Finding sites with Heywhatsthat

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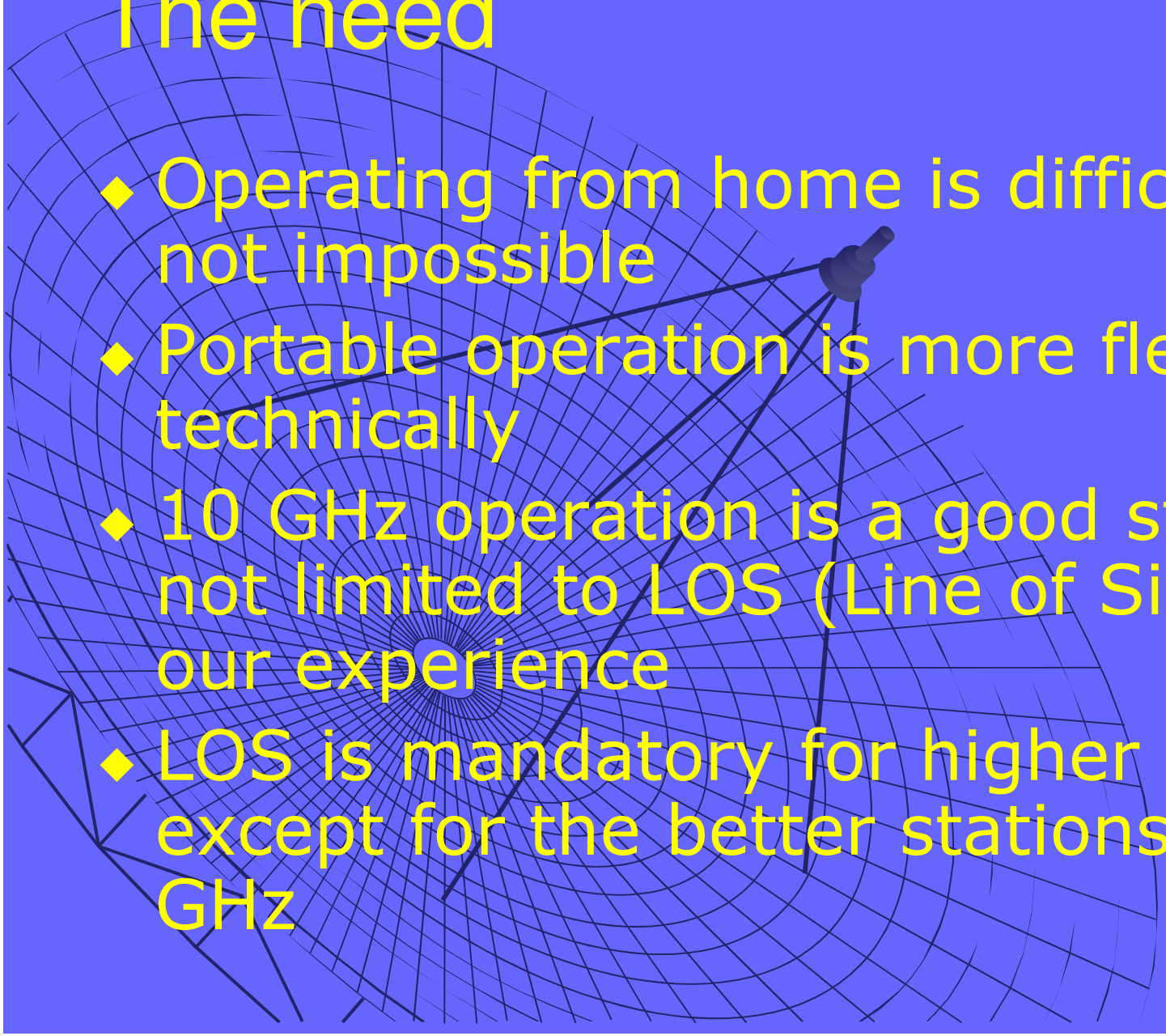
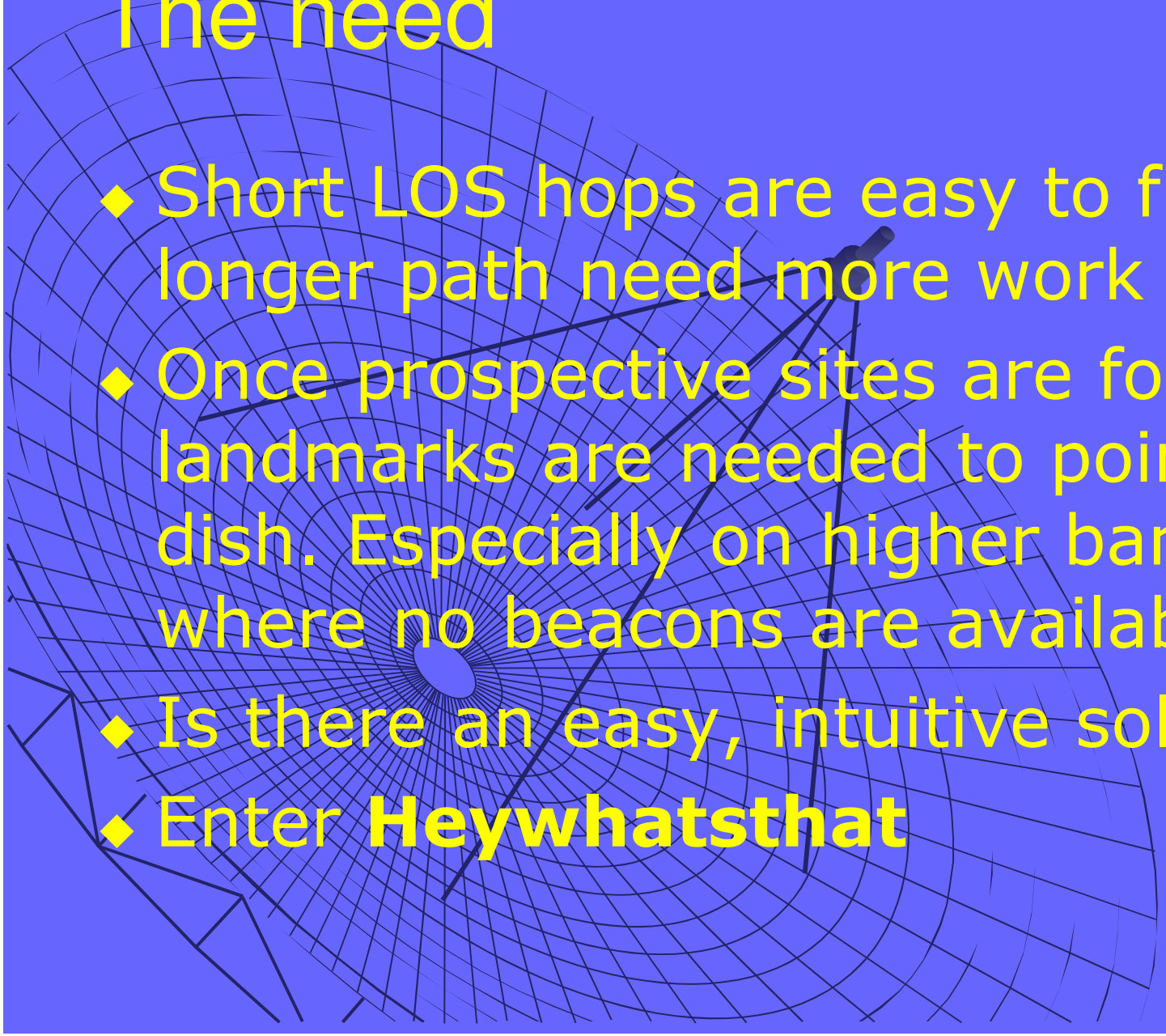
VE2UG. 2018

The need



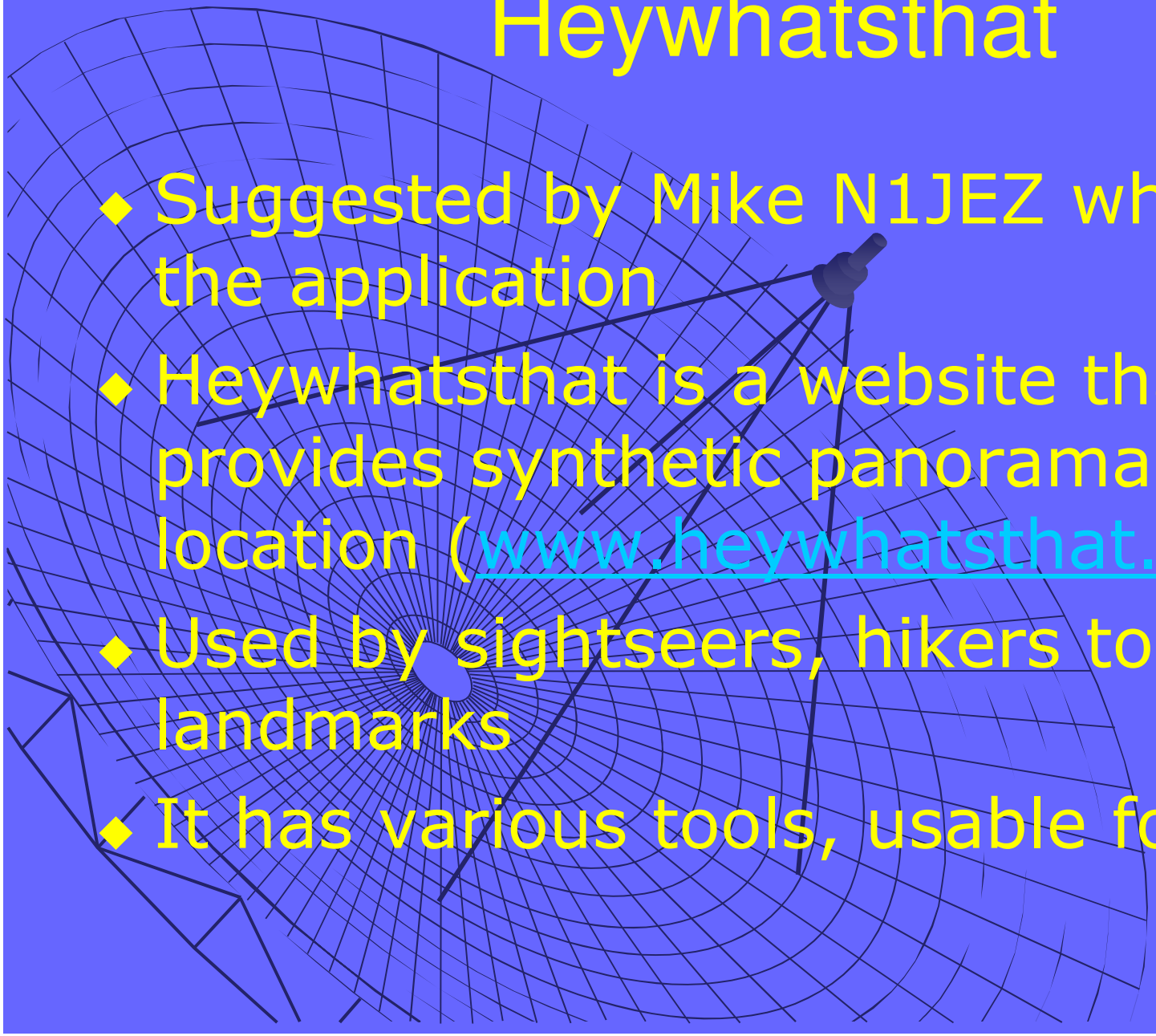
- Operating from home is difficult if not impossible
- Portable operation is more flexible technically
- 10 GHz operation is a good start, not limited to LOS (Line of Sight) in our experience
- LOS is mandatory for higher bands, except for the better stations on 24 GHz

The need



- Short LOS hops are easy to find, longer path need more work
- Once prospective sites are found landmarks are needed to point the dish. Especially on higher bands where no beacons are available
- Is there an easy, intuitive solution ?
- Enter **Heywhatsthat**

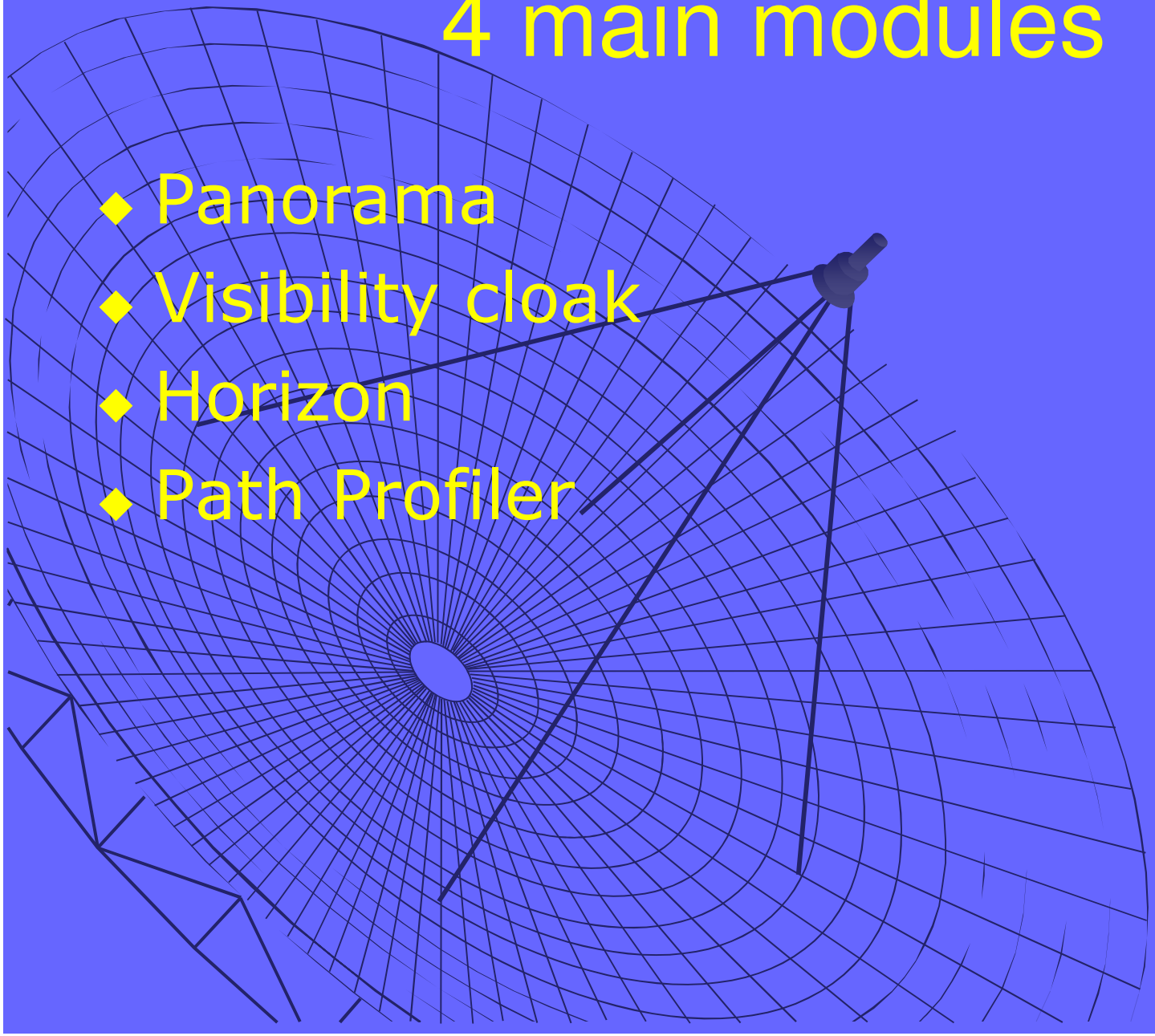
Heywhatsthat



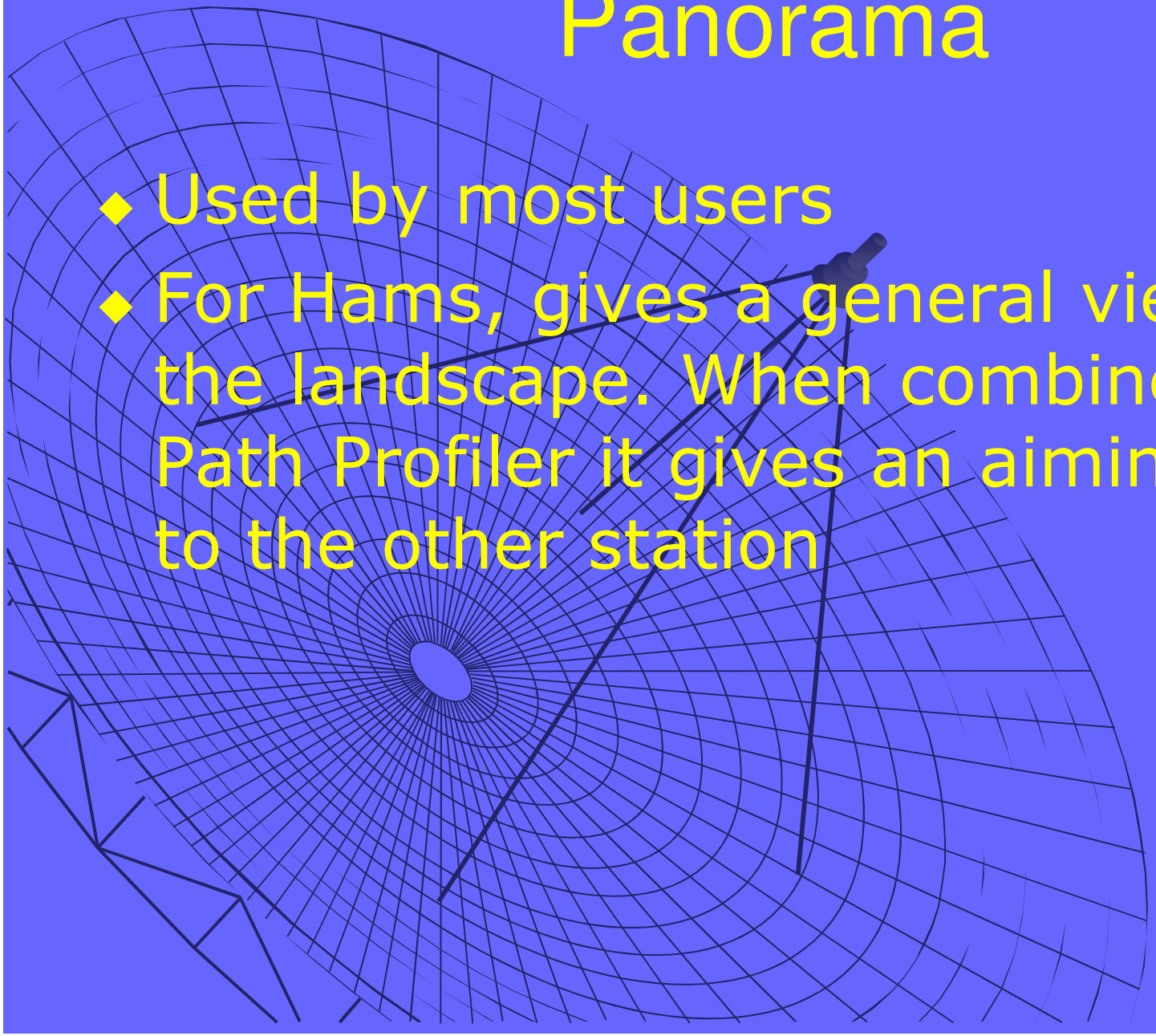
- Suggested by Mike N1JEZ who uses the application
- Heywhatsthat is a website that provides synthetic panoramas from a location (www.heywhatsthat.com)
- Used by sightseers, hikers to identify landmarks
- It has various tools, usable for Hams

4 main modules

- Panorama
- Visibility cloak
- Horizon
- Path Profiler



Panorama

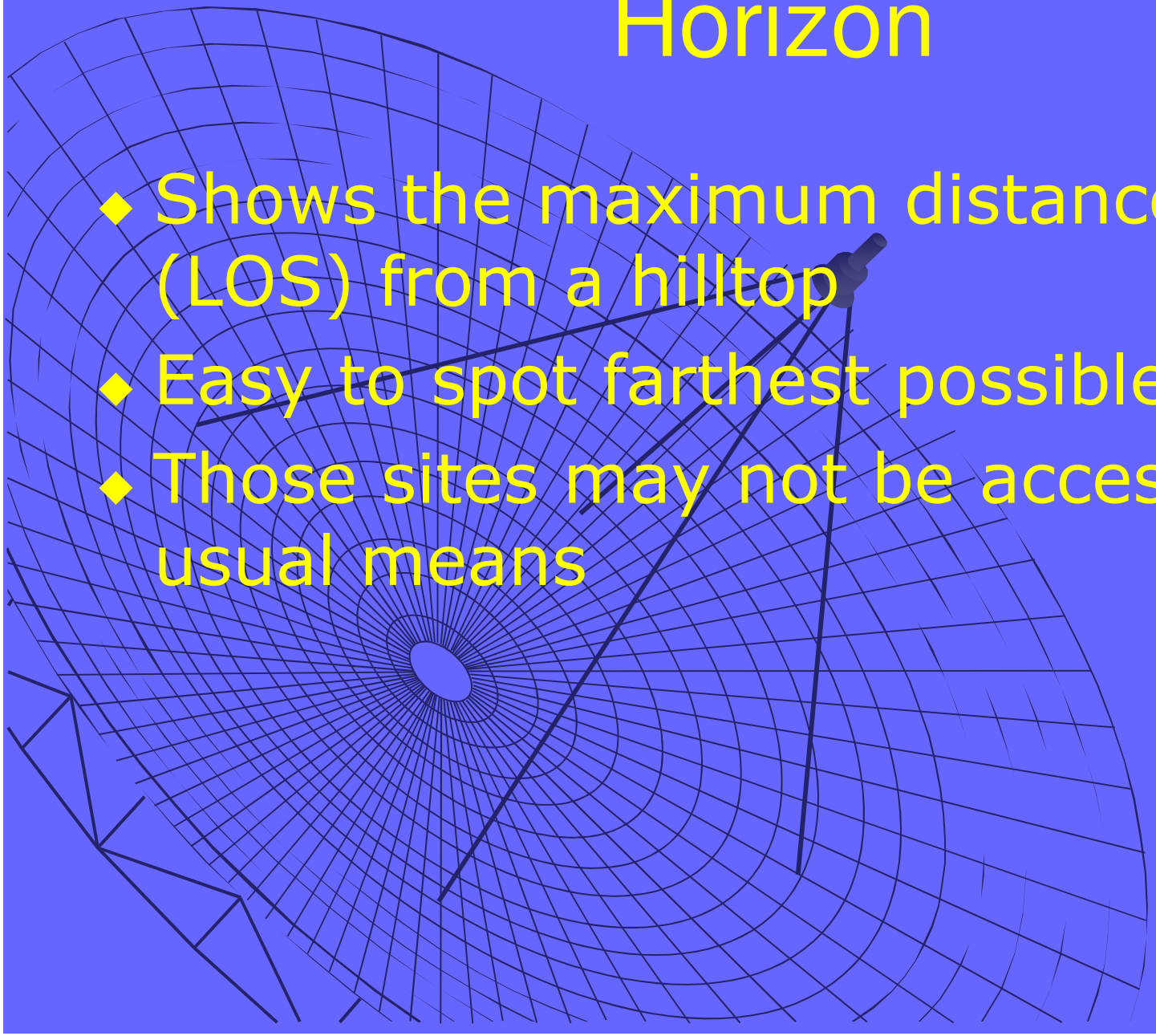


- Used by most users
- For Hams, gives a general view of the landscape. When combined with Path Profiler it gives an aiming point to the other station

Visibility cloak

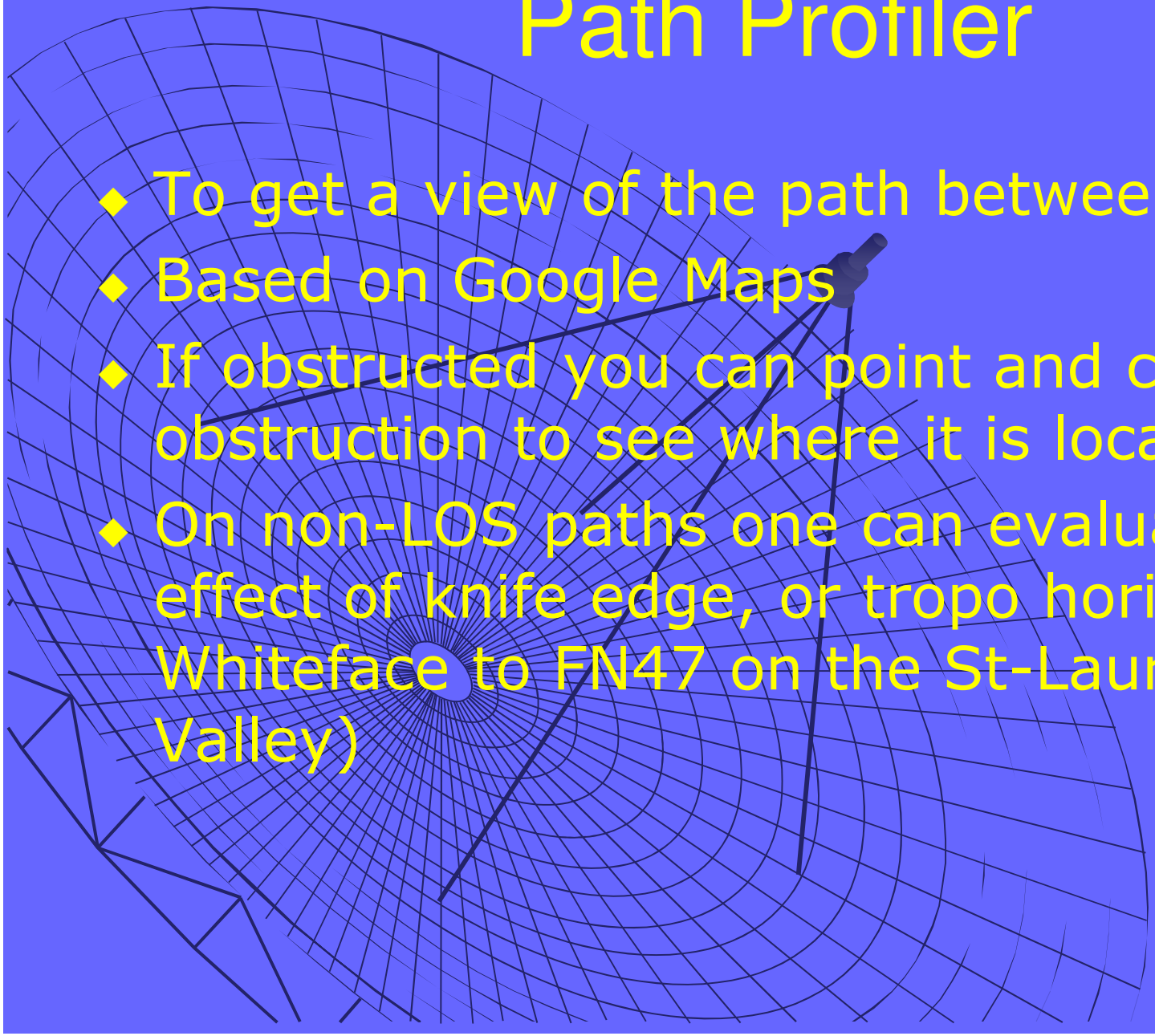
- Shows the terrain visible (LOS) from a hilltop, or any other site
- Based on Google Maps
- Potential sites are easily spotted
- Has been known to work up to 215 km (Whiteface - Mt Tremblant)

Horizon



- Shows the maximum distance visible (LOS) from a hilltop
- Easy to spot farthest possible sites
- Those sites may not be accessible by usual means

Path Profiler

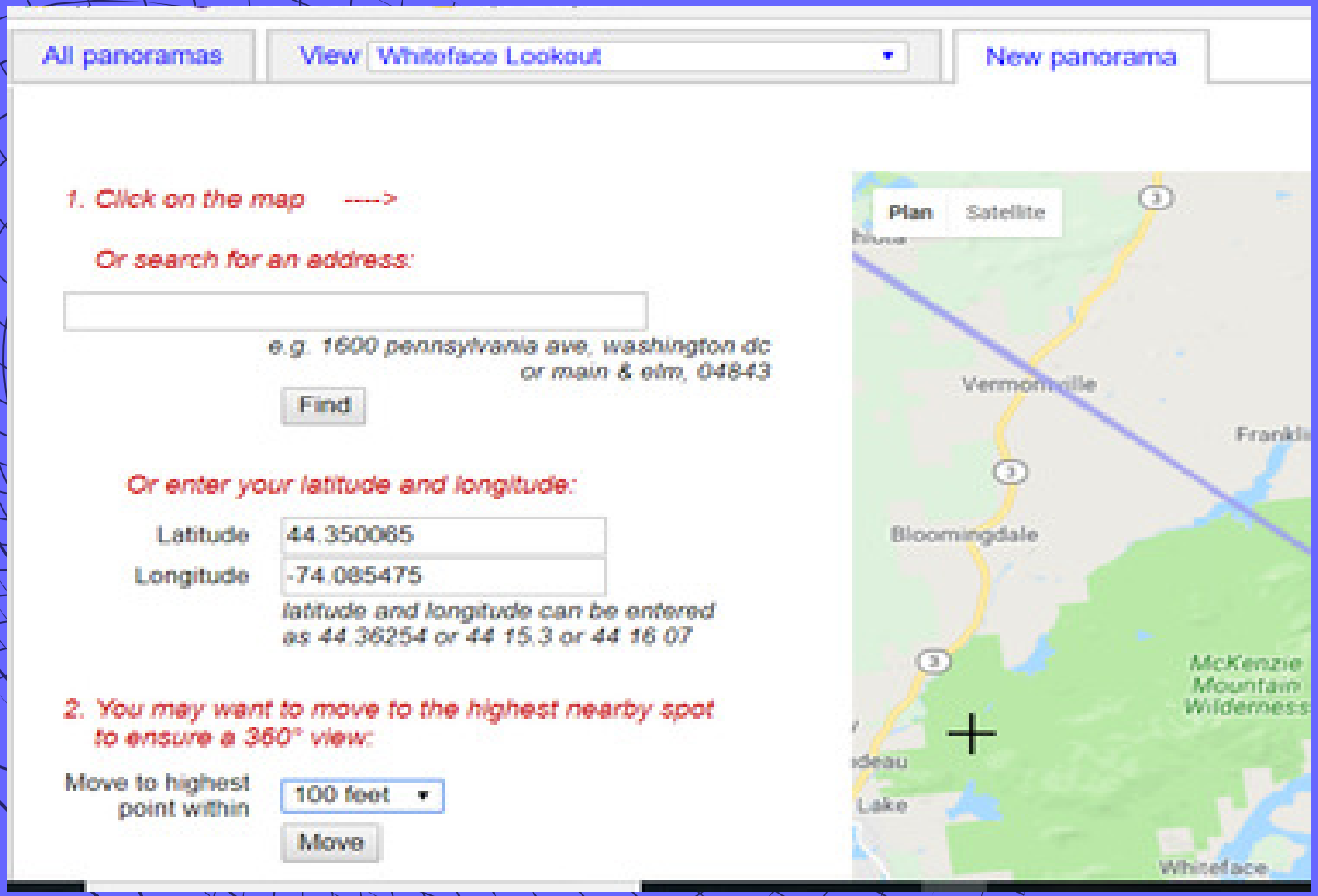


- To get a view of the path between stations
- Based on Google Maps
- If obstructed you can point and click on an obstruction to see where it is located
- On non-LOS paths one can evaluate the effect of knife edge, or tropo horizon (like Whiteface to FN47 on the St-Laurence Valley)

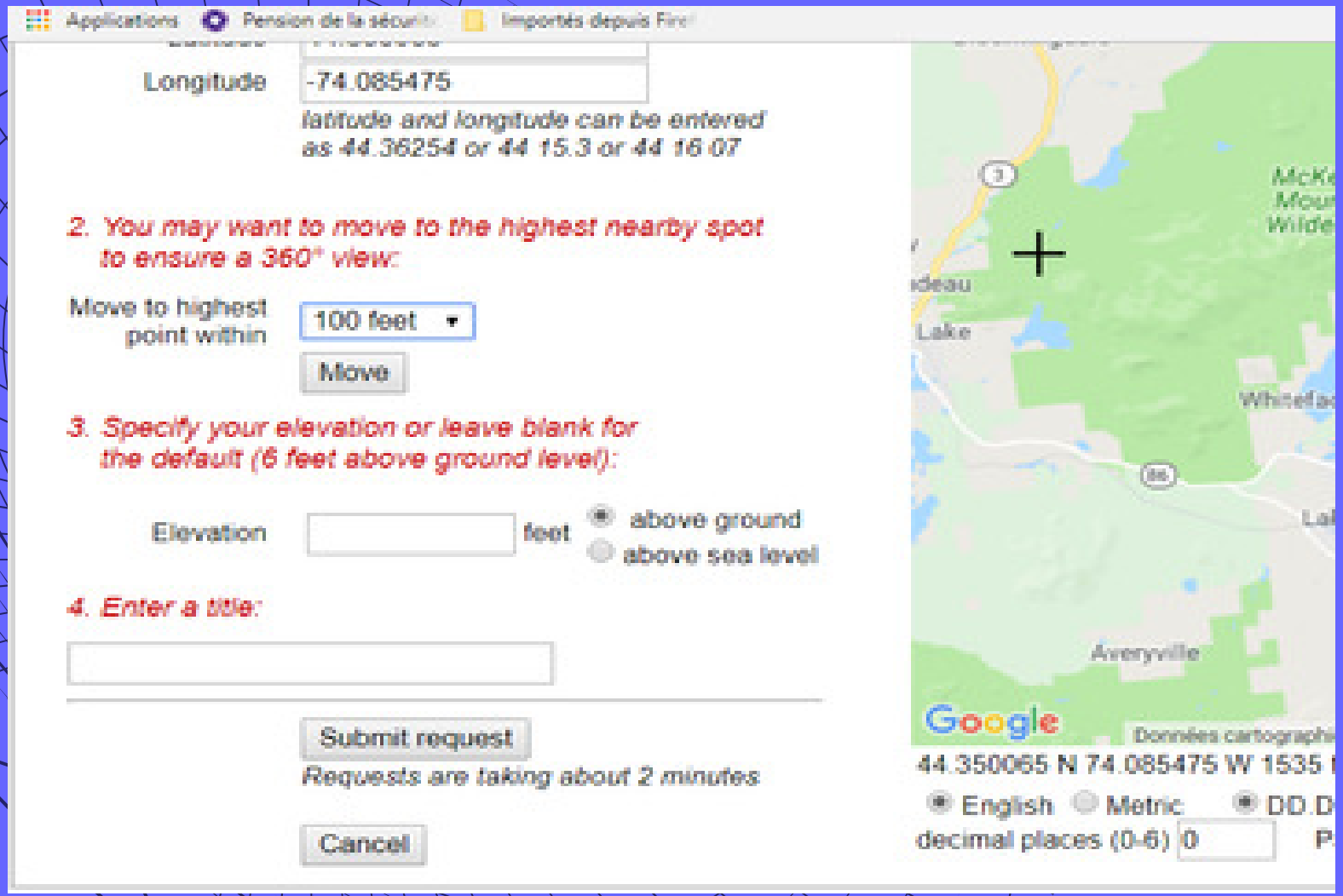
How it works

- Enter Heywhatsthat website
- Click on « New Panorama »
- Enter data or click on map
- Get result. Click on « Visibility Cloak » and « Horizon »
- Zoom and survey map to find potential sites. Click site to see Path Profiler results
- Tweak data in path profiler« Parameters »
- http://www.heywhatsthat.com/techfaq.html

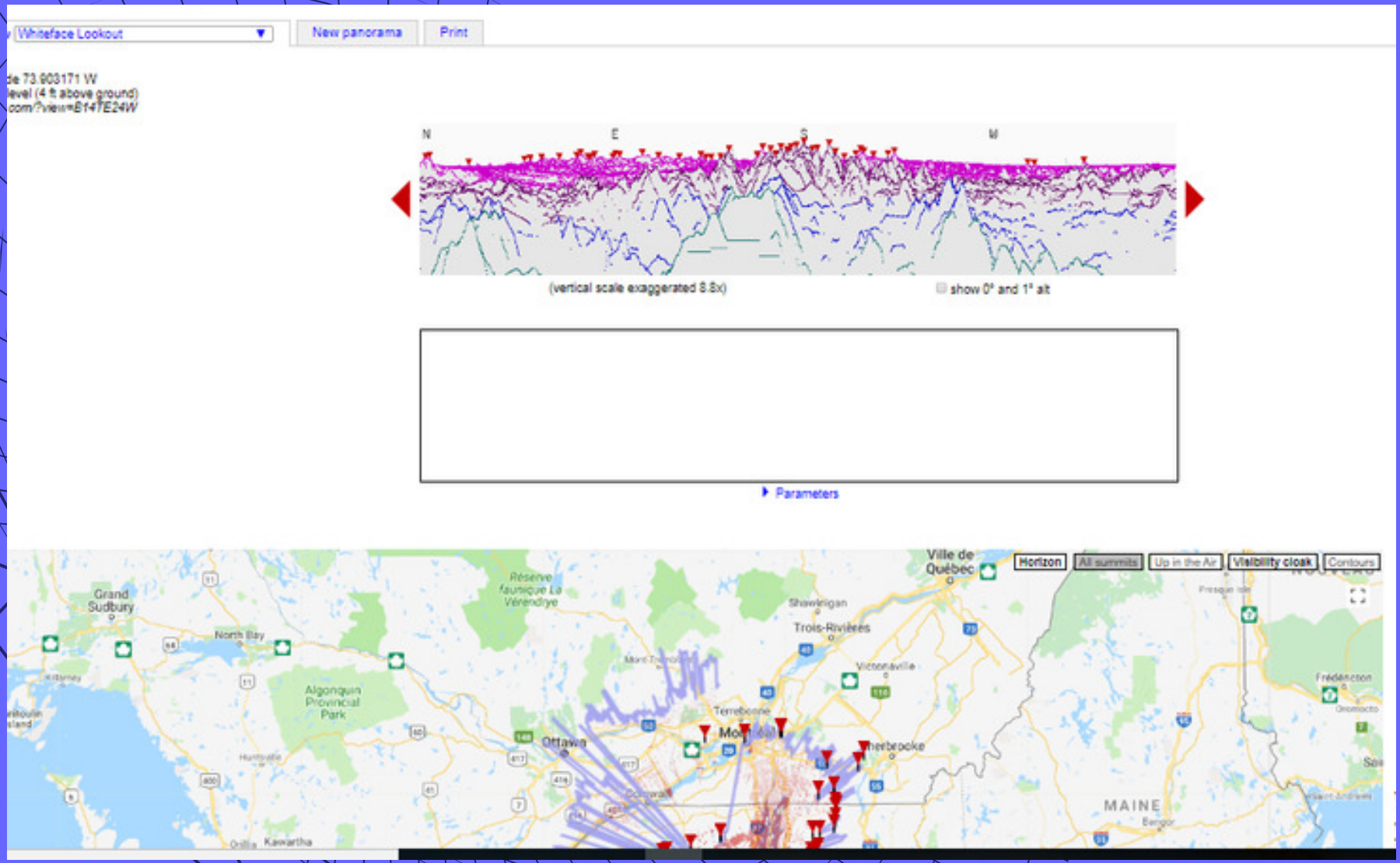
Entering data



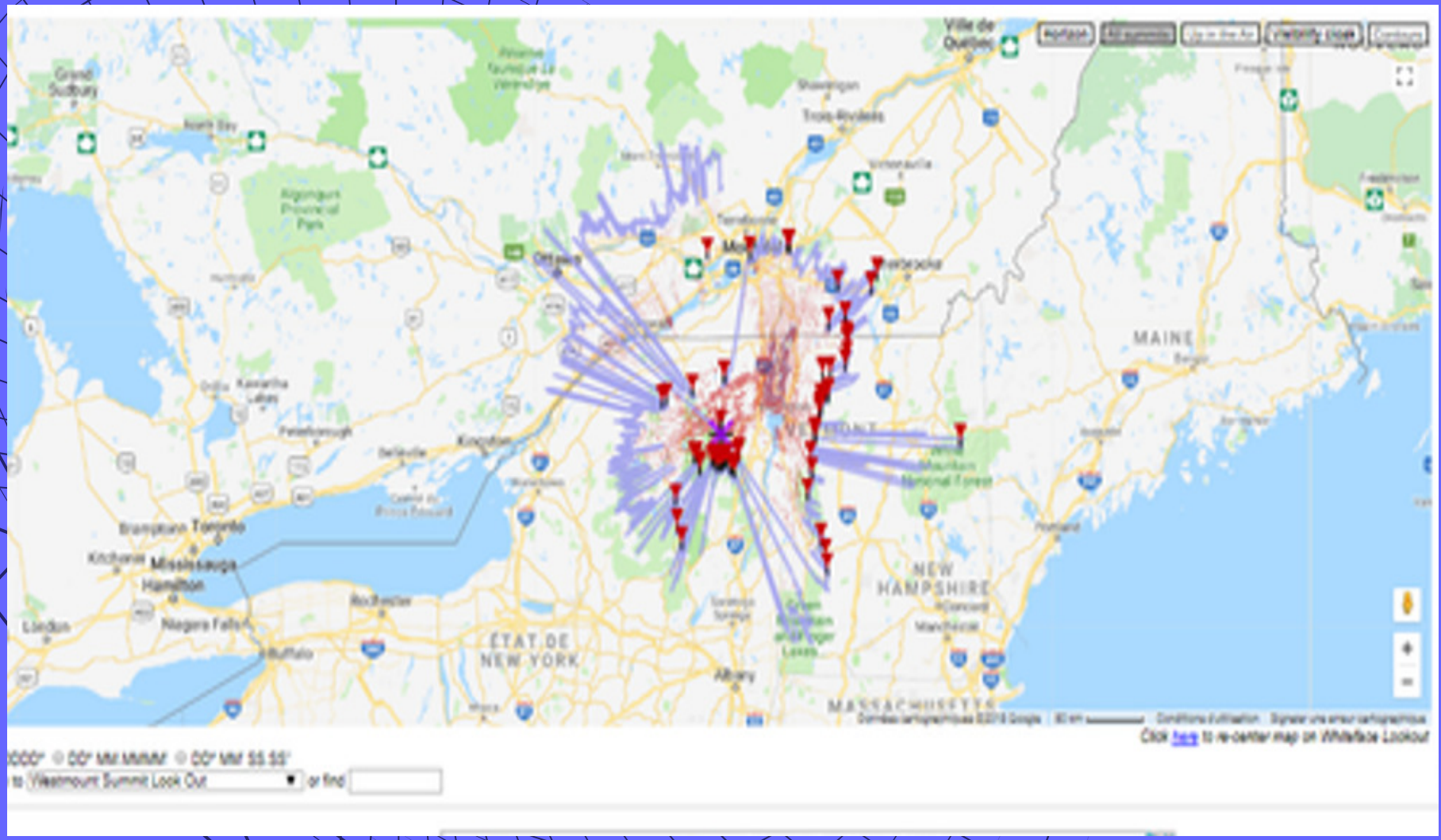
Entering data



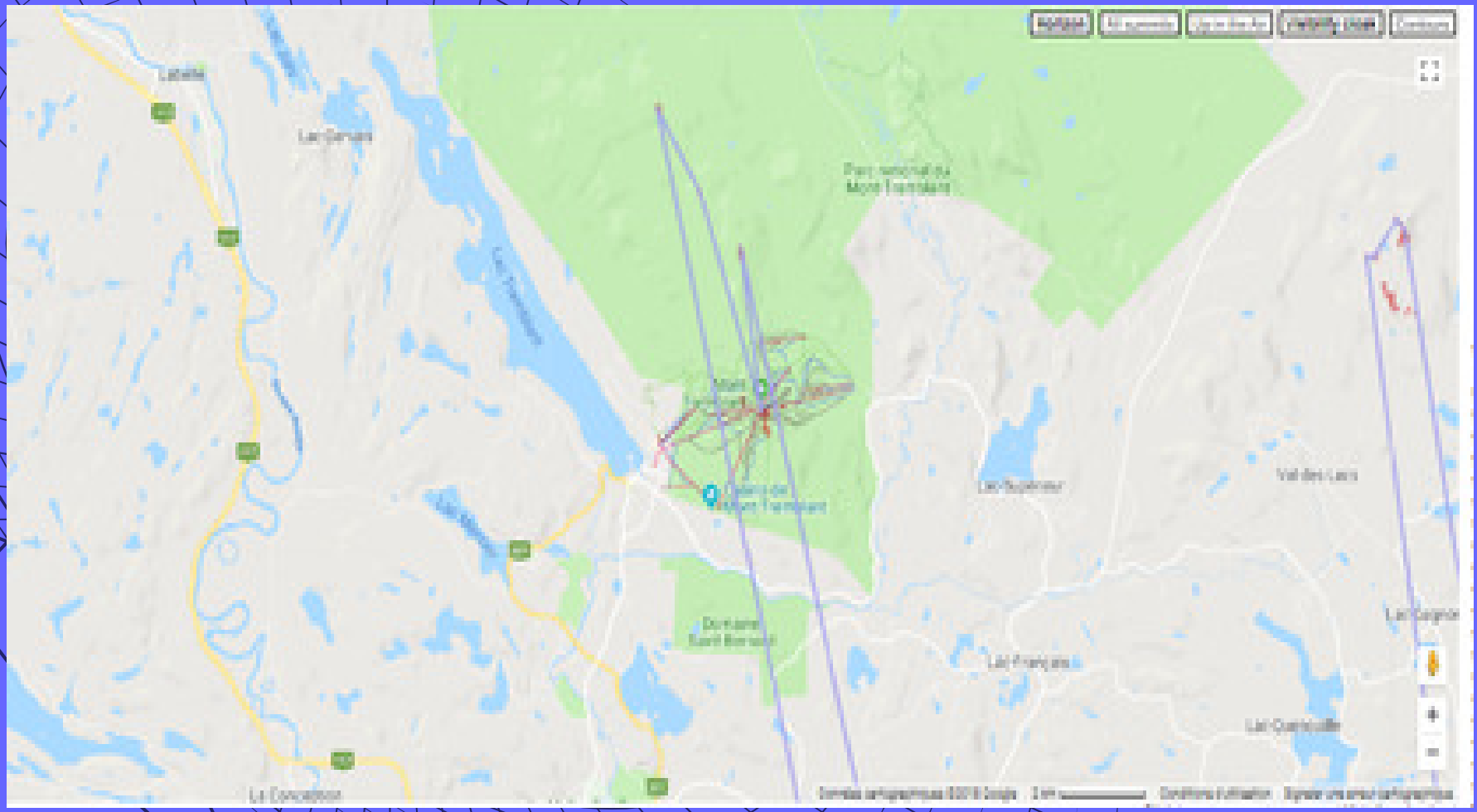
Results -> Panorama



Result -> Visibility cloak + Horizon

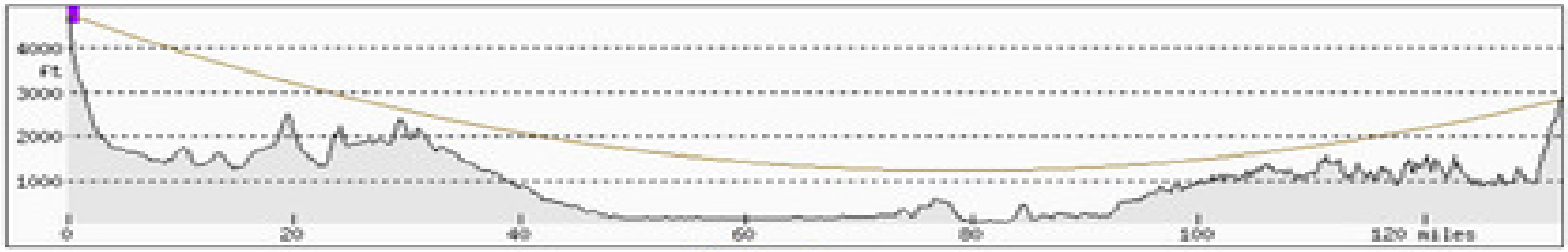


Result -> Visibility cloak + horizon to Tremblant



Evaluation with Path profiler

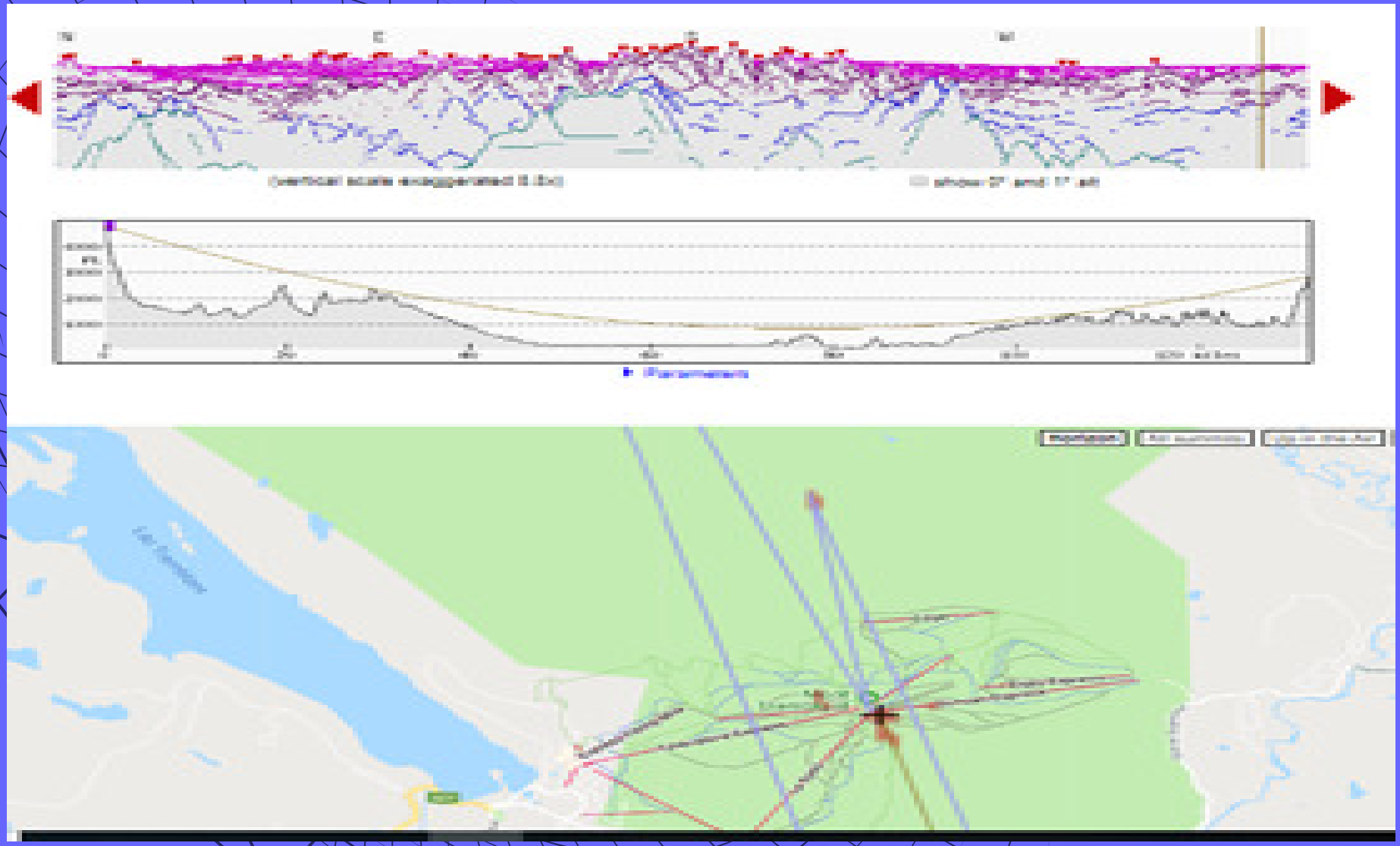
- Entering new site by clicking on map
- Edit parameters Menu. 0.14 is visual refraction (see techfaq)



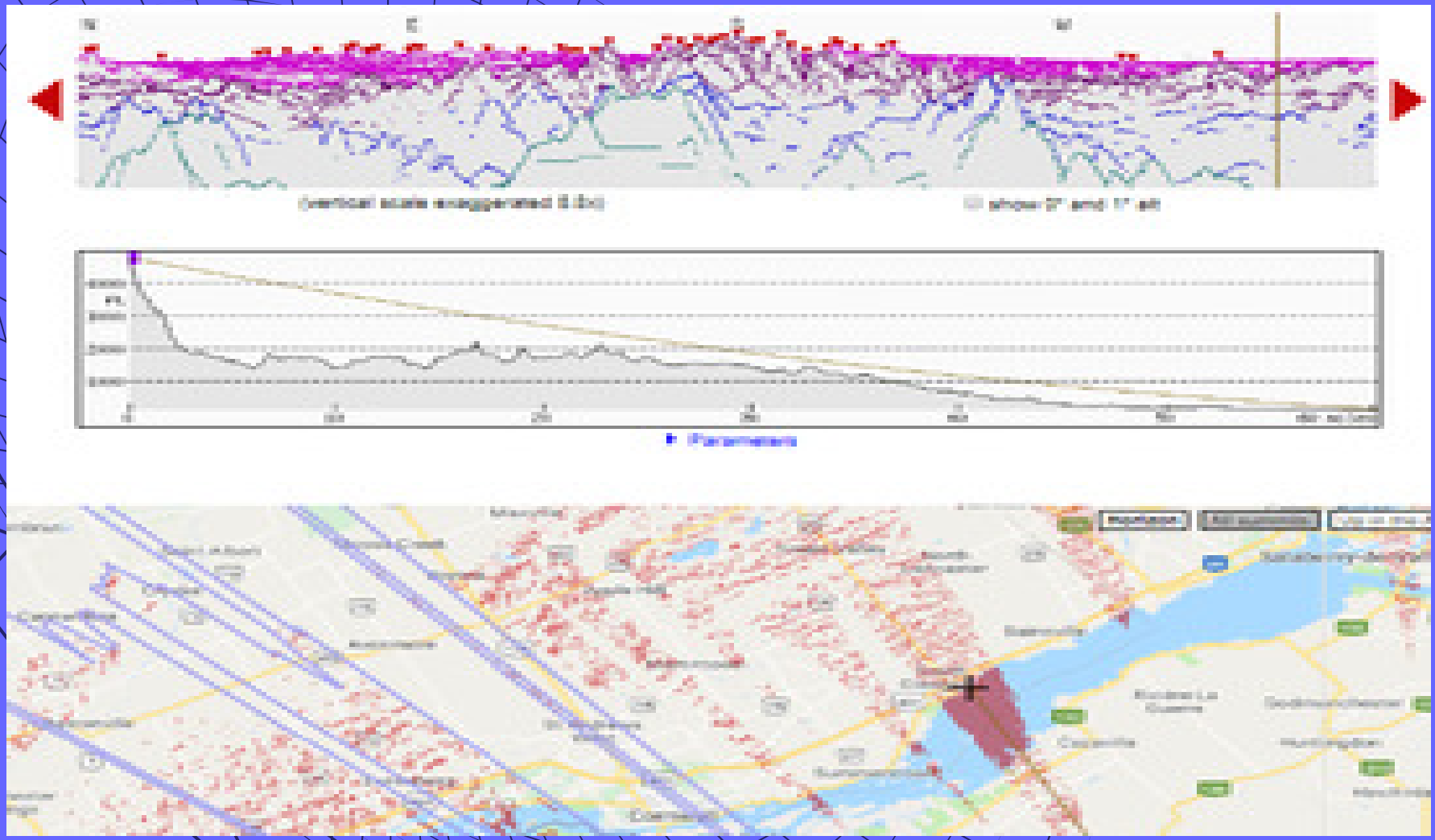
Parameters

☑ show scale	frequency (MHz, e.g. 5800)	y range (e.g. -20,100)
◉ flat Earth ○ curved Earth	refraction (e.g. .14) .14	far end elevation (use 99 for relative to sea level, +99 or +-99 for relative to ground) +4
○ plate carée ◉ great circle	fixed exaggeration (e.g. 2)	Reset

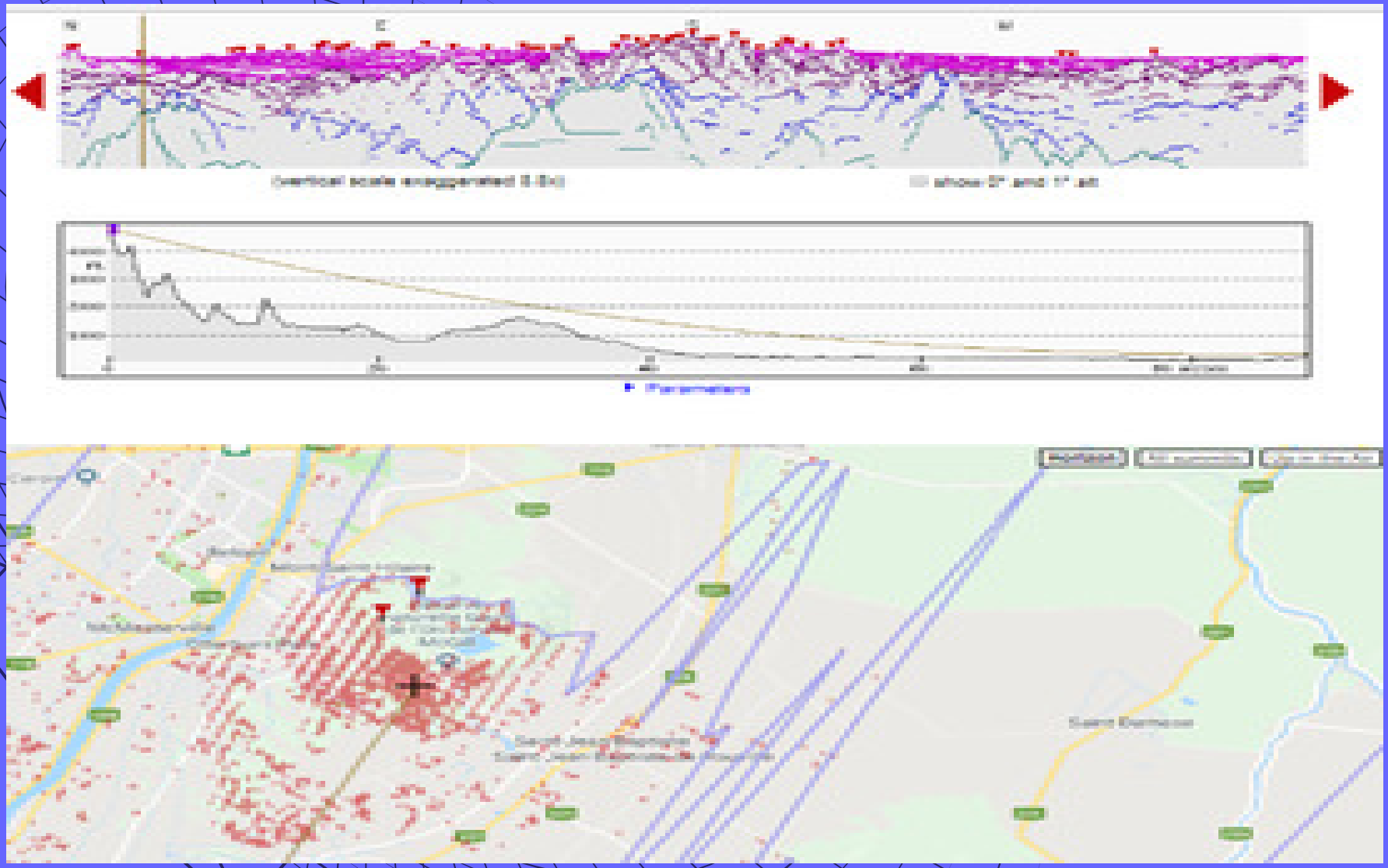
Path Profiler result with Tremblant



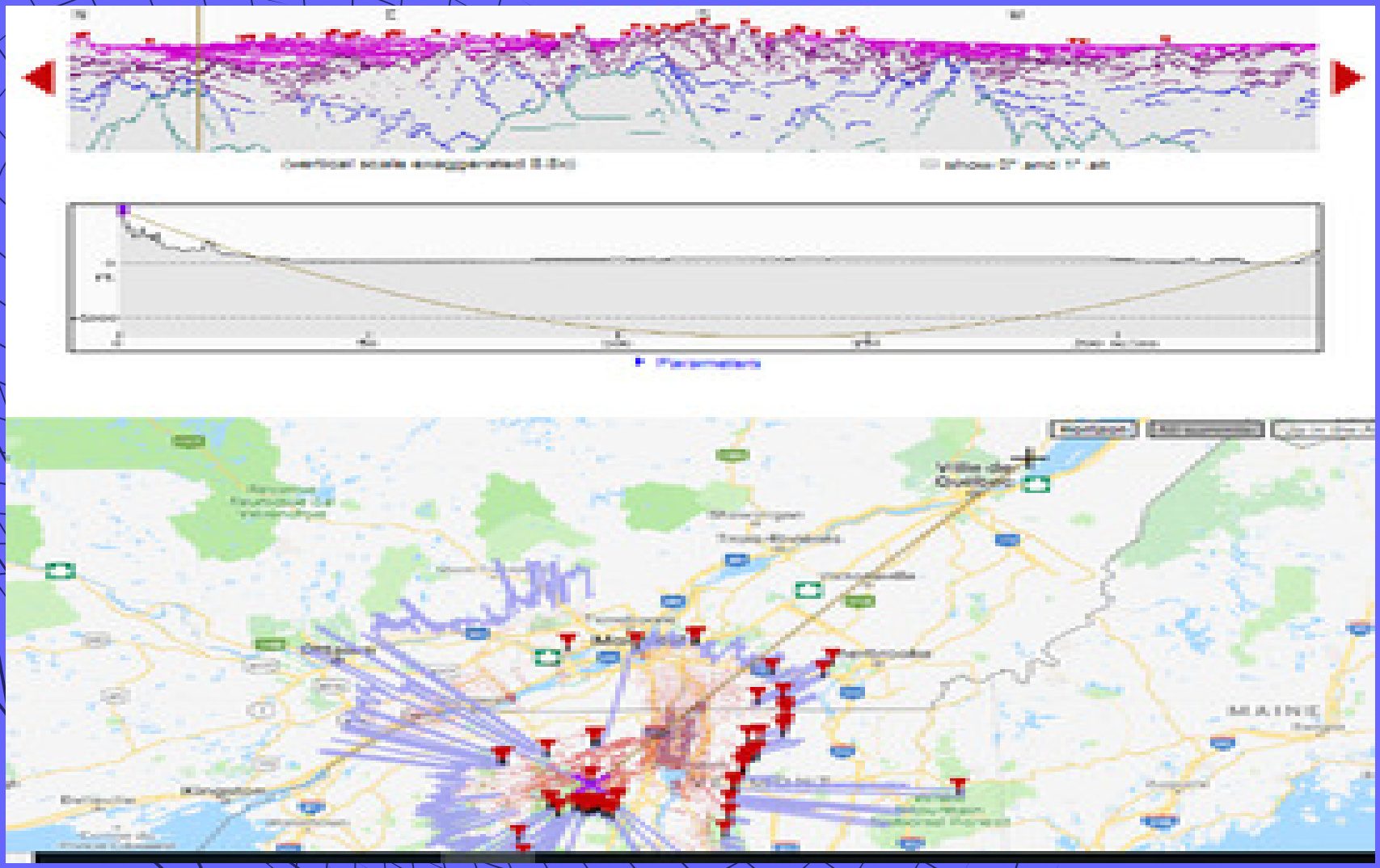
Path profiler results with Lancaster



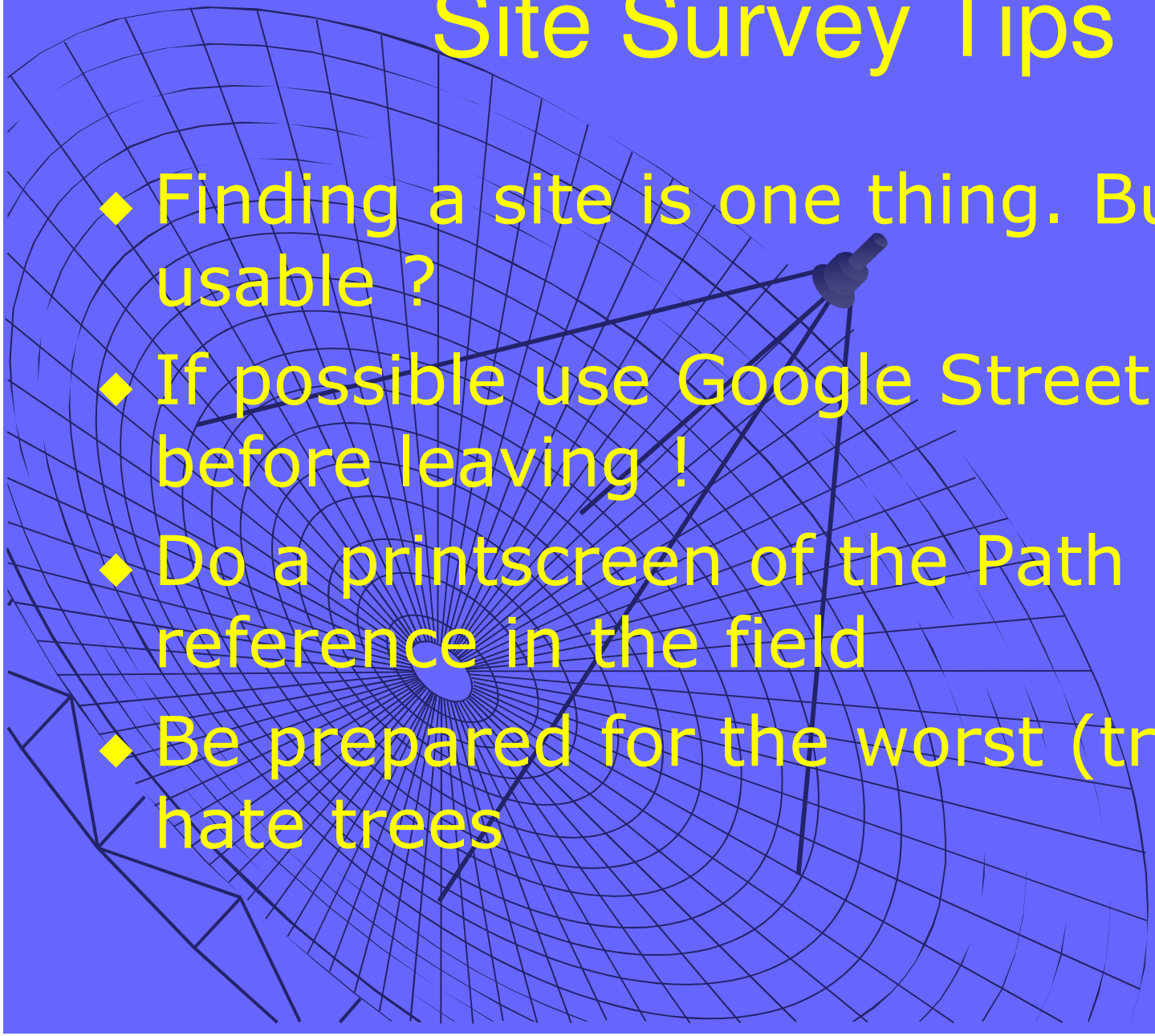
Path Profiler result with St-Hilaire



Path Profiler with FN47



Site Survey Tips



- Finding a site is one thing. But is it usable ?
- If possible use Google Street View before leaving !
- Do a printscreen of the Path Line, for reference in the field
- Be prepared for the worst (trees). I hate trees

Trees or else

- FN24, LOS from Whiteface. Humm..

Trees or else

- FN35 top of hill. Where do I setup ?

Trees or else

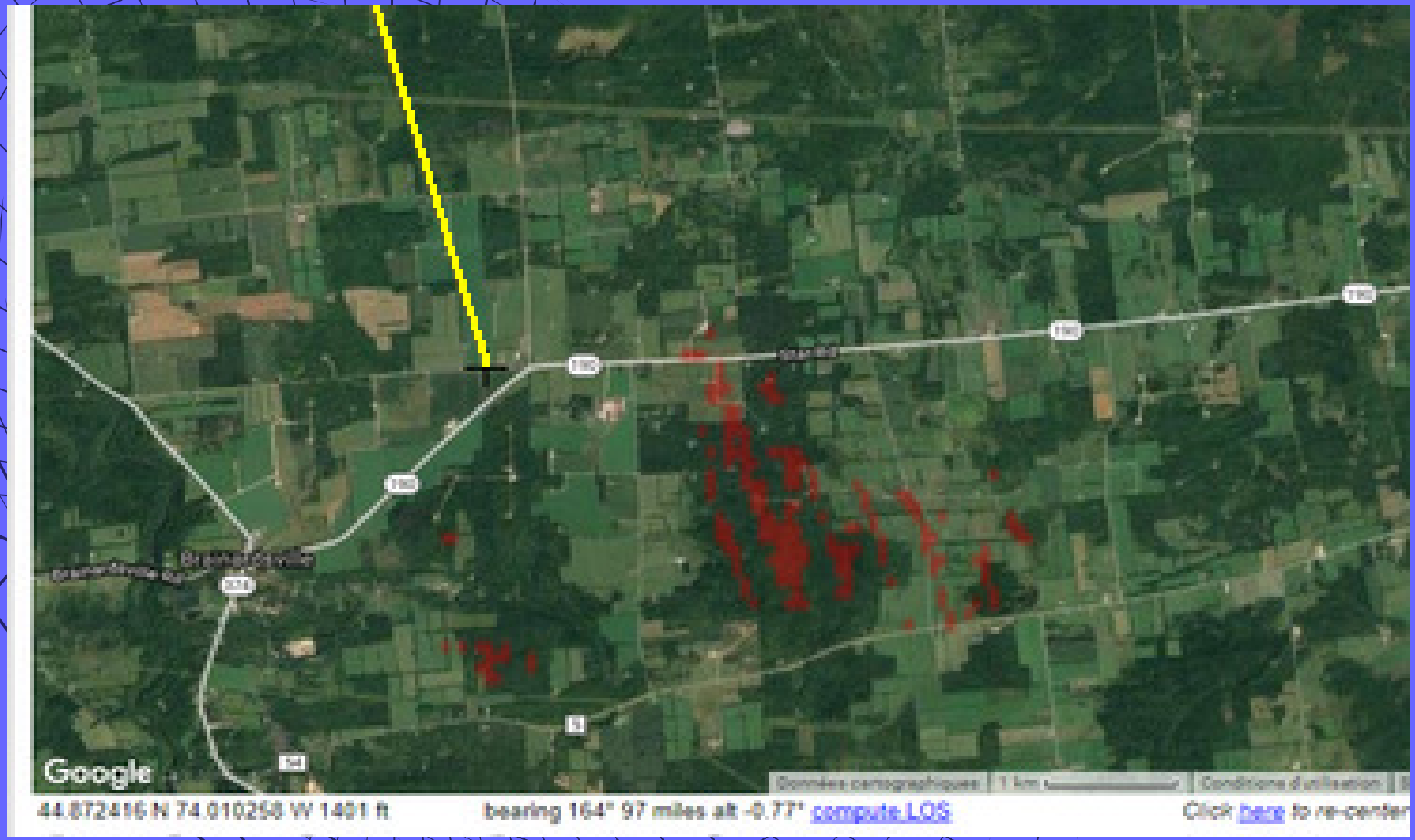
- Even one tree is enough..(FN47)

Google Street View Ottawa

Path Line Whiteface vs Ottawa

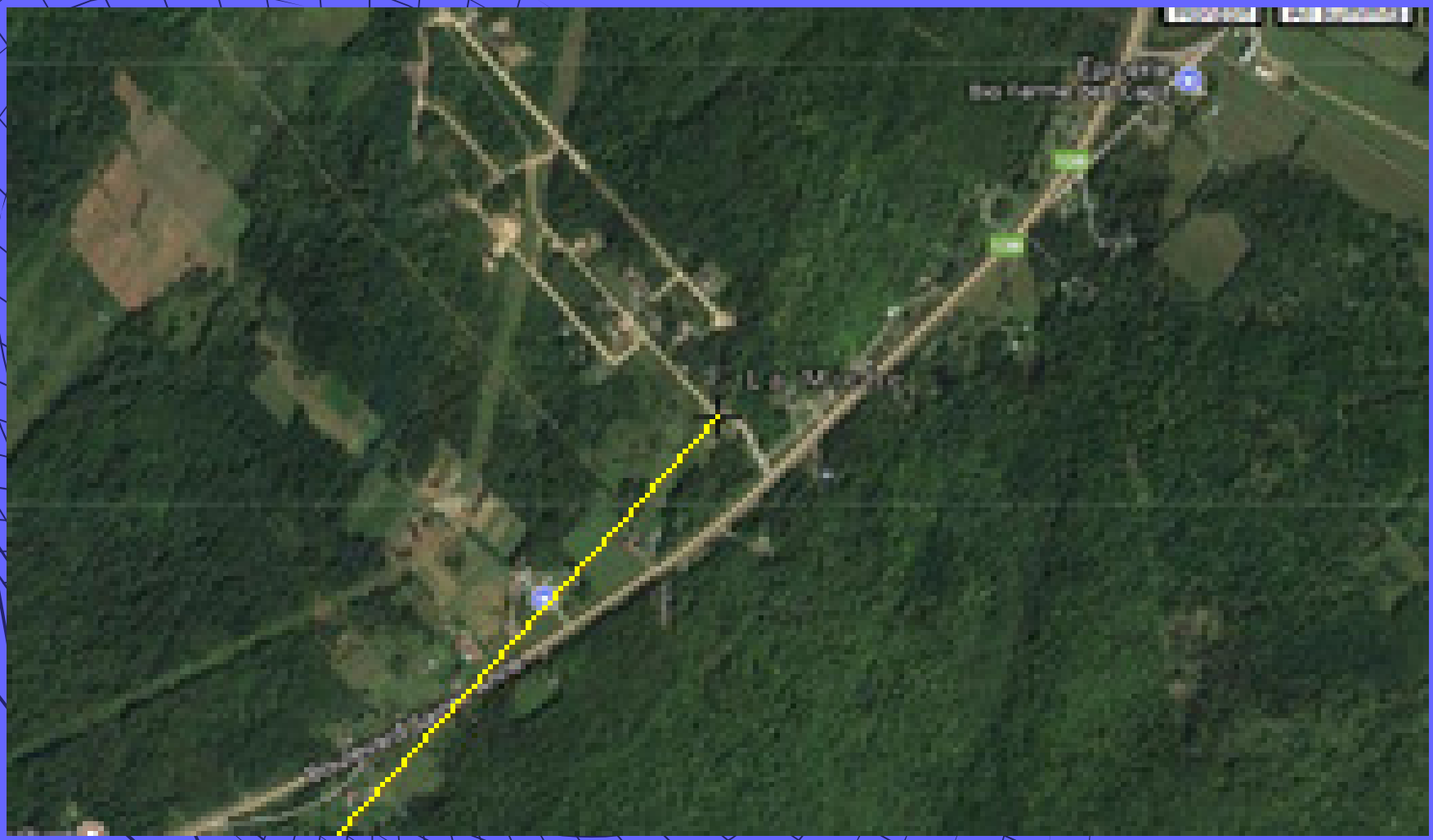
- We can use parking lines for heading

Path Line Tremblant vs FN24

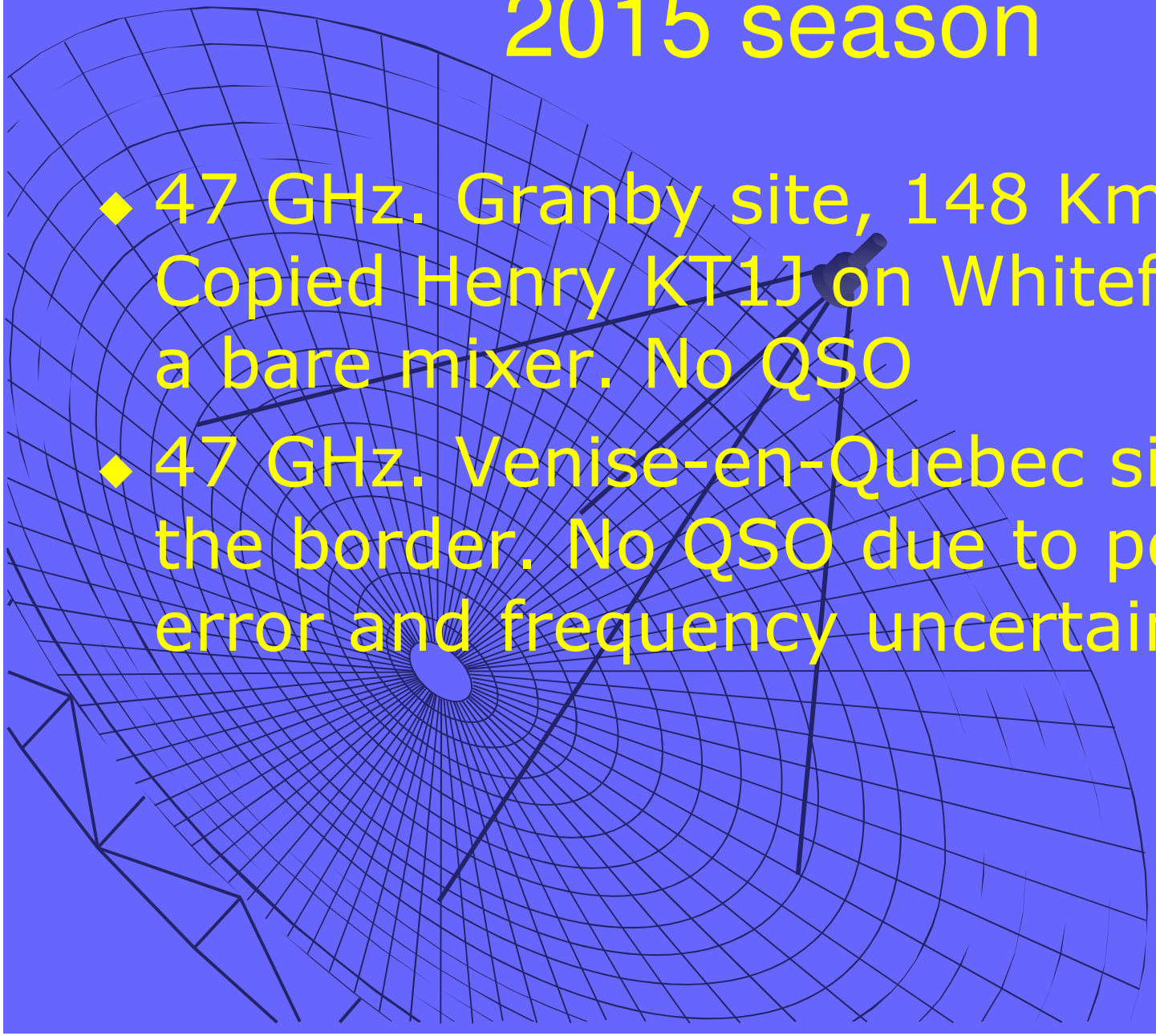


Path Line Whiteface vs St-Hilaire

Path Line Whiteface vs FN47



2015 season



- 47 GHz. Granby site, 148 Km. Copied Henry KT1J on Whiteface with a bare mixer. No QSO
- 47 GHz. Venise-en-Quebec site near the border. No QSO due to pointing error and frequency uncertainty

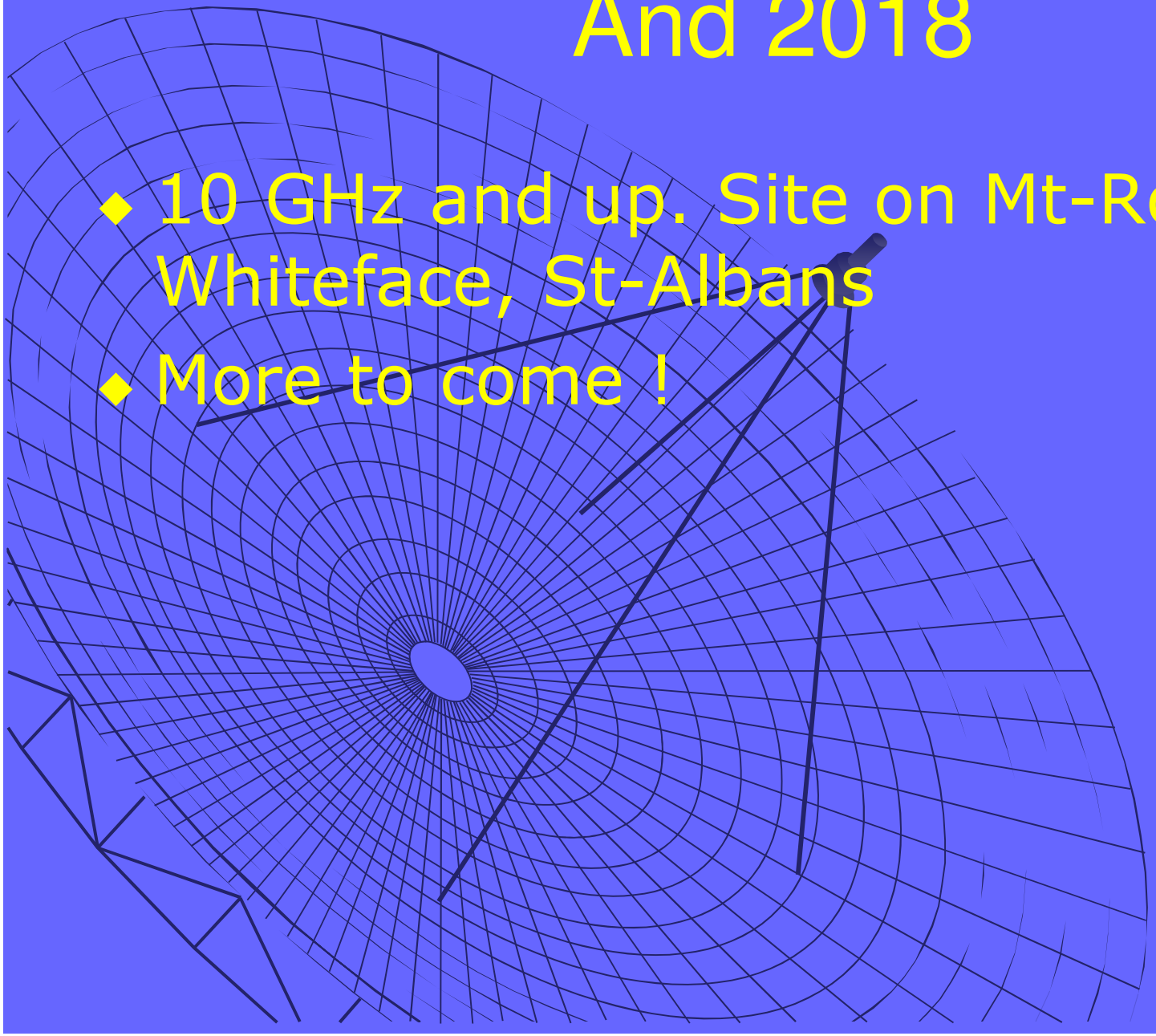
2016 season

- 10 GHz. St-Hilaire site to Whiteface. 59++
- 24, 47 GHz. Lancaster site to Whiteface 99 Km. 59++
- 24, 47 GHz. Tremblant site to Whiteface 215 Km. 51 and 339

2017 season

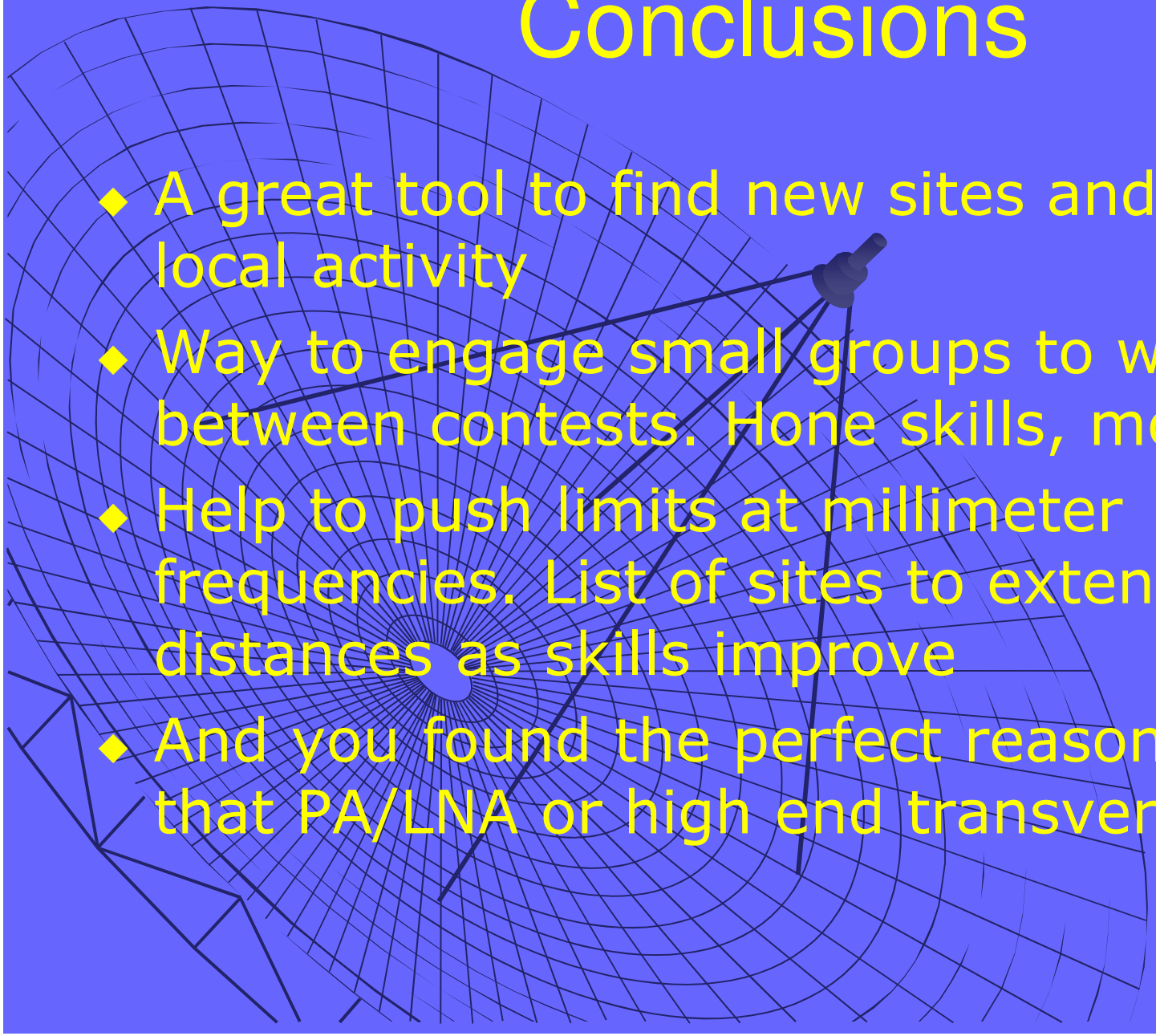
- Survey work FN35 to Whiteface (Trees)
- 10, 47 GHz, FN35. Better site near St-Hilaire (Title picture). 59
- 10 GHz, Huron belvedere, King Mt sites near Ottawa
- 47 GHz, FN24 to Whiteface. 59+
- 10 GHz. FN24 site to Tremblant. 59
- 144, 222, 1296. FN47 to Whiteface
- 78 GHz. Site near the border to Champlain and St-Albans. 59

And 2018



- 10 GHz and up. Site on Mt-Royal to Whiteface, St-Albans
- More to come !

Conclusions



- A great tool to find new sites and spur local activity
- Way to engage small groups to work between contests. Hone skills, more points
- Help to push limits at millimeter frequencies. List of sites to extend distances as skills improve
- And you found the perfect reason to buy that PA/LNA or high end transverter…

Special Thanks

- Thanks to the group who made all this possible. It was fun! ☺

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Henry KT1J

Paul W1GHZ

Luc VE3LUP

Glenn VE3XRA

Dean VE3CDD

- Questions?