Rural Training Center-Thailand: Technical Paper
ศูนย์ฝึกอบรมชนบท-ประเทศไทย: ทางเทคนิคกระดาษ

Getting Terrain Elevation Data from Maps

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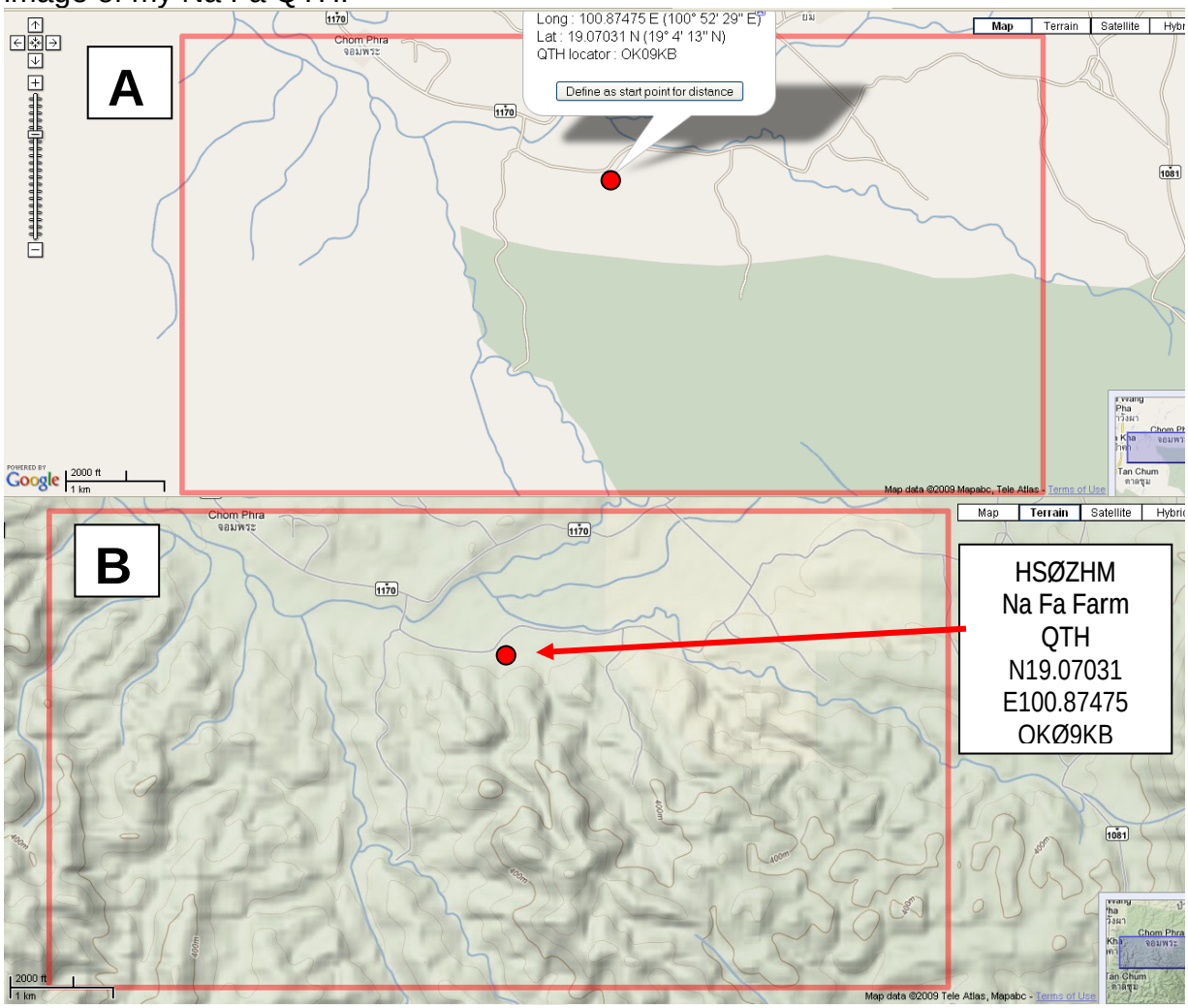
Community-based environmental education for the self-sufficiency and sustainability of small rural family farms
ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนชนบทขนาดเล็กครอบครัวฟาร์ม

You may post questions / comments to the Discussion area of our website

You can get terrain and elevation data from google maps using this link: (http://f6fvy.free.fr/qthLocator/fullScreen.php)

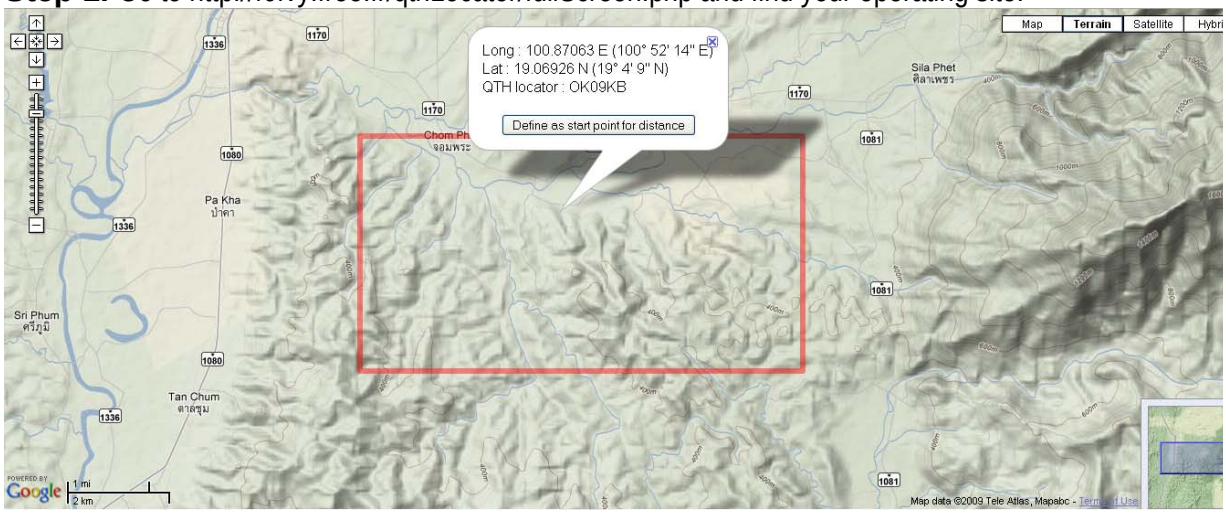
This link gives you the latitude, longitude, and Maidenhead coordinates for a location. It also gives you a topographic if you click on the "Terrain" button. Image **A** (below) is the "Map" showing my Wang Wa QTH. Image B shows the "Terrain" image of my Na Fa QTH.



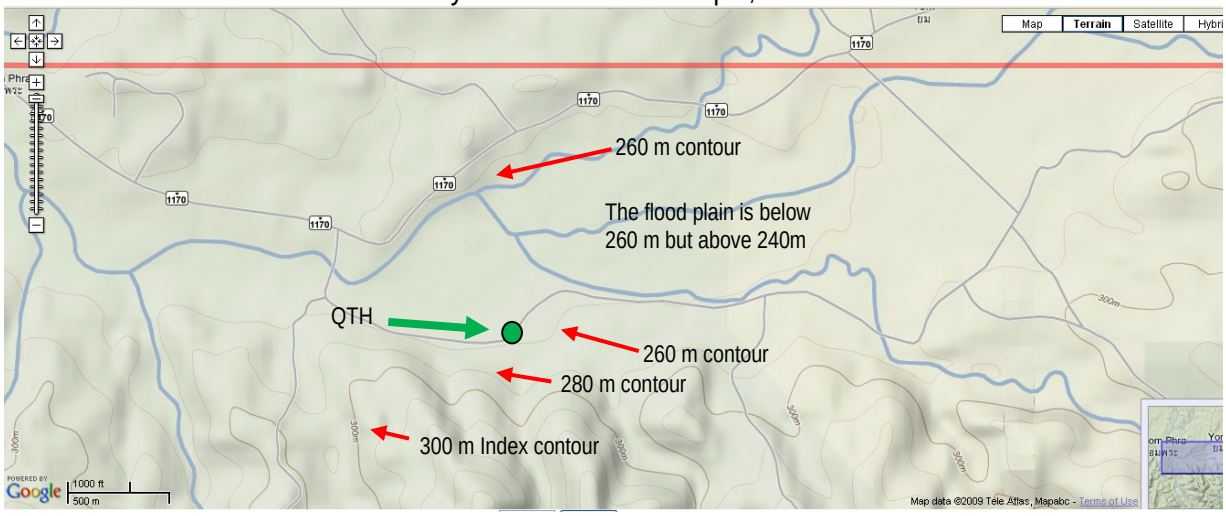
Getting Elevation Data for Your Site

Getting Elevation Data for Your Site

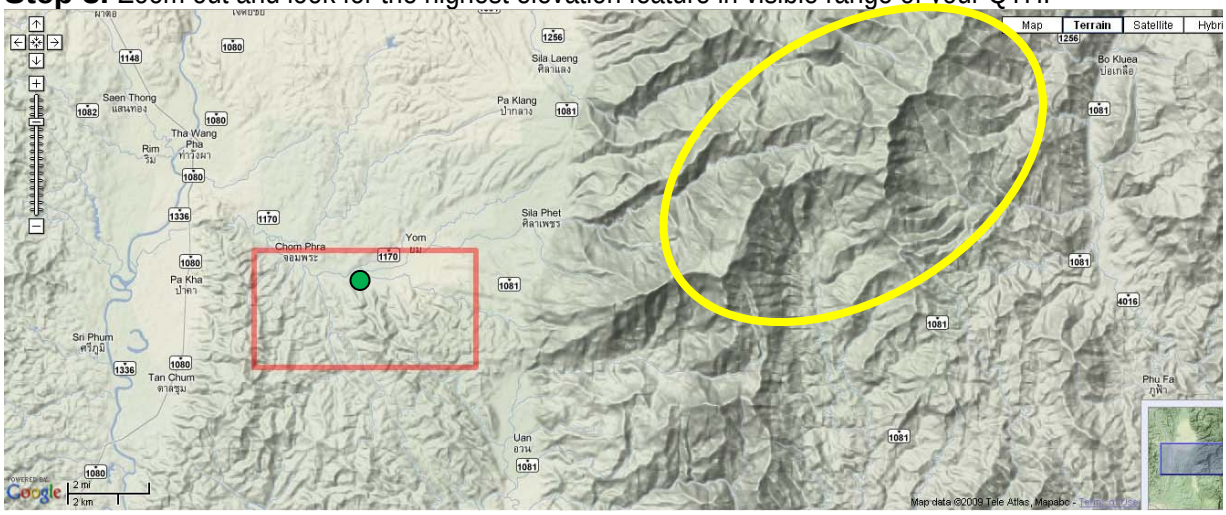
Step 1. Go to http://f6fvy.free.fr/qthLocator/fullScreen.php and find your operating site.



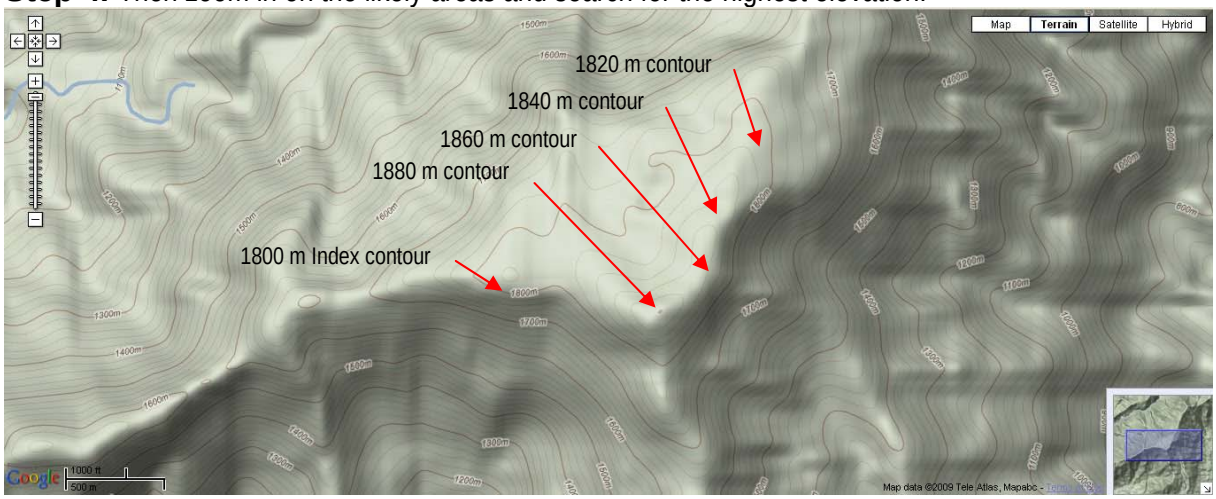
Step 2. Click on "Terrain" and Zoom in until you can read the index contour numbers. Estimate the elevation of your site by using the closest contour lines to it. This usually means a range of elevations between the 2 closest contour lines to your site. In this example, the site is between 240-260m amsl.



Step 3. Zoom out and look for the highest elevation feature in visible range of your QTH.



Step 4. Then zoom in on the likely areas and search for the highest elevation.

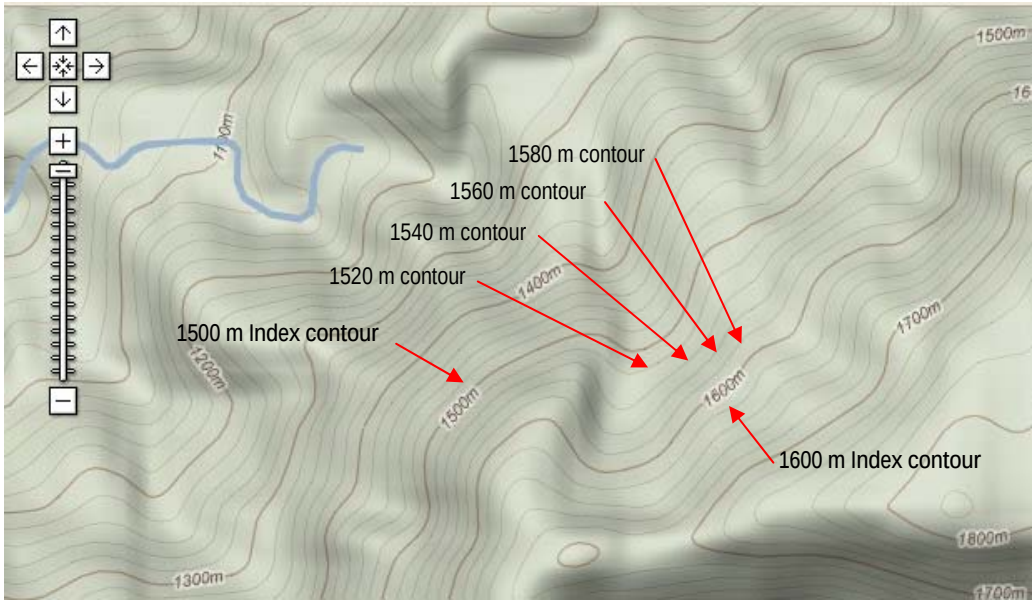


The highest point is above 1880m but below 1900m amsl.

Review of Contour Line Basics

Contour lines represent elevations of equal value above a referenced plane (datum; usually above mean sea level, unless otherwise stated).

Index Contour: The numbered contour line stating the elevation value of the line amsl.



Contour lines never cross each other.

Contour Interval: The regular and systematic rate of change contour line values between Index contours. If you find the Index contours for 1500m and 1600m, count the number of contour lines between them (in this case, 5). The difference between the Index contours = 100 m. Divided by 5 = contour interval of 20m. Each intervening contour line is 20 m higher or lower than an adjacent contour line.

Supplementary Contour Lines: Usually a dashed contour line used when the terrain is fairly flat so the regular contour lines are very widely spaced. Find the map legend (explanation) to find the supplementary contour interval, or estimate it using the method to find the contour interval.

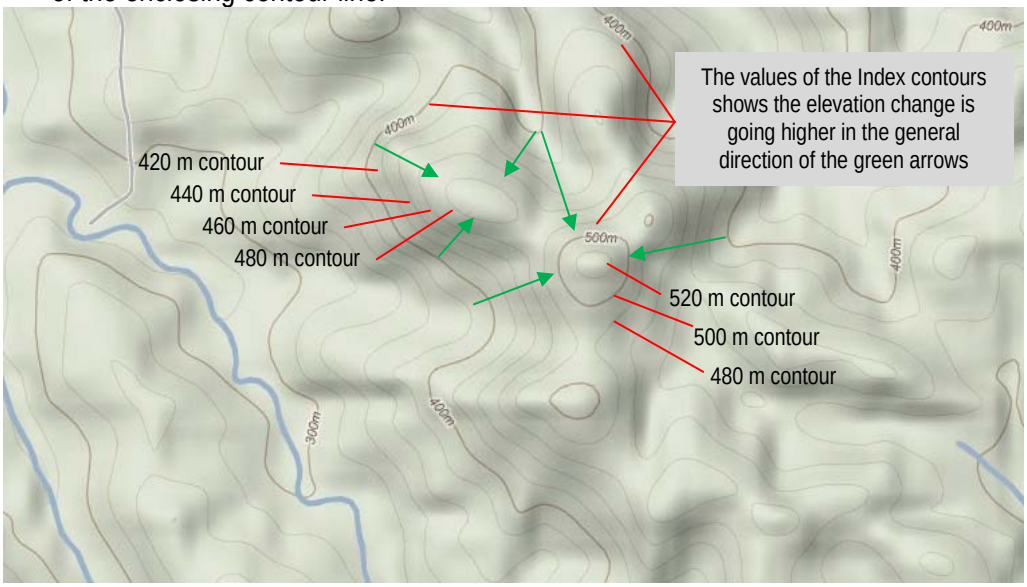
Summary

You can use terrain elevation data in various applications.

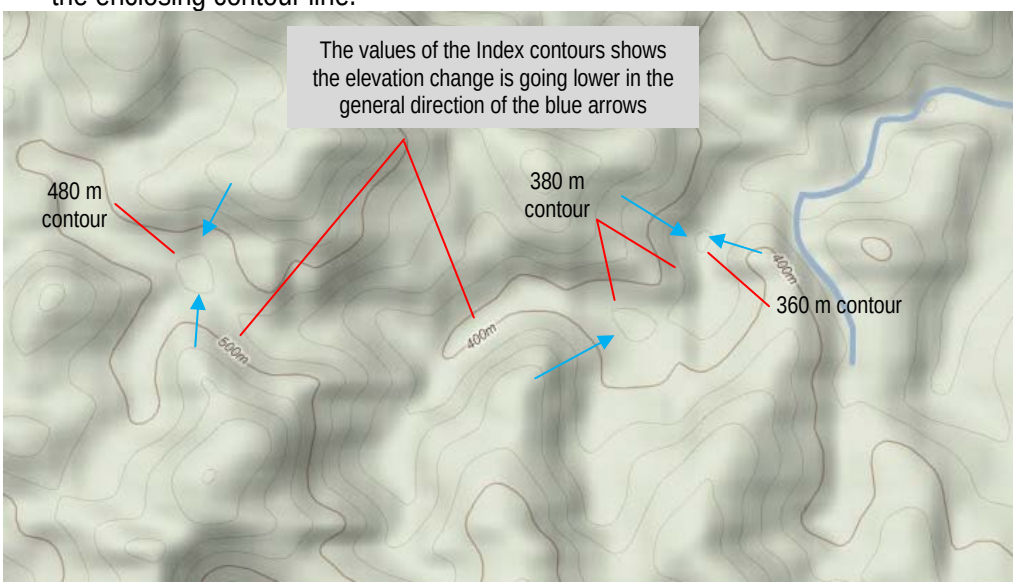
- EmComm (Emergency Communications): to determine line of sight antenna positions.
- Emergency Planning: scouting possible evacuation or emergency relief routes, staging areas, emergency helicopter landing zones.
- Alternative Energy: solar systems site analysis.
- Water Resources Management: delineating flow paths and drainage basins.

Enclosed Contour

Going higher: The elevations inside the enclosed contour are higher than the value of the enclosing contour line.

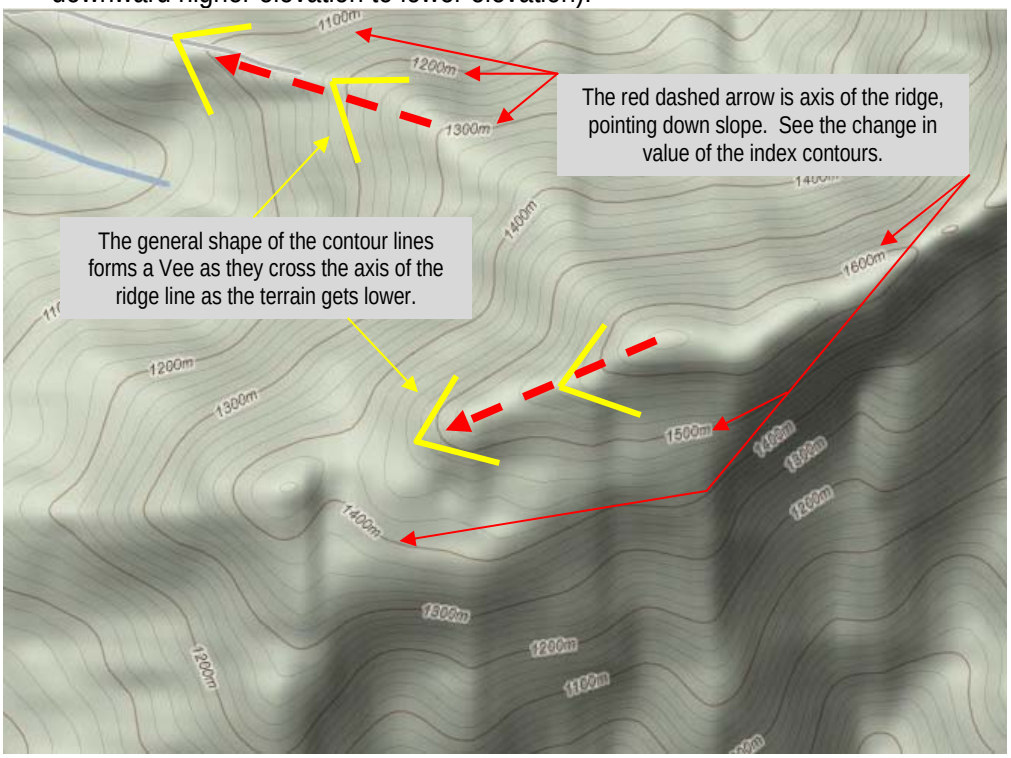


Going lower: The elevations inside the enclosed contour are lower than the value of the enclosing contour line.



Rule of Vees

Ridges: Contour lines crossing ridges form a Vee pointing down slope (pointing downward higher elevation to lower elevation).



Streams/Rivers: Contour lines crossing streams/rivers form a Vee pointing upstream in the direction from which the water flows (from higher elevation to lower elevation).