Group in 2012 total approximately \$11,250 and include expenses such those associated with group insurance, website domain, the User Group Chair's costs to attend the ESRI national conference, and the Roseville JPA for the

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ArcIMS Site. The resultant annual net increase to the User Group's fund balance is about \$25,600. The estimated balance at the end of 2012 is expected to be approximately \$215,000.

The group discussed the flexibility of providing funding for additional projects in addition to funding the collection of aerial imagery and physical feature updates every two years. It was speculated that as long as the User Group maintained a 'healthy' fund balance (e.g. \$100,000) funding those other opportunities should be ok.

Jolinda Stapleton moved to approve the 2012 User Group budget and expenditures. Jan Vanderwall seconded the motion. The motion was approved by consensus.

8. 2012 RCGIS User Group Meeting Schedule

Joel Koepp proposed that the frequency of User Group meetings be reduced in 2012. There is no language in the User Group's JPA specifying the actual number of meetings which must occur. Therefore, this proposal does not require an official vote.

Joel noted that as far as he was aware, the RCGIS User Group has the greatest frequency of meetings in a year than any other user group. It was noted that meetings are typically cancelled in July and October. In addition, few presentations occurred at meetings this past year and many of the meetings generally discussed regular User Group business (i.e. updates from Ramsey County). It was discussed that monthly updates are available online and no longer require the transfer of a physical disk. It was conferred that Ramsey County updates may be better distributed to group members electronically (i.e. email, Google apps).

Carrie Mack reminded the group that a reduced meeting schedule, proposed to the group a few years back, was met with some resistance. However, advances in technology and increased availability and accessibility to electronic forms of discussion (e.g. email and networking websites) since then, may have lessened the opposition.

There was unanimous consensus among the members present, to reduce the 2012 User Group meeting schedule. The group agreed that meetings will occur in 2012 on the first Thursday of the months of February, April, June, August, and November. Meetings will still take place at the Shoreview City Hall from 2-4pm. Additional meetings may be added as necessary. The 2013 User Group meeting schedule will be determined at the November 2012 meeting. An email will be sent to members outlining the new 2012 meeting schedule.

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9. Community Announcements

- Jolinda Stapleton informed the group that the tax annotation and address labels have been updated online, most likely for the last time.
- Joel Koepp noted that the web based Pictometry imagery is available online. Other members also noted that there have been some issues with the service. However, Ramsey County may have been working on resolving some of the issues.
- Matt Baker informed the group that the User Group's Google apps account is now fully operational. Generic email addresses (listed below in the footer), for User Group officers, are also working.

10. Agenda for February 2nd, 2012 Meeting

- Standard group business

9. Adjourn

The meeting was adjourned at 15:22.

The next meeting will be on February 2nd, from 14:00-16:00, at the Shoreview City Hall.

Minutes submitted by Melissa Baker, Vice Chair.

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Organization Name	Change			2000 - 2010				2012			
	Population Served	Annual Fees		Population Served	Population Factor	Units Assigned	Annual Fees	Population Served	Population Factor	Units Assigned	Annual Fees
Arden Hills	-100	(\$10.07)	-1.05%	9652	1	9652	\$971.96	9,552	1	9,552	\$961.89
Capitol Region Watershed District	-19,119	(\$144.40)	-8.46%	245000	0.075	18375	\$1,850.36	225,881	0.075	16,941	\$1,705.97
Falcon Heights	-251	(\$25.28)	-4.72%	5572	1	5572	\$561.10	5,321	1	5,321	\$535.82
Gem Lake	-26	(\$2.62)	-6.62%	419	1	419	\$42.19	393	1	393	\$39.58
Lauderdale	-188	(\$18.93)	-8.64%	2364	1	2364	\$238.05	2,176	1	2,176	\$219.12
Little Canada	2	\$0.20	0.02%	9771	1	9771	\$983.94	9,773	1	9,773	\$984.14
Maplewood	3,071	\$309.25	8.08%	34947	1	34947	\$3,519.16	38,018	1	38,018	\$3,828.41
Mississippi Water Management Organization	51	\$0.39	1.59%	3152	0.075	236.4	\$23.81	3,203	0.075	240	\$24.19
Mounds View	-583	(\$58.71)	-4.80%	12738	1	12738	\$1,282.72	12,155	1	12,155	\$1,224.01
New Brighton	-750	(\$75.52)	-3.50%	22206	1	22206	\$2,236.14	21,456	1	21,456	\$2,160.62
North St. Paul	-469	(\$47.23)	-4.09%	11929	1	11929	\$1,201.25	11,460	1	11,460	\$1,154.02
Ramsey Conservation District	15,528	\$31.27	3.05%	492909	0.02	9858.18	\$992.72	508,437	0.02	10,169	\$1,023.99
Ramsey/Wash Metro Watershed District	-19,312	(\$145.85)	-14.78%	150000	0.075	11250	\$1,132.88	130,688	0.075	9,802	\$987.02
Vadnais Lake Area Watershed	11,669	\$88.13	34.66%	21997	0.075	1649.775	\$166.13	33,666	0.075	2,525	\$254.26
Rice Creek Watershed District	-3,151	(\$23.80)	-3.39%	96045	0.075	7203.375	\$725.38	92,894	0.075	6,967	\$701.58
Roseville	-30	(\$3.02)	-0.09%	33690	1	33690	\$3,392.58	33,660	1	33,660	\$3,389.56
Roseville Schools	4,561	\$85.31	18.38%	50172	0.075	3762.9	\$378.92	54,733	0.075	4,610	\$464.23
Shoreview	-872	(\$87.81)	-3.48%	25924	1	25924	\$2,610.55	25,052	1	25,052	\$2,522.74
St Paul	-2,083	(\$52.44)	-0.73%	287151	0.25	71787.75	\$7,229.03	285,068	0.25	71,267	\$7,176.59
St Paul Regional Water Services	-30,537	(\$230.63)	-8.27%	400000	0.075	30000	\$3,021.00	369,463	0.075	27,710	\$2,790.37
Vadnais Heights	-767	(\$77.24)	-6.23%	13069	1	13069	\$1,316.05	12,302	1	12,302	\$1,238.81
White Bear Lake	-929	(\$93.55)	-3.97%	24325	1	24325	\$2,449.53	23,396	1	23,396	\$2,355.98
White Bear Township	-981	(\$98.79)	-8.97%	11923	1	11923	\$1,200.65	10,942	1	10,942	\$1,101.86
Total:		(\$681.34)	-1.85%				\$37,526.09				\$36,844.76



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FINANCIAL BALANCE

as of January 2012

\$189,229.87

ANNUAL FEES

Total membership fees in 2012*

\$ 36,844.76

EXPECTED ANNUAL EXPENDITURES

National Conference

\$ 2,400

User Group Chair

Roseville Joint Powers Agreement for ArcIMS Site

\$ 7,500.00

City of Roseville

2660 Civic Center Dr

Roseville, MN 55113-1899

Website Domain

\$ 75

Steve Lorbach

Service Award

\$ 75

Valley Trophy

Group Insurance

\$ 1,200

Comprehensive Municipal Property & Casualty Coverage

Ekbald Pardee & Bewell, Inc

1983 Sloan Pl, Suite #16

Maplewood, MN 55117

NET ANNUAL INCREASE (DECREASE) CHANGE

\$ 25,594.76

Estimated balance at the end of 2012 - \$214,824.63

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