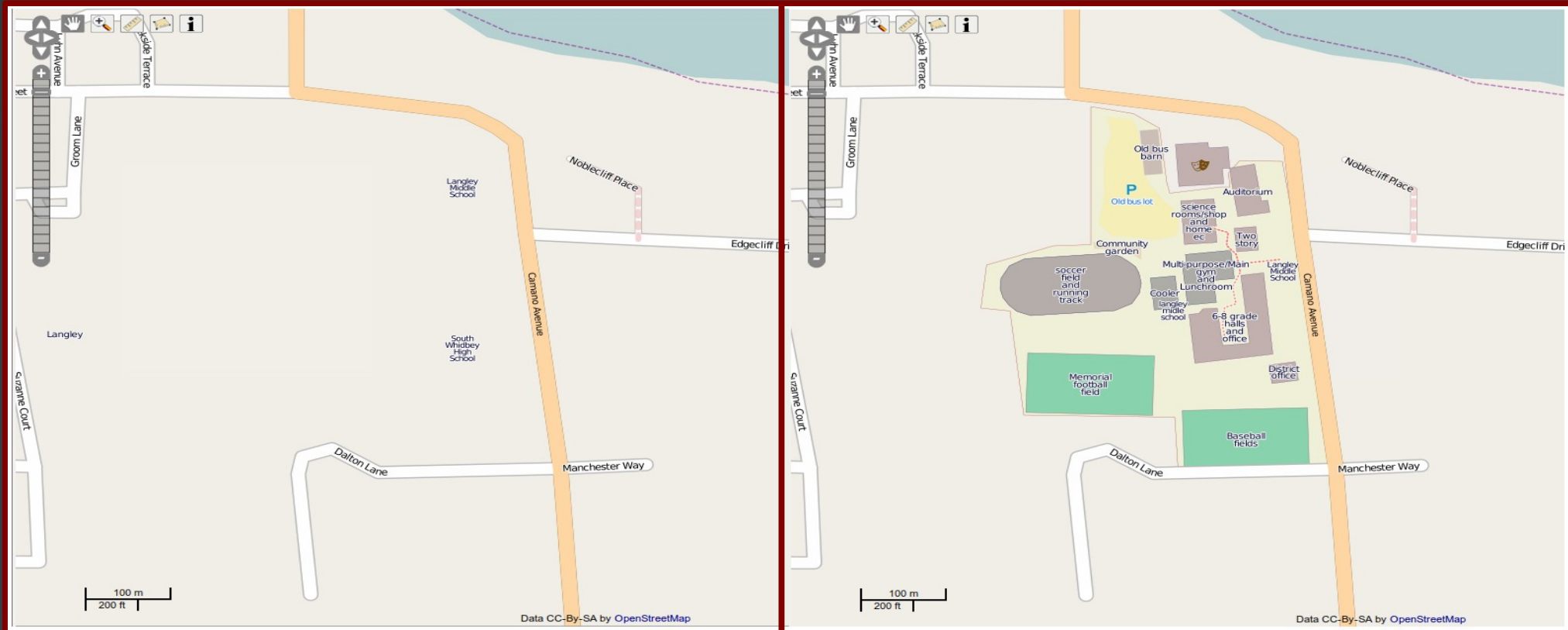


# GIS Apprenticeship

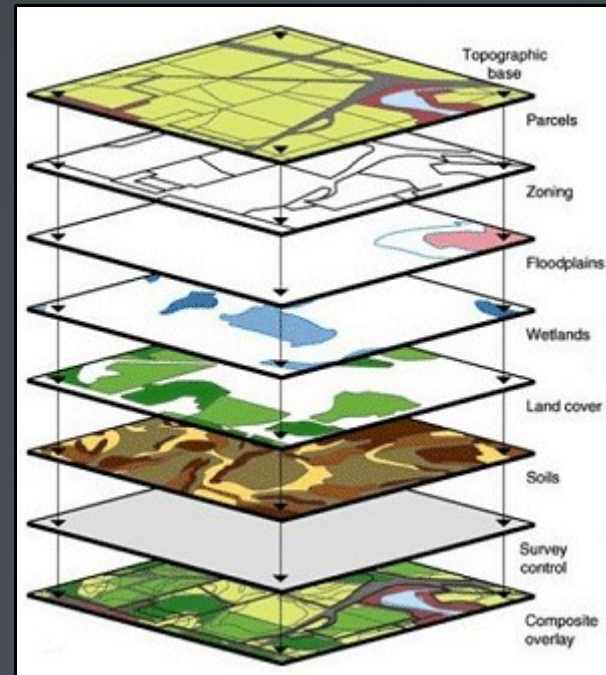


School: South Whidbey Middle School  
Student: Will Simms  
Organization: Z-Pulley Inc.  
Mentor: Aaron Racicot



# What is GIS?

**G**eographic  
**I**nformation  
**S**ystems



# Key concepts learned

- 1) OSM (open street map)
- 2) GPS Mapping
- 3) Rasters and Vectors
- 4) Making presentations
- 5) Why should we be doing this?



# OSM

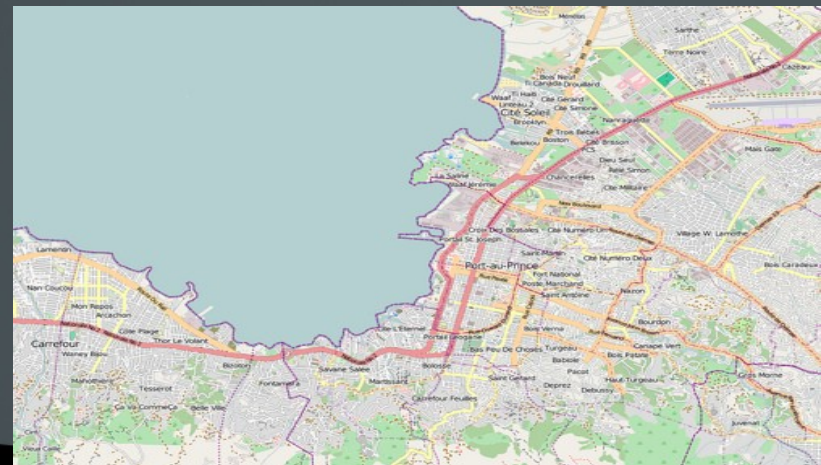
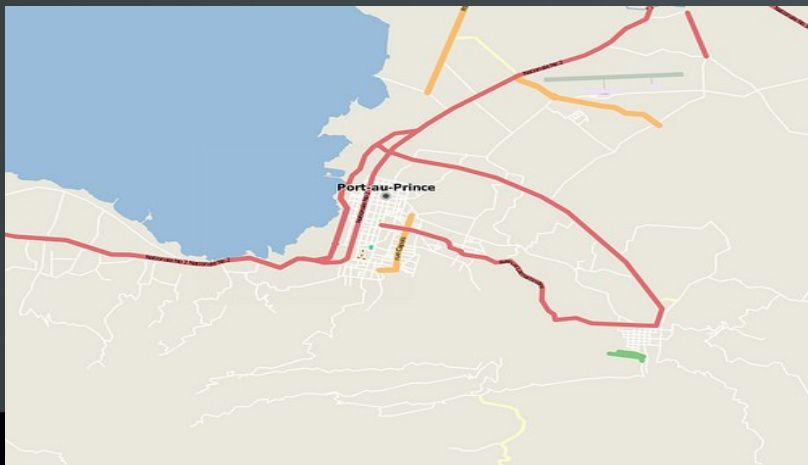
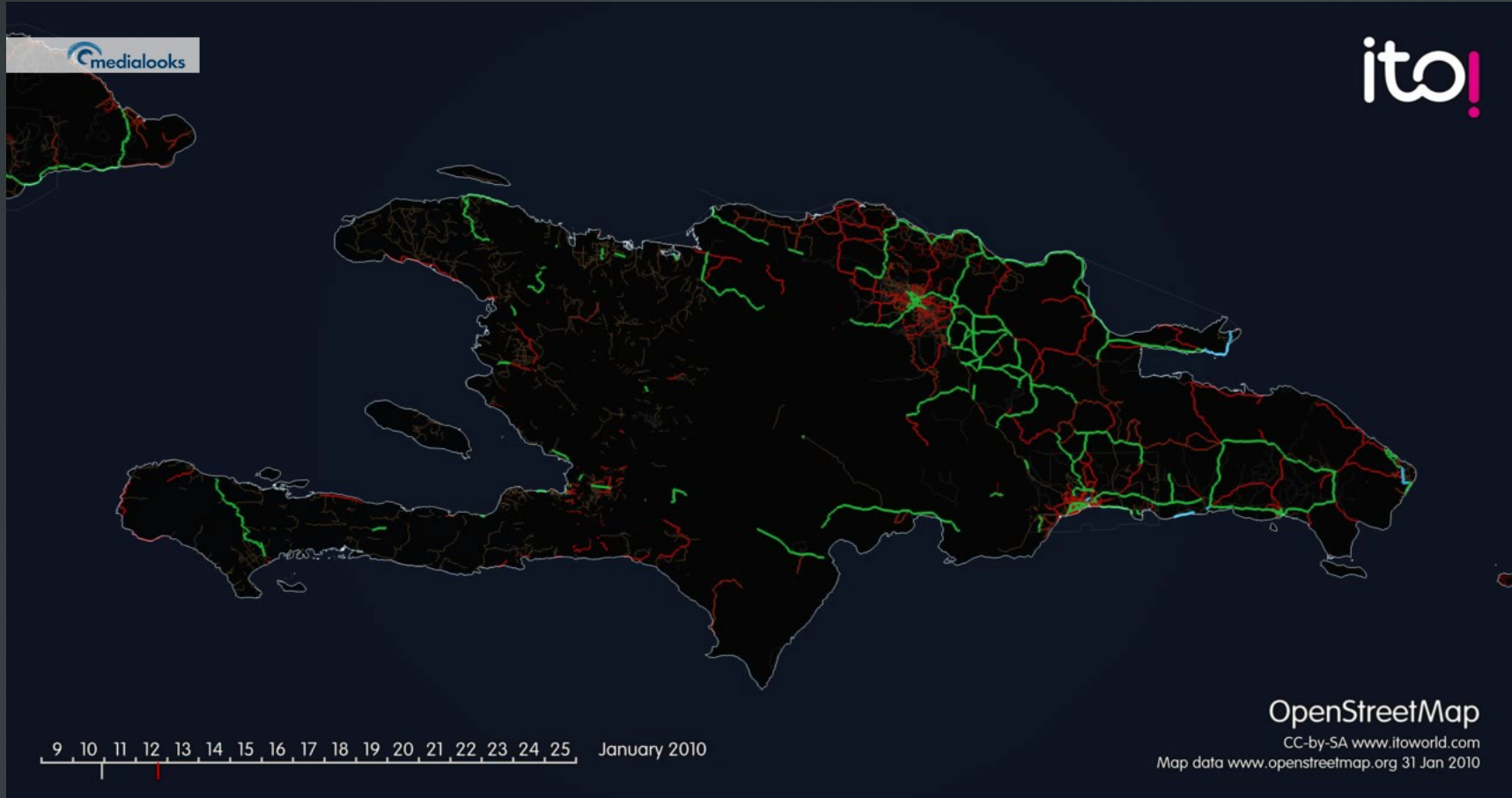


- Free and open map of the world
- Anyone can edit, like wikipedia
- Engages local community
- Learned how to edit
  - Digitize over rasters (images)
  - Digitize over vectors (GPS traces)
- Areas of focus
  - South Whidbey Schools & Parks



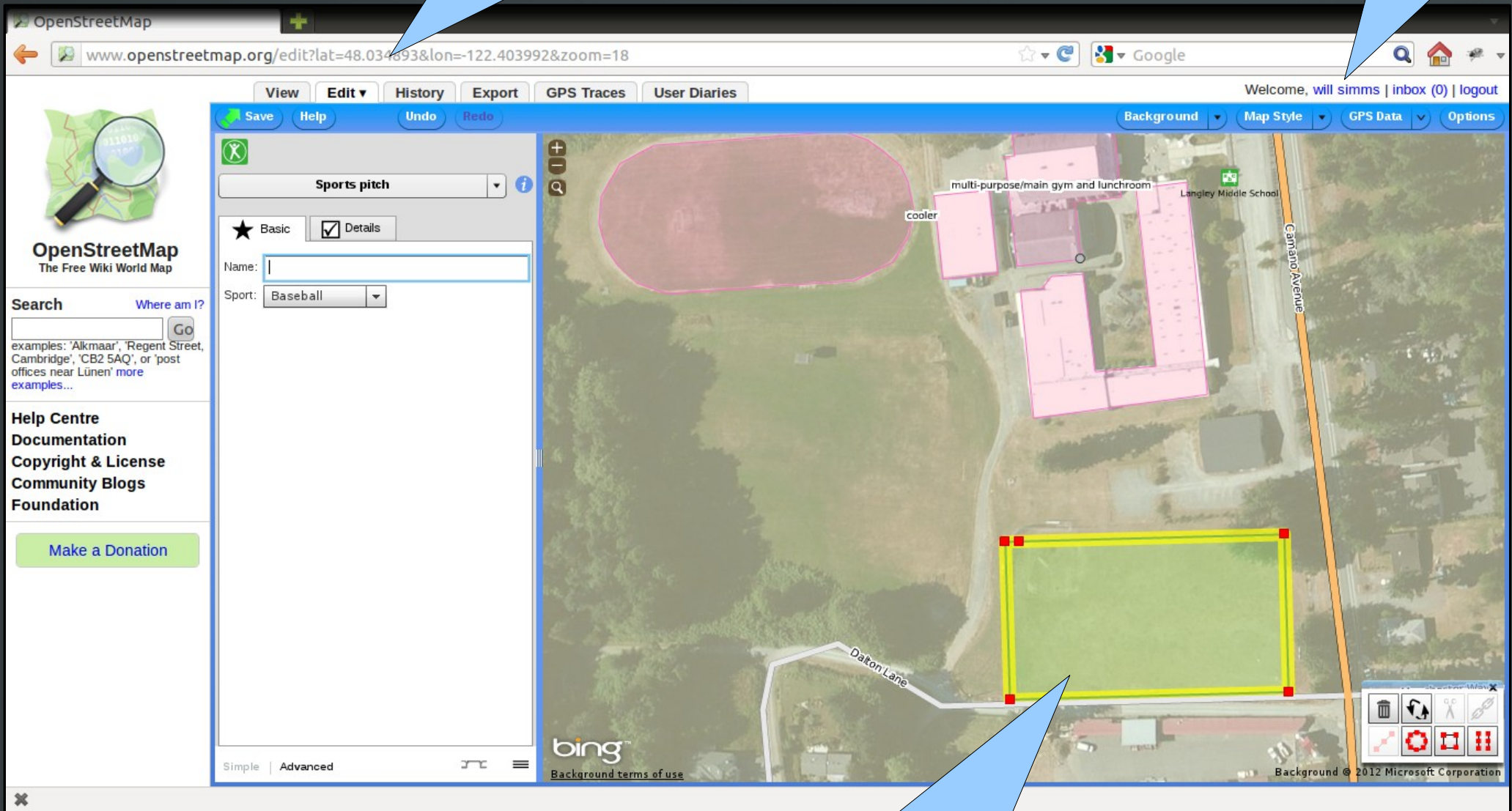


# Why is OSM so important?



All done in a browser

Will Logs In



Edit data based on images





OpenStreetMap | Changesets within -122.409444,48.027129,-122.402519,48.030175 - Mozilla Firefox

www.openstreetmap.org/browse/changesets?bbox=-122.409444%2C48.027129%2C-122.402519%2C48.030175

Most Visited Getting Started Latest Headlines Stumpy it!

View Edit History Export GPS Traces User Diaries

Welcome, Aaron Racicot | [Inbox \(1\)](#) | [logout](#)

## Changesets

Changesets within -122.409444,48.027129,-122.402519,48.030175

« Previous | Showing page 1 | [Next](#) »

#10715534	(still editing)	(none)
	<a href="#">will simms</a>	
#10714071	February 17, 2012 20:10	removing multiple consecutive identical nodes in ways/delete one node ways. please help by giving hints, about how this potlatch bug can be reproduced <a href="http://trac.openstreetmap.org/ticket/2501">http://trac.openstreetmap.org/ticket/2501</a>
	<a href="#">xybot</a>	
#10713864	February 17, 2012 18:46	Fixing typo errors in keys and key/value pairs
	<a href="#">xybot</a>	
#10709876	February 17, 2012 16:28	Modified wheelchair tag on wheelmap.org
	<a href="#">wheelmap_visitor</a>	
#10704548	February 16, 2012 19:51	removing multiple consecutive identical nodes in ways/delete one node ways. please help by giving hints, about how this potlatch bug can be reproduced <a href="http://trac.openstreetmap.org/ticket/2501">http://trac.openstreetmap.org/ticket/2501</a>
	<a href="#">xybot</a>	
#10695013	February 15, 2012 18:52	Fixing typo errors in keys and key/value pairs
	<a href="#">xybot</a>	
#10686000	February 14, 2012 19:56	removing multiple consecutive identical nodes in ways/delete one node ways. please help by giving hints, about how this potlatch bug can be reproduced <a href="http://trac.openstreetmap.org/ticket/2501">http://trac.openstreetmap.org/ticket/2501</a>
	<a href="#">xybot</a>	
#10685782	February 14, 2012 18:47	Fixing typo errors in keys and key/value pairs
	<a href="#">xybot</a>	
#10678344	February 13, 2012 23:28	removed high school (because it moved).
	<a href="#">will simms</a>	
#10676334	February 13, 2012 20:00	removing multiple consecutive identical nodes in ways/delete one node ways. please help by giving hints, about how this potlatch bug can be reproduced <a href="http://trac.openstreetmap.org/ticket/2501">http://trac.openstreetmap.org/ticket/2501</a>
	<a href="#">xybot</a>	
#10675934	February 13, 2012 18:55	Fixing typo errors in keys and key/value pairs
	<a href="#">xybot</a>	
#10672140	February 13, 2012 11:59	Adding fixme to bad wikipedia links
	<a href="#">krattbot</a>	
#10666662	February 12, 2012 20:08	removing multiple consecutive identical nodes in ways/delete one node ways. please help by giving hints, about how this potlatch bug can be reproduced <a href="http://trac.openstreetmap.org/ticket/2501">http://trac.openstreetmap.org/ticket/2501</a>
	<a href="#">xybot</a>	
#10666372	February 12, 2012 18:48	Fixing typo errors in keys and key/value pairs

Find:  [Previous](#) [Next](#) [Highlight all](#)  Match case [Reached top of page, continued from bottom](#)

Edits come in from all over the world...



OpenStreetMap - Mozilla Firefox

www.openstreetmap.org/?lat=48.034738&lon=-122.403488&zoom=18&layers=M

osm hosting

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The Free Wiki World Map

Search Where am I?  
Go  
examples: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' more examples...

OpenStreetMap is a free editable map of the whole world. It is made by people like you.

OpenStreetMap allows you to view, edit and use geographical data in a collaborative way from anywhere on Earth.

OpenStreetMap's hosting is kindly supported by the UCL VR Centre, Imperial College London and Bytemark Hosting. Other supporters of the project are listed in the wiki.

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2<sup>nd</sup> Day and already mapping up a storm!

# GPS Mapping

Which do YOU think would be best GPS?

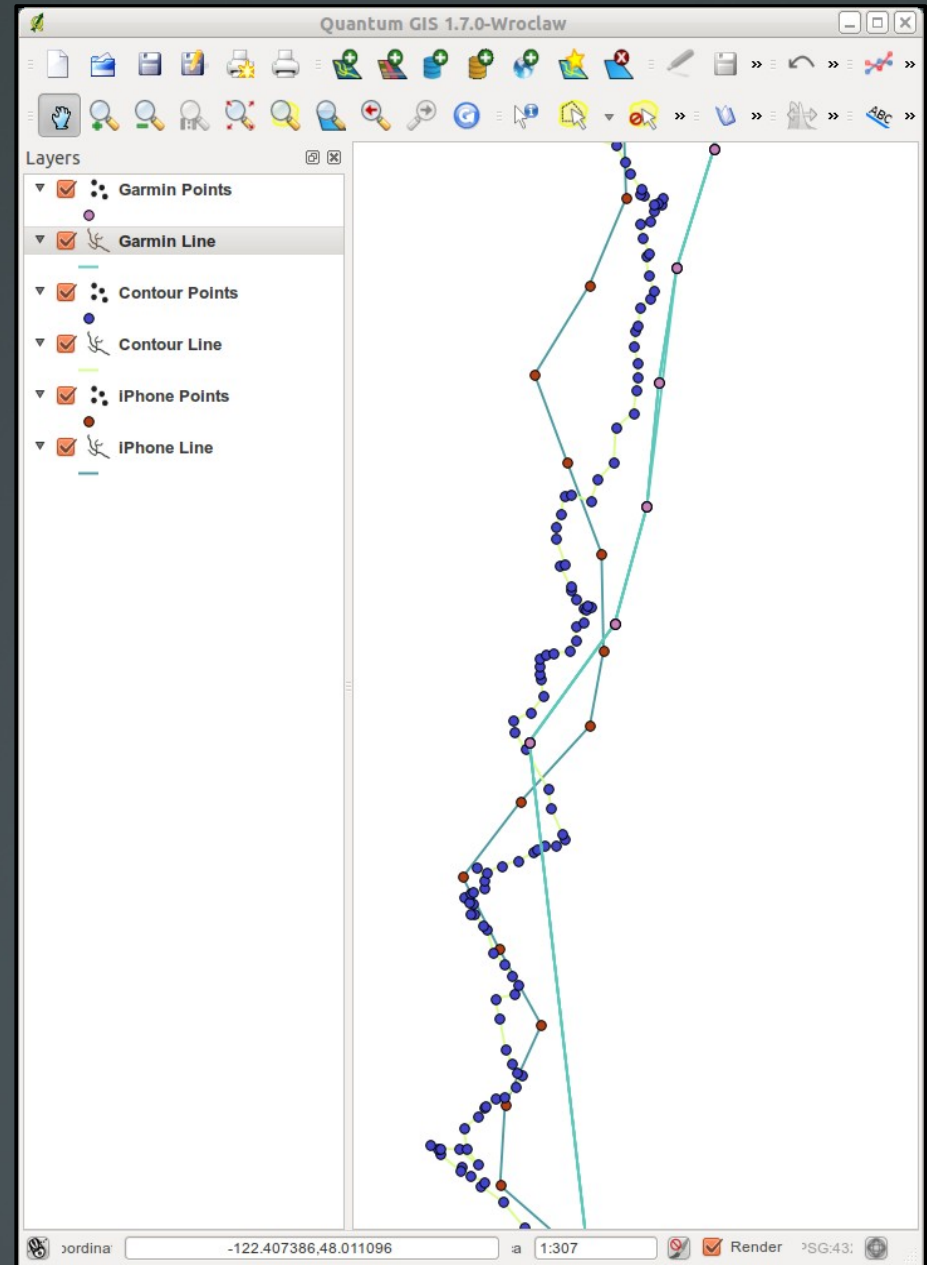


# Sample time

Sample time is how often a GPS takes a point.

We learned that if you want better/more detailed results you need to have a faster sample time.

When we went to the woods we had a sample times up to 4 times a second, so our traces were really accurate.  
(Except for the fancy Garmin.) :)







Welcome to South Whitby Community Park & Sports Complex

Especially fun for families, South Whitby Community Park has it all with a playground, skate park, soccer area, baseball and soccer fields, and groomed trails for walking and running.

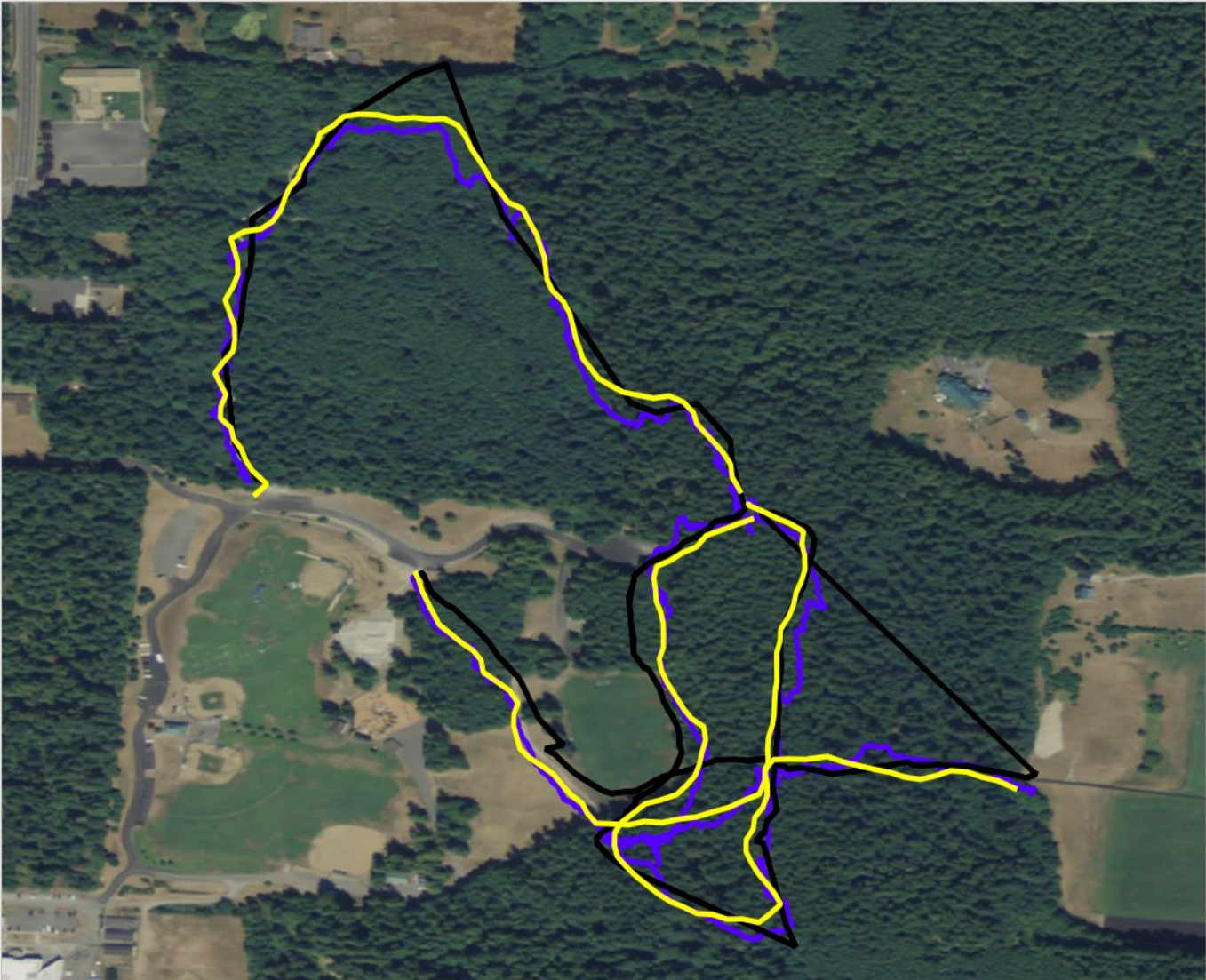
Map labels include: Mountain Lake, Western Lake, Park Entrance, Picnic Shelter, Soccer Field, Baseball Field, Tennis Courts, and a legend for various trail types.

**PARK  
SERVICE  
VEHICLES  
ONLY  
BEYOND THIS  
POINT**



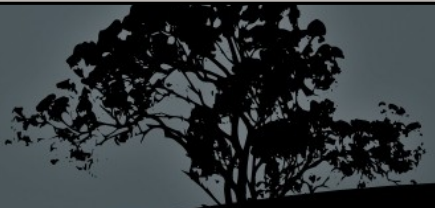


- Layers
- iPhone1
  - iPhone2
  - iPhone3
  - Garmin GPS60cs
  - Contour GPS Cam
  - Contour GPS Cam
  - Contour GPS Cam
  - Washington\_20090801



-125.84,43.80 : -117.31,50.35

Coordinate:  Scale   Render EPSG:4326





Back

Share



Mar 5, 2012 2:34 pm



# Track 003

641 yds

06:41.2

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Search



Menu





**OpenStreetMap**  
The Free Wiki World Map

Search [Where am I?](#)

examples: 'Alkmaar', 'Regent Street, Cambridge', 'CB2 5AQ', or 'post offices near Lünen' [more examples...](#)

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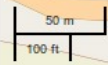
[Foundation](#)

[Map Key](#)

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After tracing into OSM



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# Rasters and Vectors

- Rasters are gridded images
  - Like the images used in OSM
  - Made up of many pixels
    - Pixels are made up of three base colors (RGB)
- Vectors are points, lines and polygons.
  - Like the traces we added to OSM
  - Also like the GPS traces we gathered



# Making Presentations

Hello! :) Are you watching?





# Why should we be mapping?

- 1) Help people
- 2) The city/government needs the data.
- 3) The public also needs the maps for directions or trails in the woods
- 4) It is also a chance to learn about the local area and shops.
- 5) It's fun to do



# What still needs to be mapped

- Work with Langley to map resources
- More trails (original data for parks are gone)
- Buildings and businesses for rest of south end of Whidbey
- Habitats (whale sightings etc.)
- Updating bad data or new features (new roads etc)
- Work with school district on things like bus routing

