

Ottawa Welcomes The World / Ottawa accueille le monde



- <https://vimeo.com/209216056?autoplay=1&loop=0&autopause=0>

Safe Software released FME Desktop in 2015, with Minecraft transformers



The new tools allowed us to transform GIS data into Minecraft worlds



© mojang.com



geoOttaWOW – Where are we now?



© mojang.com

geoOttawWOW – The Experiment continues.

- Continued to ***experiment***, on my own time, with FME 2016, by building a Tablet sized Minecraft world of Ottawa.



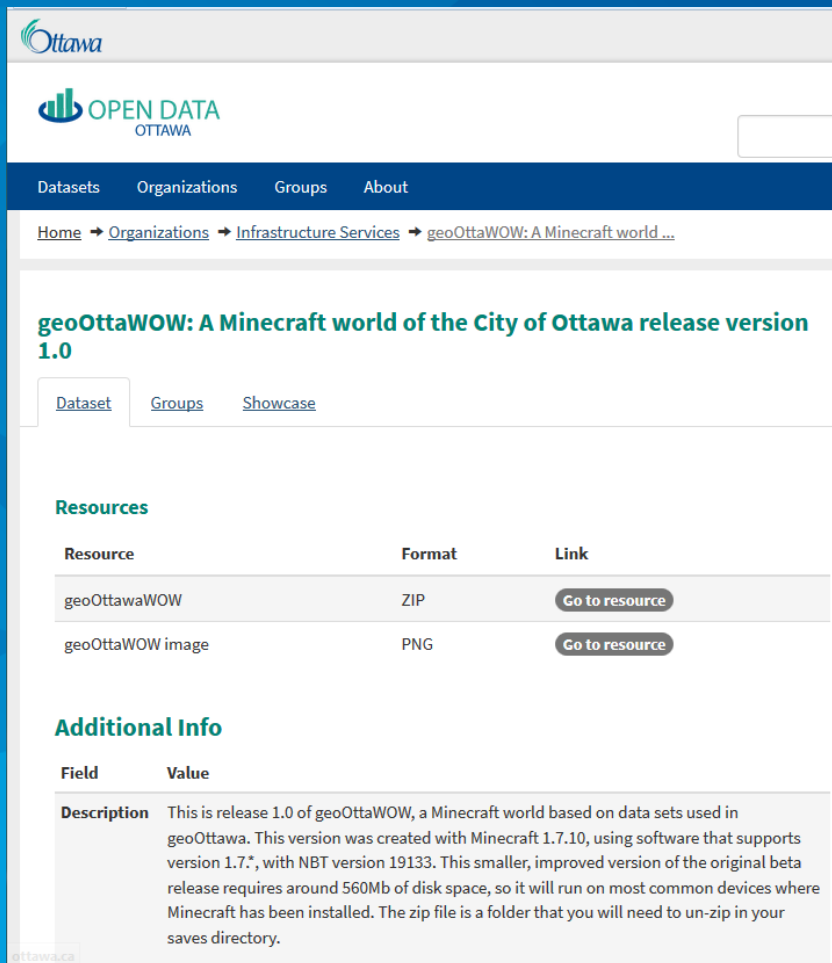
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Still using youth input to modify Minecraft worlds



geoOttawWOW Beta released to Open Data 24-Dec-2015.
Version 1.0 released 4-Oct-2016

<http://data.ottawa.ca/dataset/geo-ottawa-minecraft>



The screenshot shows the Open Data Ottawa website for the dataset 'geoOttawWOW: A Minecraft world of the City of Ottawa release version 1.0'. The page includes a navigation menu with 'Datasets', 'Organizations', 'Groups', and 'About'. The breadcrumb trail is 'Home → Organizations → Infrastructure Services → geoOttawWOW: A Minecraft world ...'. Below the title, there are tabs for 'Dataset', 'Groups', and 'Showcase'. The 'Resources' section contains a table with two entries: 'geoOttawWOW' in ZIP format and 'geoOttawWOW image' in PNG format, each with a 'Go to resource' button. The 'Additional Info' section has a table with a 'Description' field containing detailed text about the release.

geoOttawWOW: A Minecraft world of the City of Ottawa release version 1.0

[Dataset](#) [Groups](#) [Showcase](#)

Resources

Resource	Format	Link
geoOttawWOW	ZIP	Go to resource
geoOttawWOW image	PNG	Go to resource

Additional Info

Field	Value
Description	This is release 1.0 of geoOttawWOW, a Minecraft world based on data sets used in geoOttawa. This version was created with Minecraft 1.7.10, using software that supports version 1.7.*, with NBT version 19133. This smaller, improved version of the original beta release requires around 560Mb of disk space, so it will run on most common devices where Minecraft has been installed. The zip file is a folder that you will need to un-zip in your saves directory.

Media sees **geoOttawOW** Beta in Open Data 8-Jan-2016. Over 7000 hits later we knew we had something.

The screenshot shows a CBC News Ottawa article. The header includes the CBC News logo, the word 'Ottawa', and a navigation menu with categories like Home, World, Canada, Politics, Business, Health, Arts & Entertainment, Technology & Science, Trending, Weather, and Video. A 'LIVE' indicator and 'Radio One 91.5 FM' logo are also present. The article title is 'Minecraft players given free rein to build up, tear down Ottawa' with a sub-headline 'We're one of the first in Canada to do this'. The article features a large image of a Minecraft castle built on a hill. Below the image is a caption: 'There aren't any castles in Ottawa, but there is Parliament Hill — and that building and many others are now available for Minecraft players to explore and interact with, says Coun. Rick Chiarelli. (Courtesy Liam O'Donnell)'. The article text discusses the 'GeoOttawOW' app and mentions Coun. Rick Chiarelli. A 'Listen' button is visible. To the right, there is an advertisement for the 'CBC SPORTS APP' and a 'Latest Ottawa News Headlines' section with several news items. At the bottom right, there is a 'Latest Audio and Video' section.

CBCnews | Ottawa

LIVE Ottawa More Streams **91.5 FM**
Radio One
Listen Live **radio one**

Home World **Canada** Politics Business Health Arts & Entertainment Technology & Science Trending Weather Video

Canada **Ottawa** Photo Galleries

Minecraft players given free rein to build up, tear down Ottawa

'We're one of the first in Canada to do this'

CBC News Posted: Jan 08, 2016 5:52 PM ET | Last Updated: Jan 08, 2016 6:31 PM ET



There aren't any castles in Ottawa, but there is Parliament Hill — and that building and many others are now available for Minecraft players to explore and interact with, says Coun. Rick Chiarelli. (Courtesy Liam O'Donnell)

Listen

New Ottawa open data lets you play with the city, Minecraft-style 8:42

605 shares

- Facebook
- Twitter
- Reddit
- Google

In the real life version of Ottawa, Parliament Hill looms over the downtown, the Rideau Canal bisects the city, and the Senators take to the Canadian Tire Centre ice way out in Kanata.

In Minecraft Ottawa, none of that's set in stone.

The recently-unveiled **GeoOttawOW** lets Minecraft players explore and refashion Ottawa's streets, houses, train tracks, as well as major buildings like Parliament Hill and City Hall.

"I think we're one of the first in Canada to do this, so that's a good thing," said Coun. Rick Chiarelli, chair of the city's information technology sub-committee, on CBC Ottawa's *All In a Day* Friday afternoon.

For those unfamiliar with how the game works, Minecraft lets players dig (mine) and build (craft) nearly anything they want using Lego-like blocks and bricks.

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Latest Ottawa News Headlines

- Senator Patrick Brazeau found seriously injured in his home last night
- Canadian-sponsored Sudanese refugees in Jordan say it's very dangerous to go out
- Food prices to remain high amid weak dollar, weather-related supply issues
- Wind chill making it feel like -31 in Ottawa this morning
- Sens win over Sharks overshadowed by Hoffman injury

Latest Audio and Video

Connections Established.

Game teaches 'principles of civil planning'

"Now you have kids who are experimenting with basic principles of municipal planning. So if they think, for instance, that an outdoor stadium should be somewhere, they can build one — and then they can look at what impact it would have on that area, and what the concerns would be," said Duffett.

"They may discover they're learning some principles of civil planning."

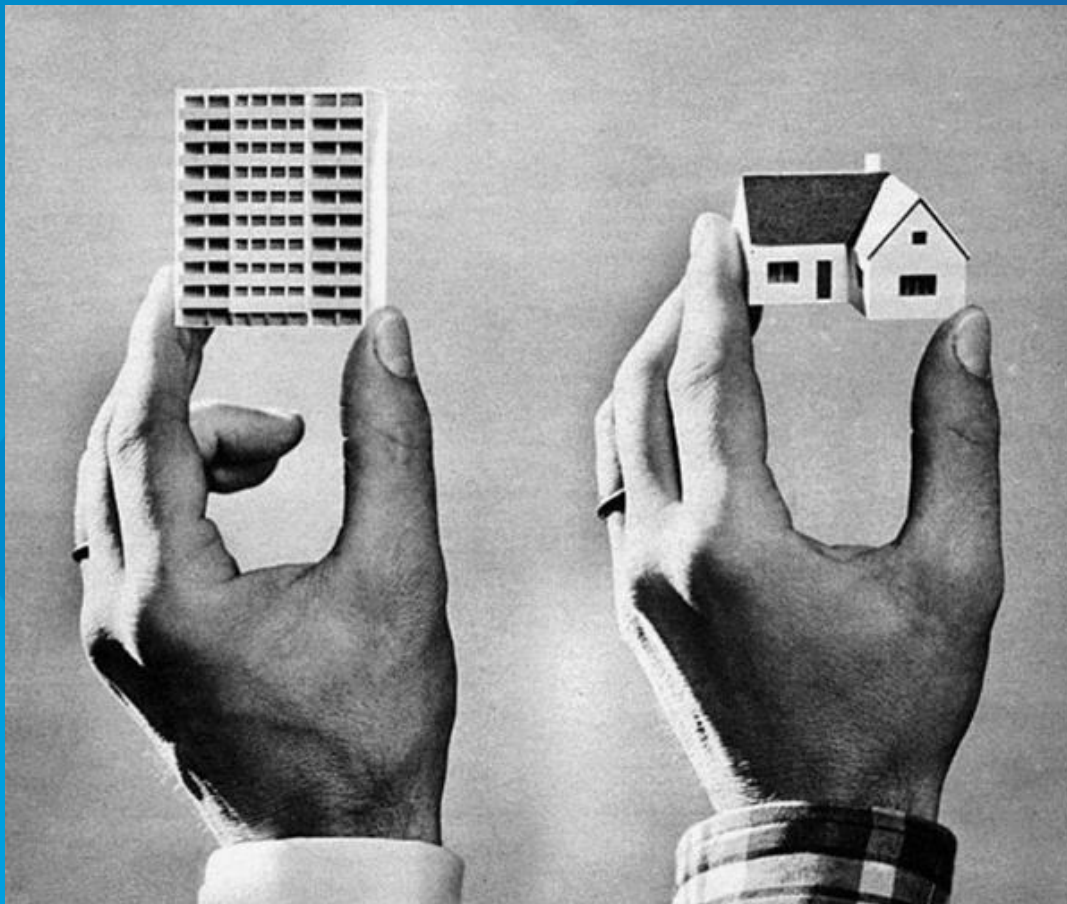
Other places in the real world have made themselves available on Minecraft, perhaps most notably the **entire country of Denmark**, which can be torn down and built back up according to players' whims and desires.



Ottawa is one of the first cities in Canada to be made available on Minecraft, said Coun. Rick Chiarelli, chair of the information technology sub-committee. (CBC)

© CBC.ca

So How Did We Build it?



© <http://blogos-haha.blogspot.ca/>

No it's not Rocket Science.



Posted on Reddit .com Minecraft by [XxSlainMagicxX](#)

FME transforms GIS data into Minecraft worlds

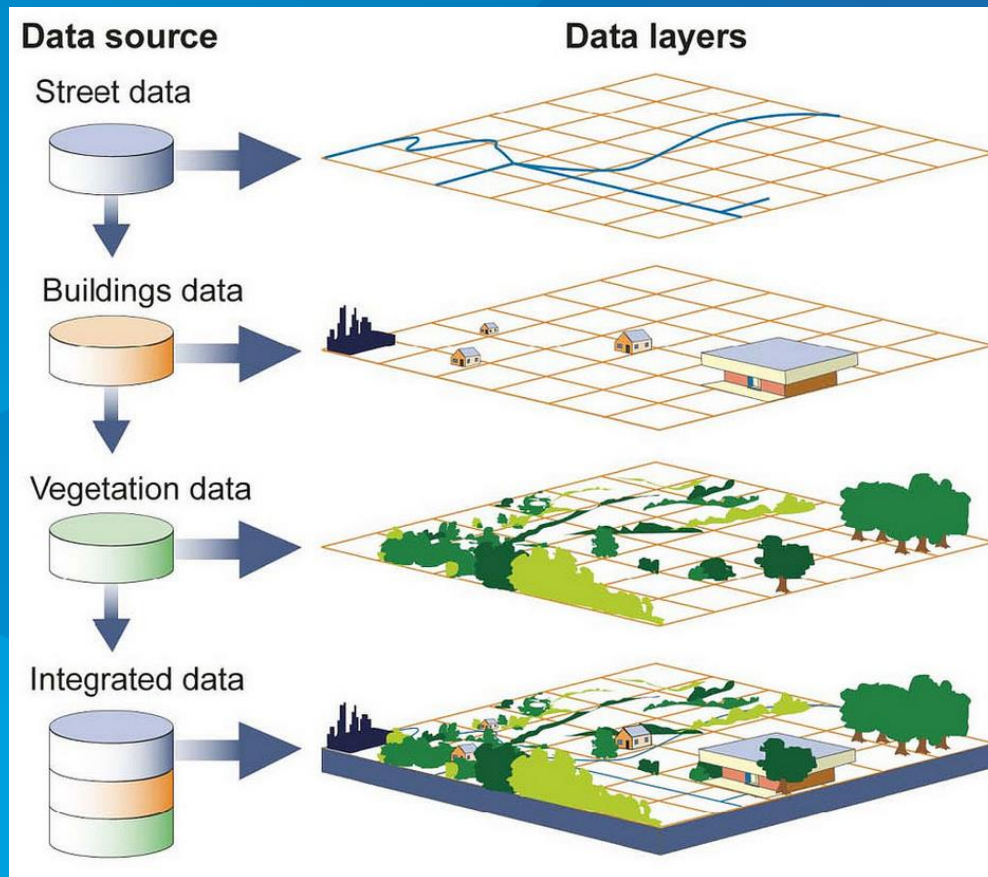
- Uses Digital Elevation Model data, with our existing GIS Enterprise Services, which has been dropped to the floor. Minimum Elevation is zero.
- Creates basic Minecraft world in about 3 hours or less.

City of Ottawa GIS Enterprise Services used in GeoOttaWOW

- GISADM.PL_ES_Topography_DEM
- GISADM.SAM_REGIONAL_railways
- GISADM.SAM_teranet_parcels
- GISADM.PR_Park_Paths
- GISADM.SAM_URBAN_driveways
- GISADM.SAM_URBAN_runways
- GISADM.SAM_URBAN_roadways
- GISADM.LIO_OHN_Waterbody
- GISADM.SAM_CITYWIDE_rivers
- GISADM.PL_NESSVegetaion
- Ottawa-major3dbuildingd-2011.dgn



Layering is important, you must decide what goes on top of what and clip your data, where required, according to that plan.

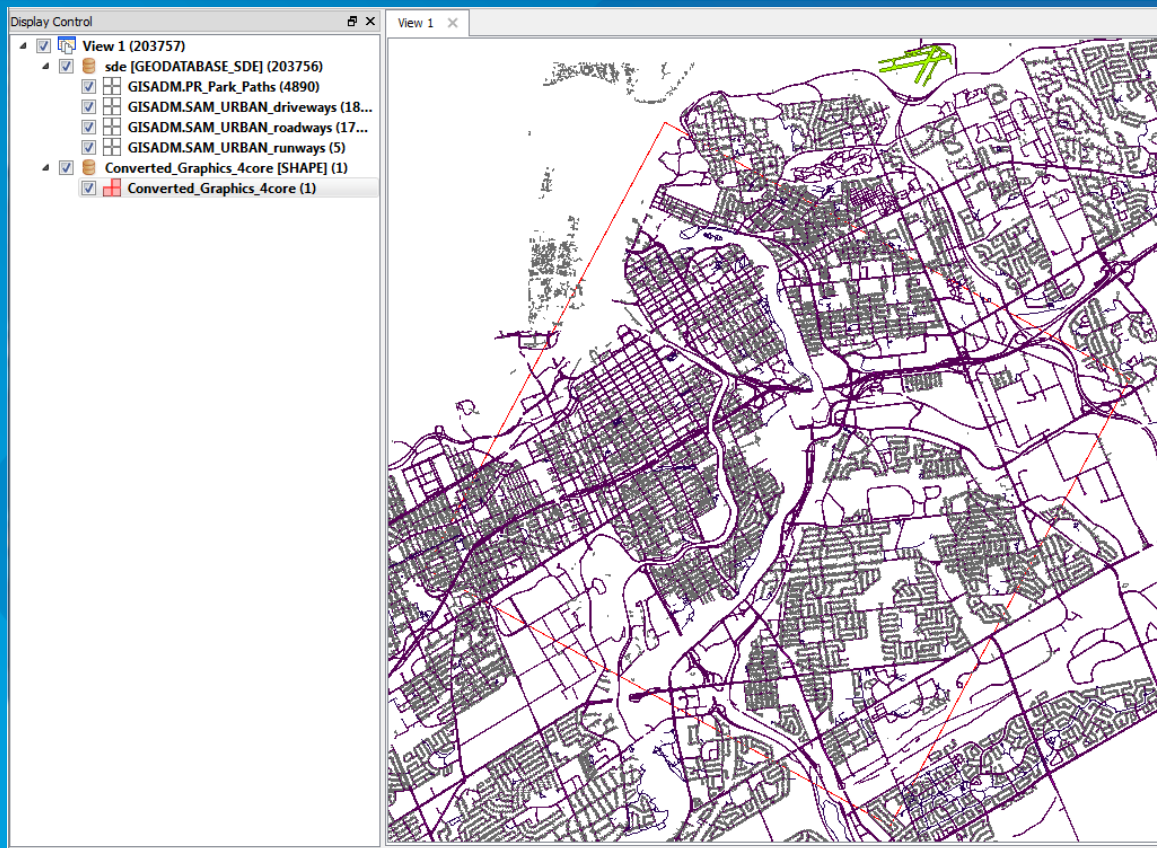


© City of Jasper Indiana <http://www.jasperindiana.gov>

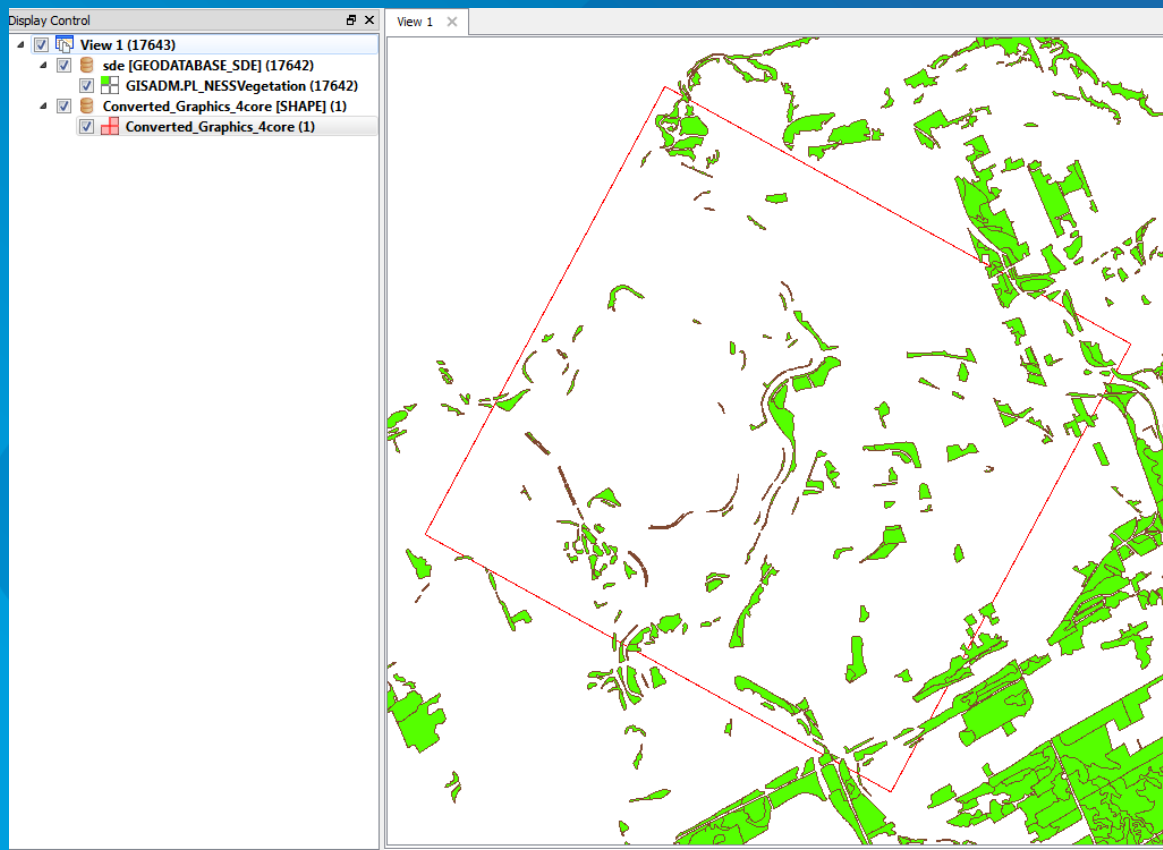
Parcel Service Data used in GeoOttawa became Grass Blocks



Roads, Driveways, and pathways were buffered and would clip the Grass and Podzol layer.



Vegetation is clipped by the roads and in turn used to clip and replace the Grass Blocks



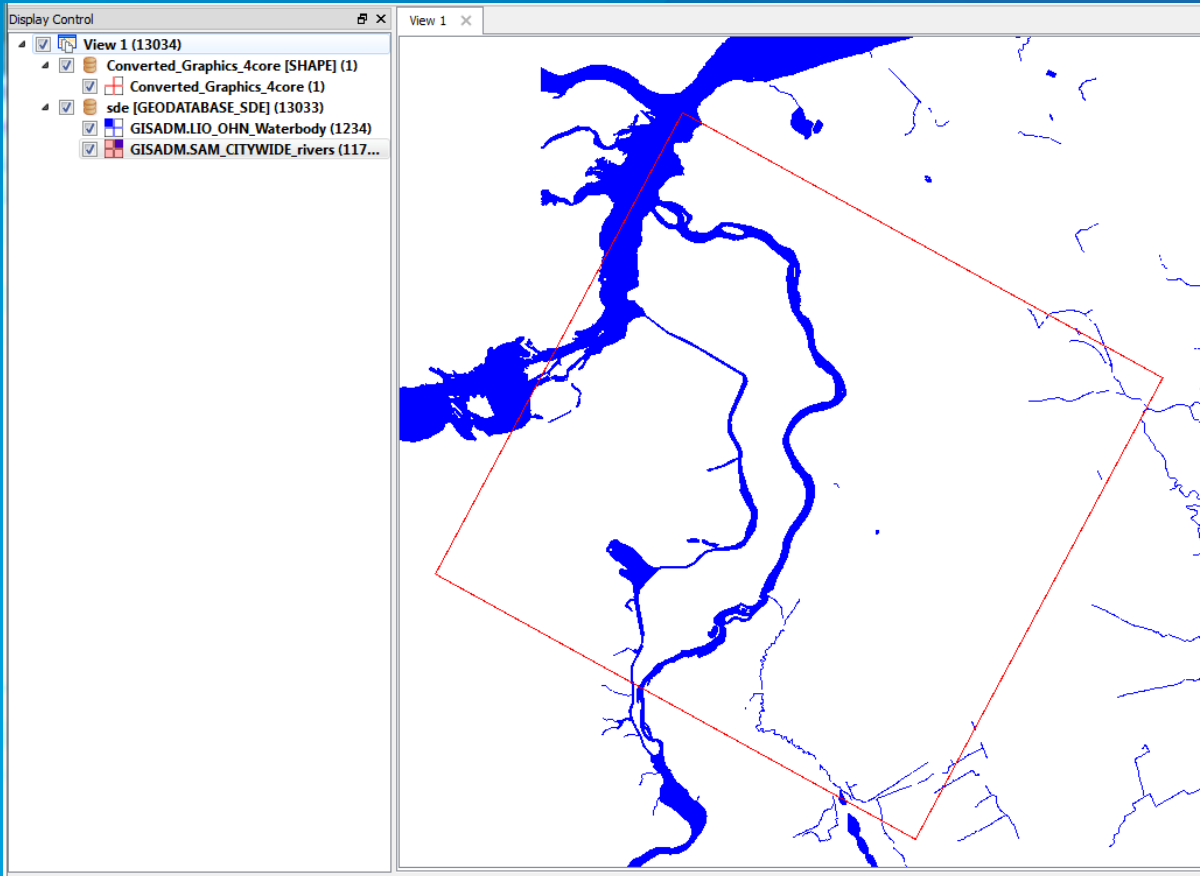
Vegetation in Minecraft, close enough is good enough

1	early successional deciduous forest
2	late successional deciduous forest
3	early successional mixed forest
4	late successional mixed forest
5	early successional coniferous forest
6	late successional coniferous forest
7	scrub/thicket
8	meadow (old field)
9	rock/sand barren (outcrop)
10	hedgerow
11	deciduous - successional stage unknown
12	thicket swamp
13	deciduous swamp forest
14	coniferous - successional stage unknown
15	mixed swamp forest
16	mixed - successional stage unknown
17	coniferous swamp forest
18	N/A
19	marsh
20	wetland (non-typed)
21	open water
22	deciduous (planted)
23	mixed (planted)
24	coniferous (planted)
25	coniferous - species unknown
26	hardwood - species unknown
27	treed bog
28	bog
29	fen



Lily Pads
Spruce Saplings
Shrub
Oak Sapling
Double Tallgrass
Bedrock

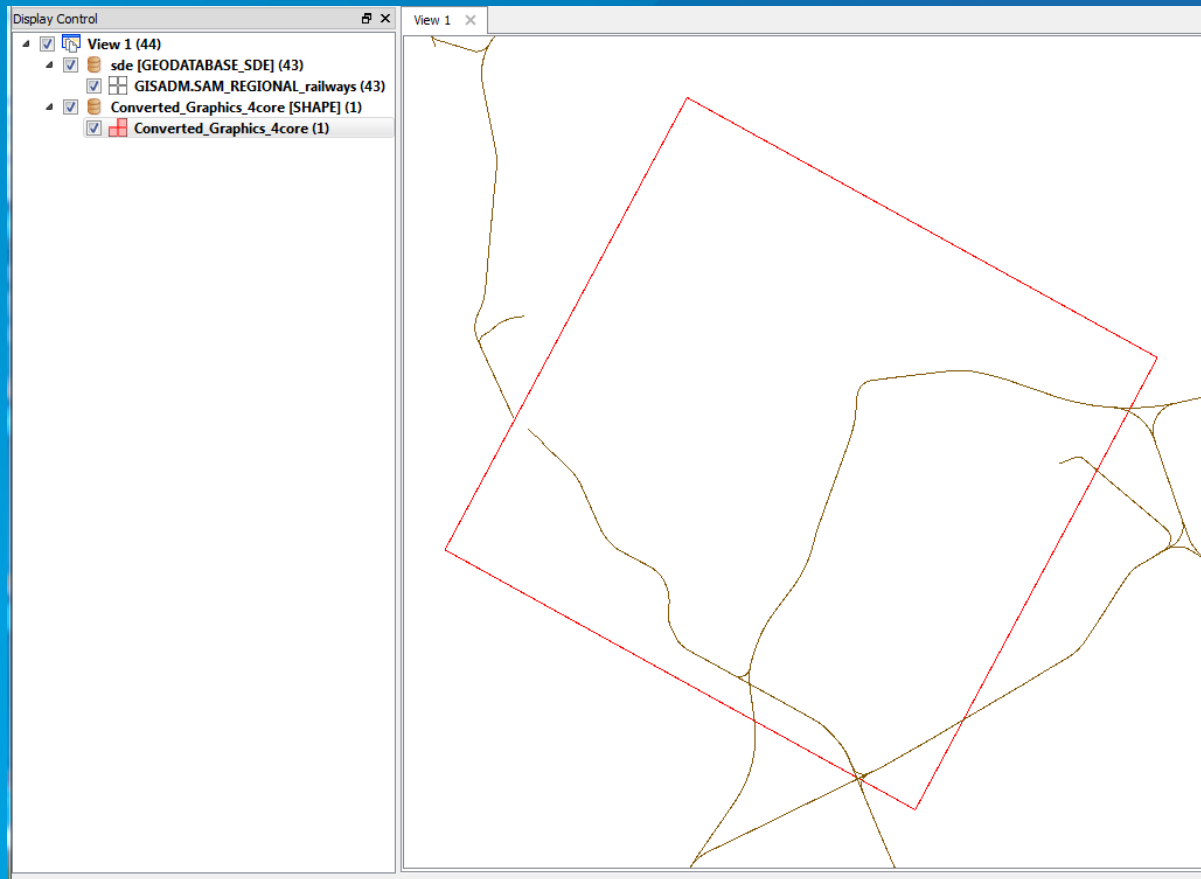
Rivers, Streams, and Lakes clip everything.



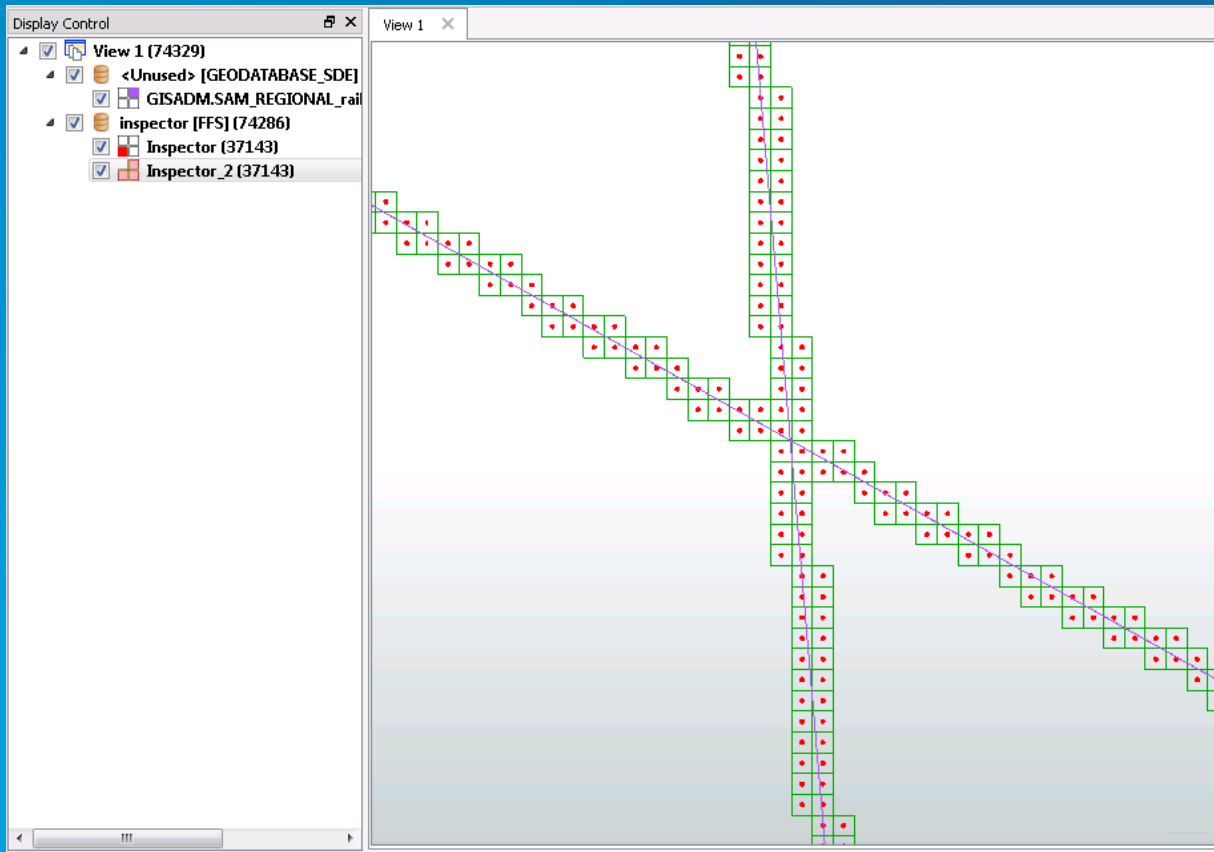
Rivers, Streams, and Lakes clip everything.

- If you do not allow Rivers and Streams to clip everything, you will end up with Rivers dammed by Roads.
- Rivers dammed by roads are essentially Lakes, and we did not want that to occur.
- User will have to build bridges over the water.

I've Been Working on the Railroad all the live long day

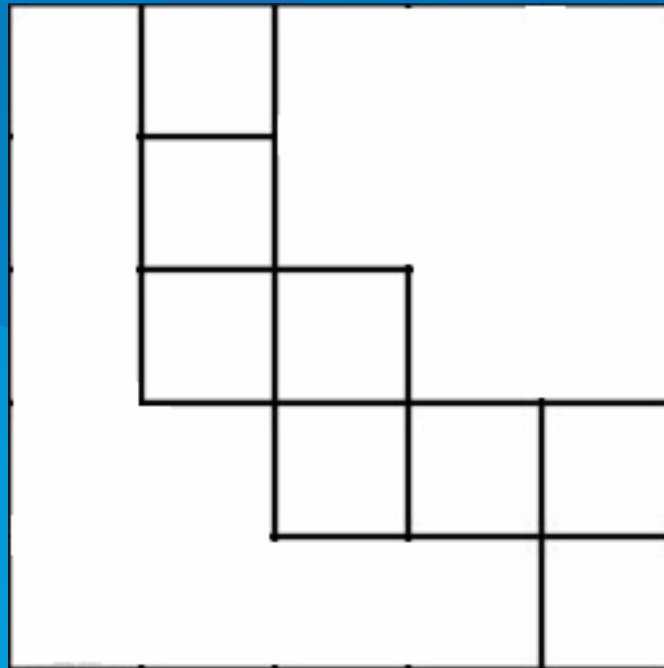


I've Been Working on the Railroad all the live long day



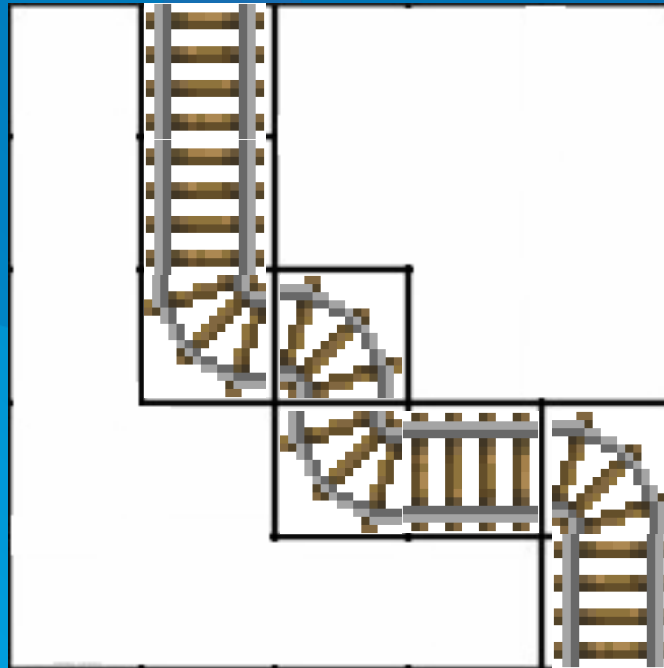
I've Been Working on the Railroad all the live long day

- Your goal is to get your raster grid to handle directional changes the same as it would in the game.

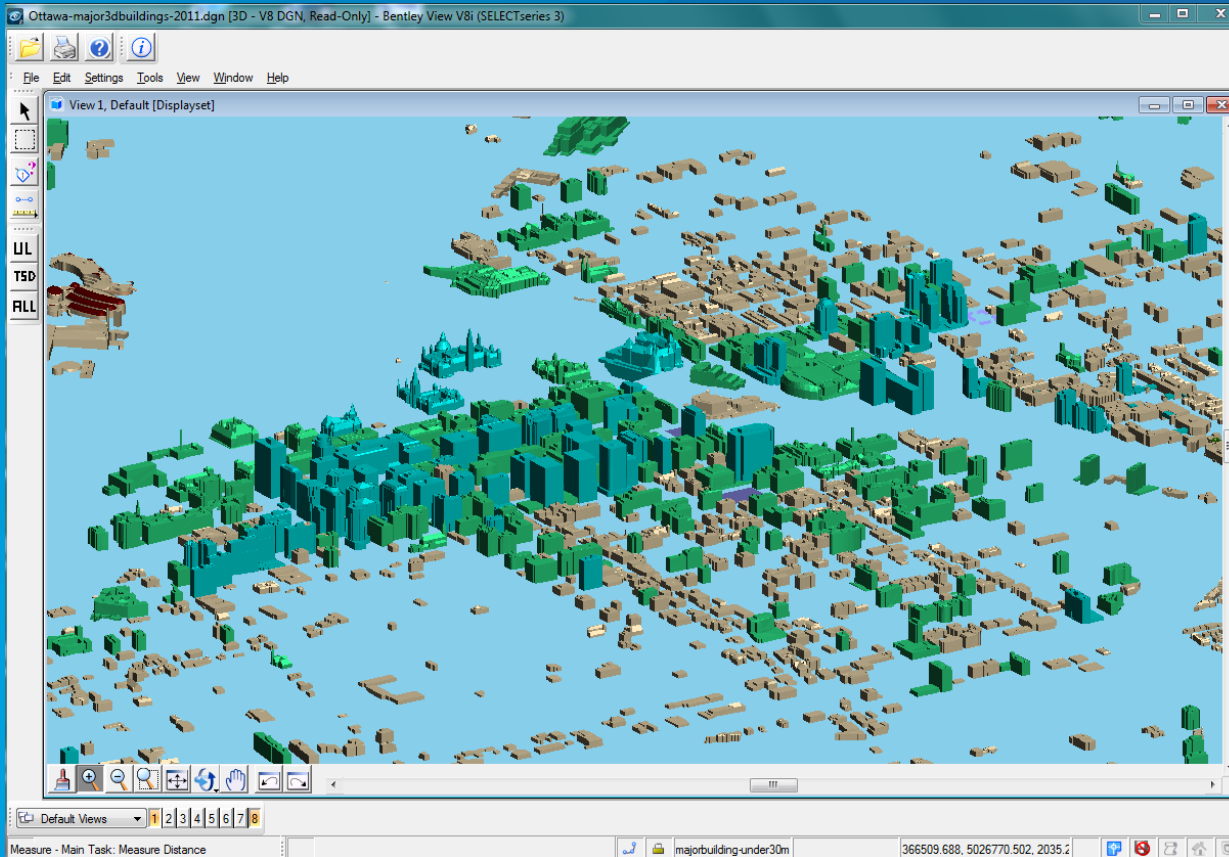


I've Been Working on the Railroad all the live long day

- That way your Railway tracks connect and function well.



Major Buildings created using TIN data from a MicroStation dgn



Major Buildings created using TIN data from a MicroStation dgn

- Using TIN data means you get extruded like forms for your buildings.
- Height of each building had to be calculated using the maximum Z value over each building foot print. That value was then converted to the nearest integer value.
- Since Minecraft uses 1m x 1m x 1m blocks the resulting buildings are block like in appearance.

Remember the First Pre-Beta Results.



It looks better now that we know more.



It looks better now that we know more.

- The Minecraft world geoOttawOW Version 1.0, is now down to about 500 Mb, and the clouds are in the sky.
- FME supports Minecraft version 1.7.*, with NBT version 19133.
- Minecraft world created in FME works best in version 1.7.10. Loading it onto a Minecraft server allows you to save it in more recent versions.
- Version 1.7.10 still uses some old 1.6 specifications with respect to appearance of features on levels.



It looks better now that we know more.

- This version of Minecraft still has a data range of 0-255 for your layers. So you have to drop your DEM data to the floor and translate it up or down.
- Then you have to keep in mind that clouds will always appear at the 128 – 132 level. So to keep them above your head in the game, you have to scale your Z values to fit below 128.
- I go even further and scale the data to fit below level 64. So the maximum Z value will be 64.
- Mine shafts always appear at or around level 20.



Testing with DEM + 10 m



DEM + 15 m



DEM + 20 m buildings adjusted by factor of 0.30



It looks better now that we know more.

- Decided to use a +20 m offset on DEM
- Clouds will be way over head
- Mineshafts will be buried
- Buildings will not be in Haze
- Leaves room to adjust building sizes

Spin Offs - Latest Good News Story.

- 27-May-2016 released beta version of Ray Friel Recreation Complex/Complexe récréatif Ray Friel and surrounding area for a Minecraft Camp that summer.
- Same group requested a build of Petrie Island.
- In September 2016, Ottawa Public Health uses geoOttaWOW and builds of the Palladium or the Canadian Tire Centre, Ben Franklin and Stittsville Libraries as part of their Mine-Power project.

- Mine-Power project.
- During the program, youth participants were challenged to imagine Ottawa and surrounding communities and create an online version of the city with a healthier lifestyle for everyone.
- The youth participants were given the opportunity to experiment with the basic principles of municipal planning in a fun and creative platform.
- Huge waiting list of people.

Minecraft is used like Facebook – Using the tools in FME to create a Minecraft world with your data gives you access to Social Media



How Minecraft will Shake Up the Future of Social Media



LAST UPDATED: 8 MONTHS AGO BY DEBRA GARBER

⌚ TIME TO READ: 4 MINUTES

Minecraft is used like Facebook – How Big is the Opportunity according to Microsoft? Access to over 100,000,000 people.

MINECRAFT HAS SOLD MORE THAN **106,859,714** COPIES TO DATE

If each person that bought a copy formed a nation, it would be the 12th most populous in the world, behind Russia, Japan and Mexico.

1. China	1,382,323,332	5. Brazil	209,567,920	9. Russia	143,439,832
2. India	1,326,801,576	6. Pakistan	192,826,502	10. Mexico	128,632,004
3. U.S.	324,118,787	7. Nigeria	186,987,563	11. Japan	126,323,715
4. Indonesia	260,581,100	8. Bangladesh	162,910,864	12. Minecraft	106,859,714



SINCE THE BEGINNING OF 2016, MINECRAFT HAS AVERAGED OVER **53,000** COPIES SOLD PER DAY

The **Minecraft community** includes folks from every country and territory on the planet. There have even been 4 copies sold to crafters in **Antarctica**. We hope they enjoy the **polar bears** we're adding to the next PC / Mac update! (Yeah, we know they're from different poles.)

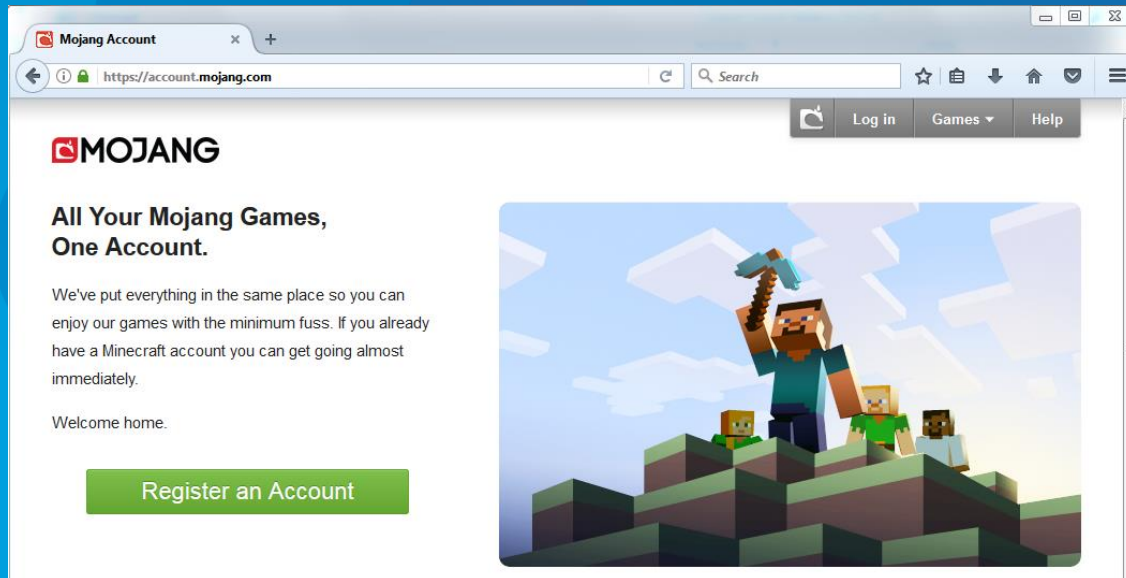


We're welcoming more players to the world of Minecraft now than ever before – **over 40 million people** every month spend time adventuring, exploring and building wondrous things. If everyone who played **Minecraft** on an average month were to join hands, they would be able to circle the **entire Earth** over one and a half times. But then they wouldn't have any hands free to play Minecraft. Nightmare!



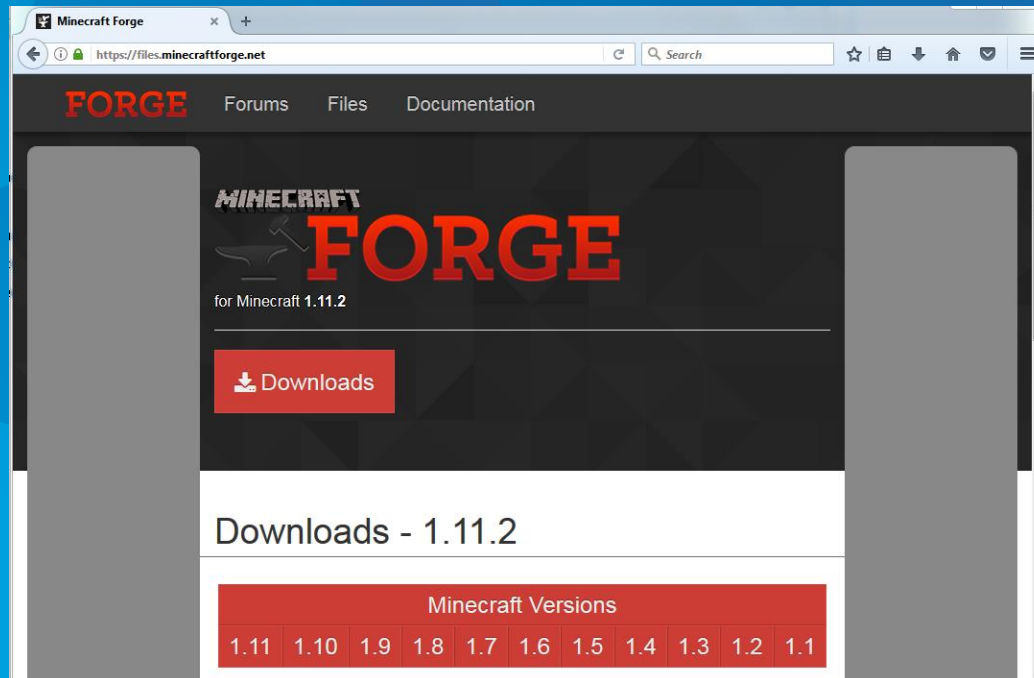
COSTS nothing.

- Data is provided by our Enterprise GIS services
- Tools are provided by Safe Software Inc.
- Requires a Free account with MOJANG



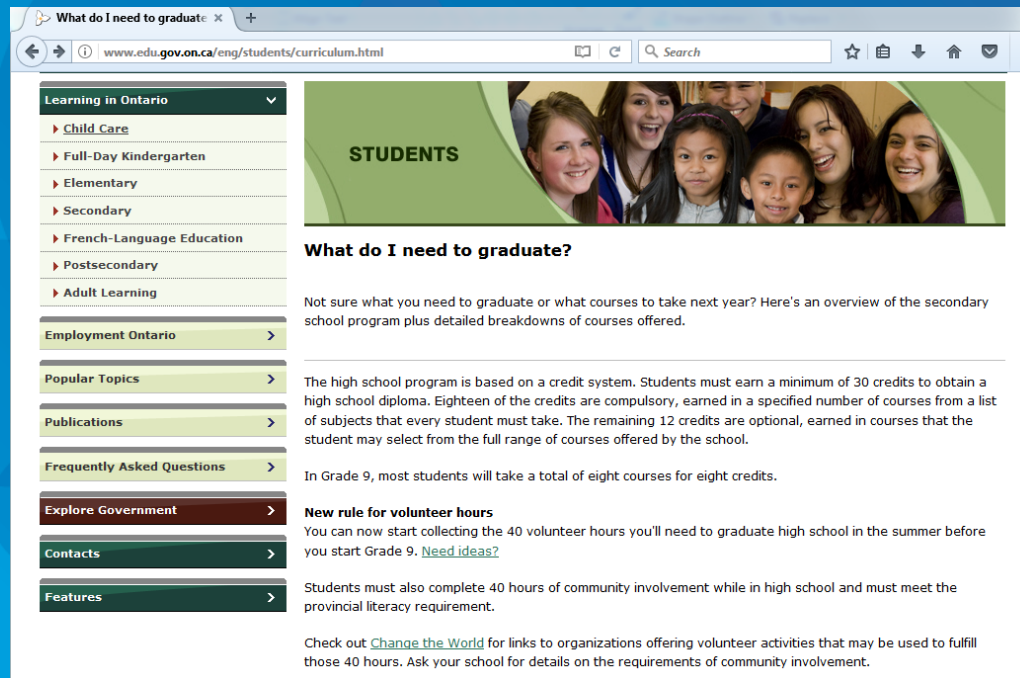
COSTS nothing.

- Minecraft can be downloaded and run for free in “Creative” mode which allows you to edit the Minecraft world.



COSTS nothing.

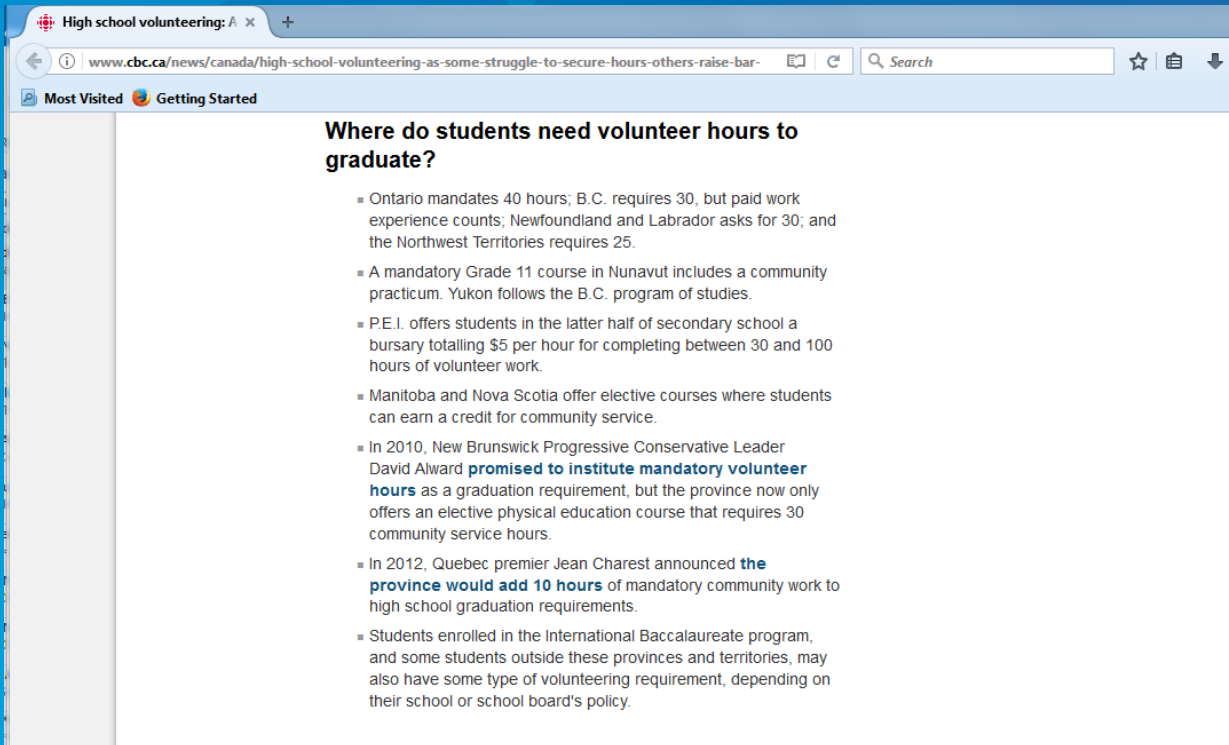
- Edits can be done manually using Students as part of there required 40 hours of volunteering, in Ontario.



The screenshot shows a web browser window with the URL www.edu.gov.on.ca/eng/students/curriculum.html. The page is titled "What do I need to graduate?". On the left, there is a navigation menu with categories like "Learning in Ontario" (with sub-items: Child Care, Full-Day Kindergarten, Elementary, Secondary, French-Language Education, Postsecondary, Adult Learning), "Employment Ontario", "Popular Topics", "Publications", "Frequently Asked Questions", "Explore Government", "Contacts", and "Features". The main content area features a header image of diverse students with the word "STUDENTS" overlaid. Below the header, the title "What do I need to graduate?" is followed by a paragraph: "Not sure what you need to graduate or what courses to take next year? Here's an overview of the secondary school program plus detailed breakdowns of courses offered." A horizontal line separates this from the next section, which starts with "The high school program is based on a credit system. Students must earn a minimum of 30 credits to obtain a high school diploma. Eighteen of the credits are compulsory, earned in a specified number of courses from a list of subjects that every student must take. The remaining 12 credits are optional, earned in courses that the student may select from the full range of courses offered by the school." Another horizontal line follows, leading to a section titled "In Grade 9, most students will take a total of eight courses for eight credits." Below this is a section titled "New rule for volunteer hours" with the text: "You can now start collecting the 40 volunteer hours you'll need to graduate high school in the summer before you start Grade 9. [Need ideas?](#)" A final horizontal line leads to a section stating: "Students must also complete 40 hours of community involvement while in high school and must meet the provincial literacy requirement." The page concludes with a paragraph: "Check out [Change the World](#) for links to organizations offering volunteer activities that may be used to fulfill those 40 hours. Ask your school for details on the requirements of community involvement."

COSTS nothing.

- National requirements for Student volunteer hours.



The screenshot shows a web browser window with the URL www.cbc.ca/news/canada/high-school-volunteering-as-some-struggle-to-secure-hours-others-raise-bar. The article title is "Where do students need volunteer hours to graduate?". The content is a bulleted list of requirements and programs across various Canadian provinces and territories.

- Ontario mandates 40 hours; B.C. requires 30, but paid work experience counts; Newfoundland and Labrador asks for 30; and the Northwest Territories requires 25.
- A mandatory Grade 11 course in Nunavut includes a community practicum. Yukon follows the B.C. program of studies.
- P.E.I. offers students in the latter half of secondary school a bursary totalling \$5 per hour for completing between 30 and 100 hours of volunteer work.
- Manitoba and Nova Scotia offer elective courses where students can earn a credit for community service.
- In 2010, New Brunswick Progressive Conservative Leader David Alward **promised to institute mandatory volunteer hours** as a graduation requirement, but the province now only offers an elective physical education course that requires 30 community service hours.
- In 2012, Quebec premier Jean Charest announced **the province would add 10 hours** of mandatory community work to high school graduation requirements.
- Students enrolled in the International Baccalaureate program, and some students outside these provinces and territories, may also have some type of volunteering requirement, depending on their school or school board's policy.

© CBC.ca

Minecraft

- Try using it in public consultations to get more people involved.
- For planning - use it to find out what the kids want in a park.
- For public events – use it to draw in and attract youth. Disney focused on youth to draw in dollars from parents.
- For Social issues – use it to better demonstrate life issues.
- For Education – use it to develop math, programming, and construction skills.

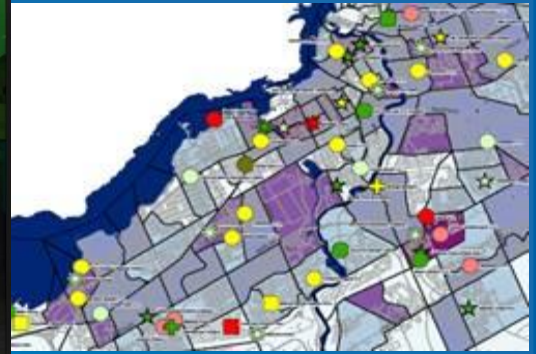
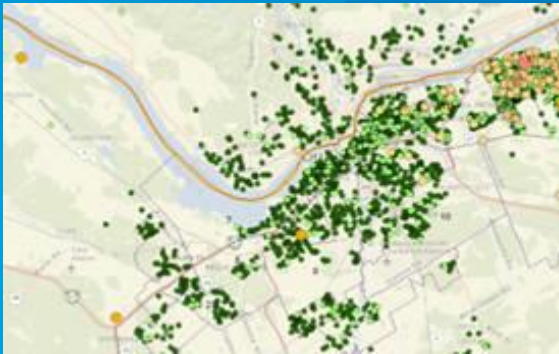
Minecraft

We tell our kids to use their words when they are trying to get a message across.

I say to you “Use your Minecraft”.

Questions? – contact me.

Thank You.



Eric Storie

gisteam@ottawa.ca

Suggested Links

- <https://blog.dlvrit.com/2015/05/minecraft-and-future-of-social-media/>
- <http://www.space.ca/show/innerspace/clip/ocad-gradex/1119700/1027/>
- <http://www.ocadu.ca/>
- <https://www1.ocadu.ca/student-work/index2.html?program=Digital%20Futures>
- <http://data.ottawa.ca/dataset/geo-ottawa-minecraft>
- http://www.minecraft101.net/superflat_legacy/
- <https://knowledge.safe.com/articles/1064/how-to-make-minecraft-worlds.html>
- http://minecraft.gamepedia.com/Minecraft_Wiki
- <https://www.safe.com/how-it-works/?>