Rural Training Center-Thailand: EmComm Paper

# On-Line Topographic Maps



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Ready to Serve and Sustain Our Community

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

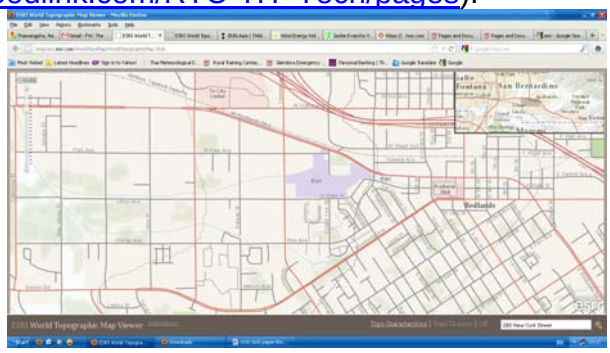
Dennis (KI6NQG) sent an e-mail to us about the ESRI (Environmental Systems Research Institute, Inc.) World Topographic Map Viewer announced in the recent ARRL weekly newsletter. We saw the same newsletter. But Dennis' email pushed this item to the top of our "To Look At" list. We are always trying to find better topo map data / displays for our area.


This week's handy map gadget was contributed by Bob N6TV who located this interactive topo map that offers features useful to hams scouting out QTHs and antenna locations. Not only does the map tell you the elevation, it tells you the slope angle and slope direction of US locations, as well.

**Some Background:**

Detailed map data along international borders is often considered "sensitive" national security stuff. So getting detailed topographic data for our studies to support our sustainable agriculture efforts is not easy. To date, we have had to undertake the time consuming task to survey and map bits and pieces of our farm using basic leveling survey methods (See paper AG 2010-4 Fast Recon Leveling Surveys in the Applied Geography section at http://www.neighborhoodlink.com/RTC-TH_Tech/pages).

**The Test Drive:**

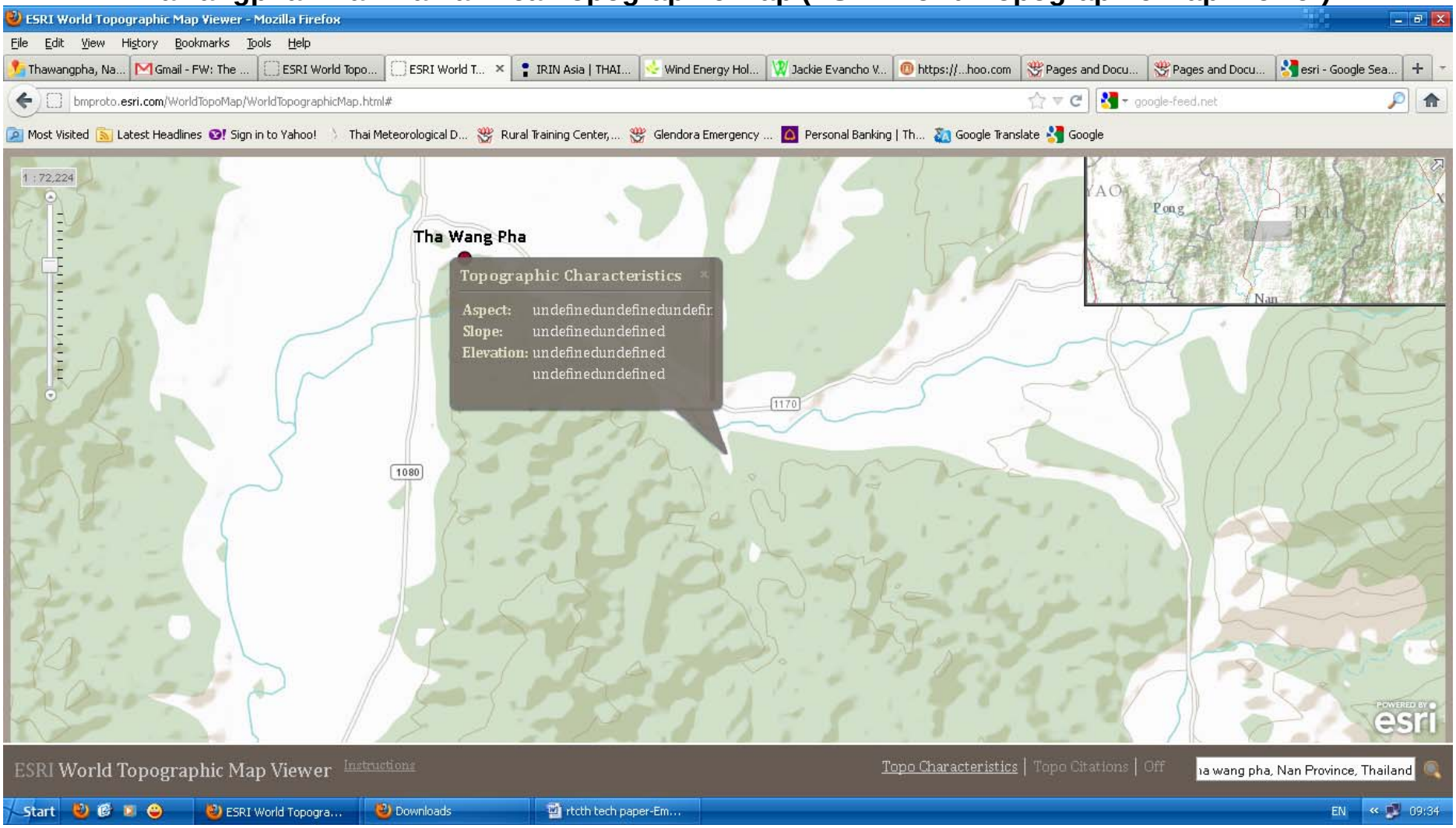


The hyperlink in the ARRL news item took us to the ESRI World Topographic Map Viewer page (see image on the right). Typing in our location in the search bar on the lower right (see red arrow) took us to the general area of Thwangpha and Jompra (the Sub-district) of the village and are of our demo farm (see display on page 2). Unfortunately, the largest scale display we could get was 1:72,224 (1:63,360 would be 1 inch = 1 mile). Attempts to use the interactive functions to get elevation, slope angle, and slope aspect did not work (see display on page 2).

The topo display did not have a bar scale and lacked contour data, so when cropping and enlarging the image, we had no scale control (see display on page 3.) We could not estimate the slope angle manually (which requires horizontal and vertical scale data). We could only estimate the slope aspect (horizontal orientation).

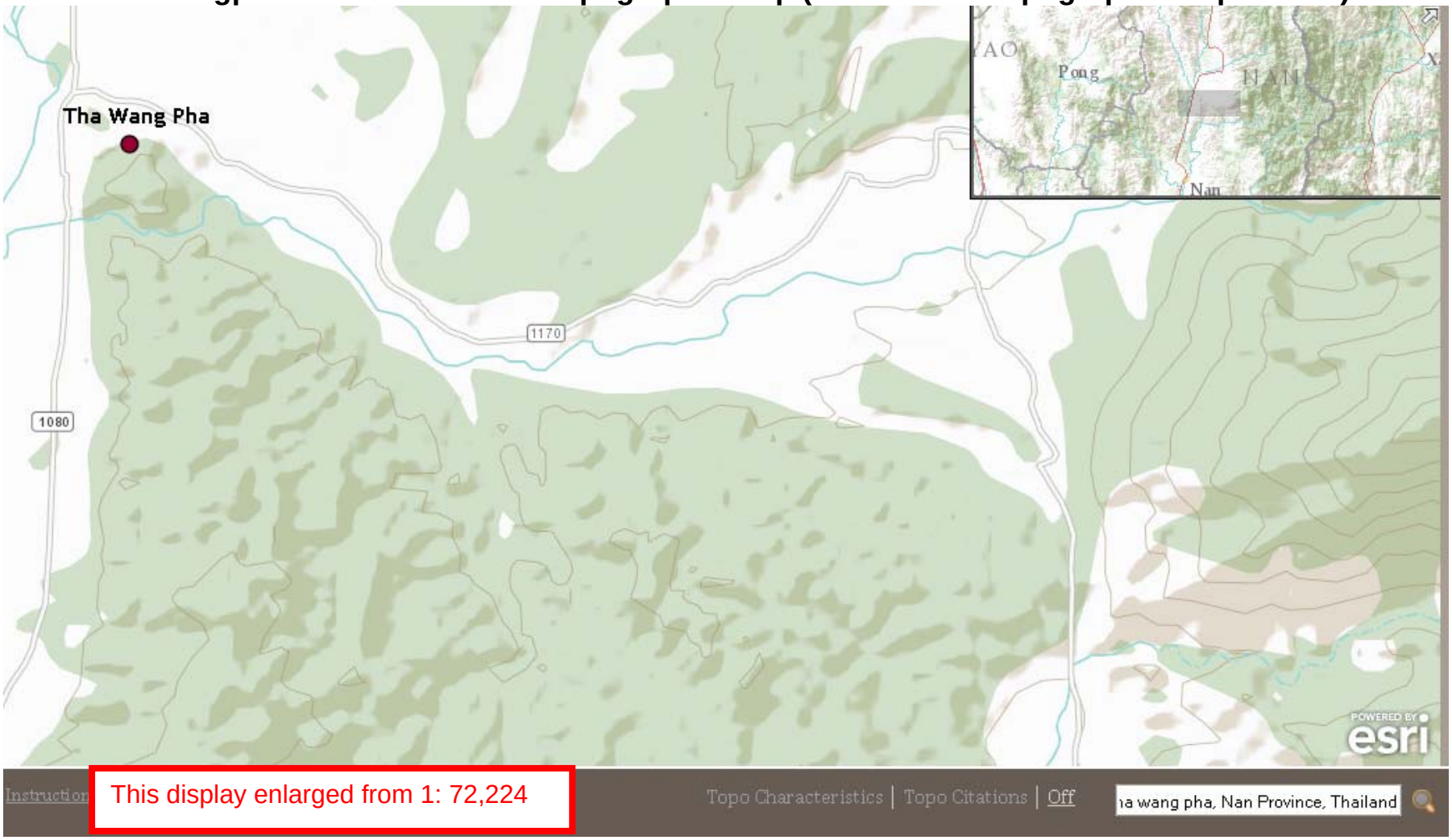
Page 4 shows the Google Map topo data (click on the Terrain option) we are currently using for our area. Page 5 shows a selected site in the US to see the ESRI interactive map features in action. We need to monitor the ESRI World Topographic Map Viewer. If more detailed topo data is available, the interactive map features could be very useful in our emergency preparedness recon scouting efforts.

# Thawangpha - Ban Na Fa Area Topographic Map (ESRI World Topographic Map Viewer)



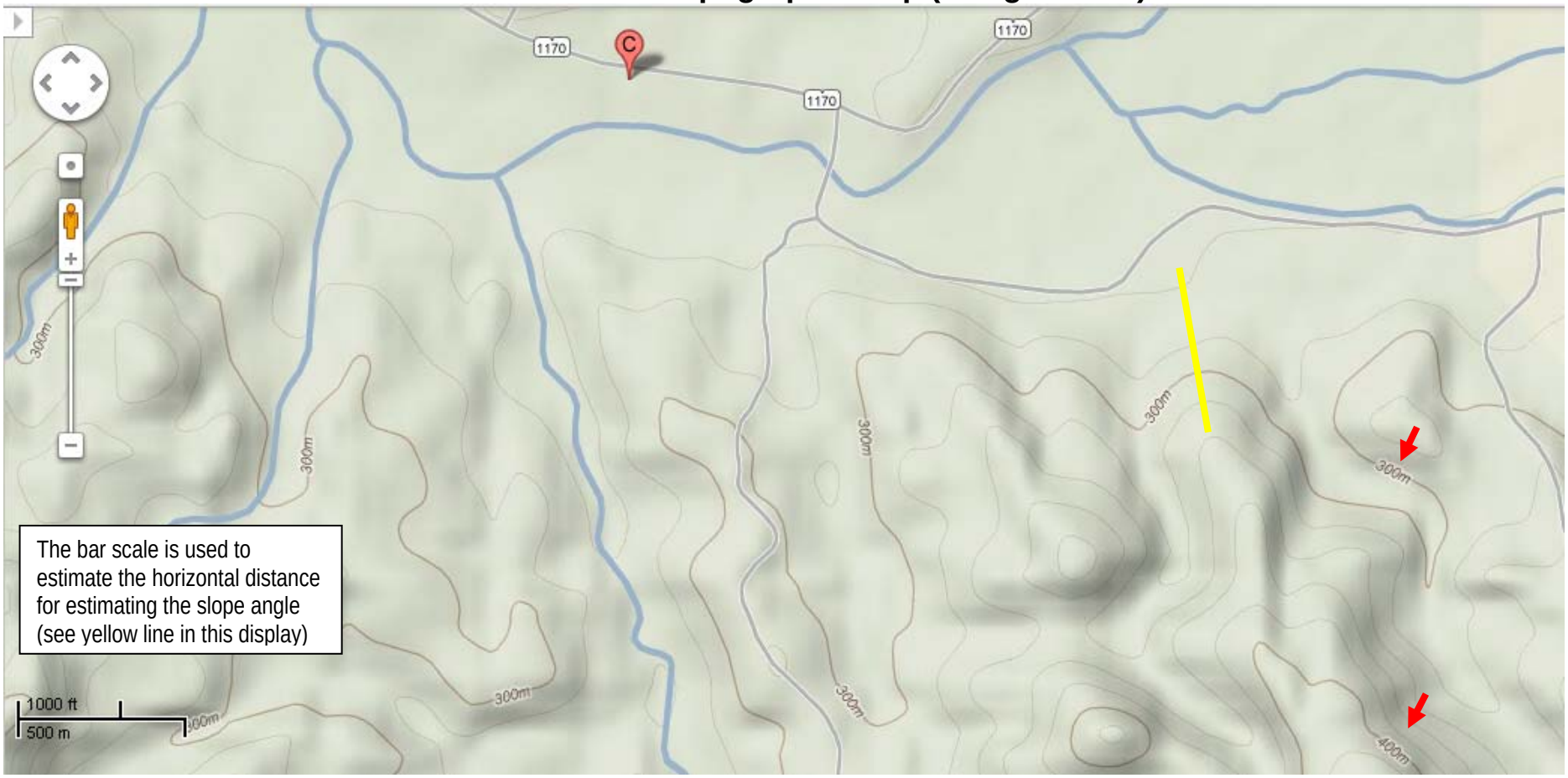

Note: This is the largest scale topo map display I could get from the ESRI World Topo map item mentioned in the recent ARRL newsletter.

## Thawangpha - Ban Na Fa Area Topographic Map (ESRI World Topographic Map Viewer)



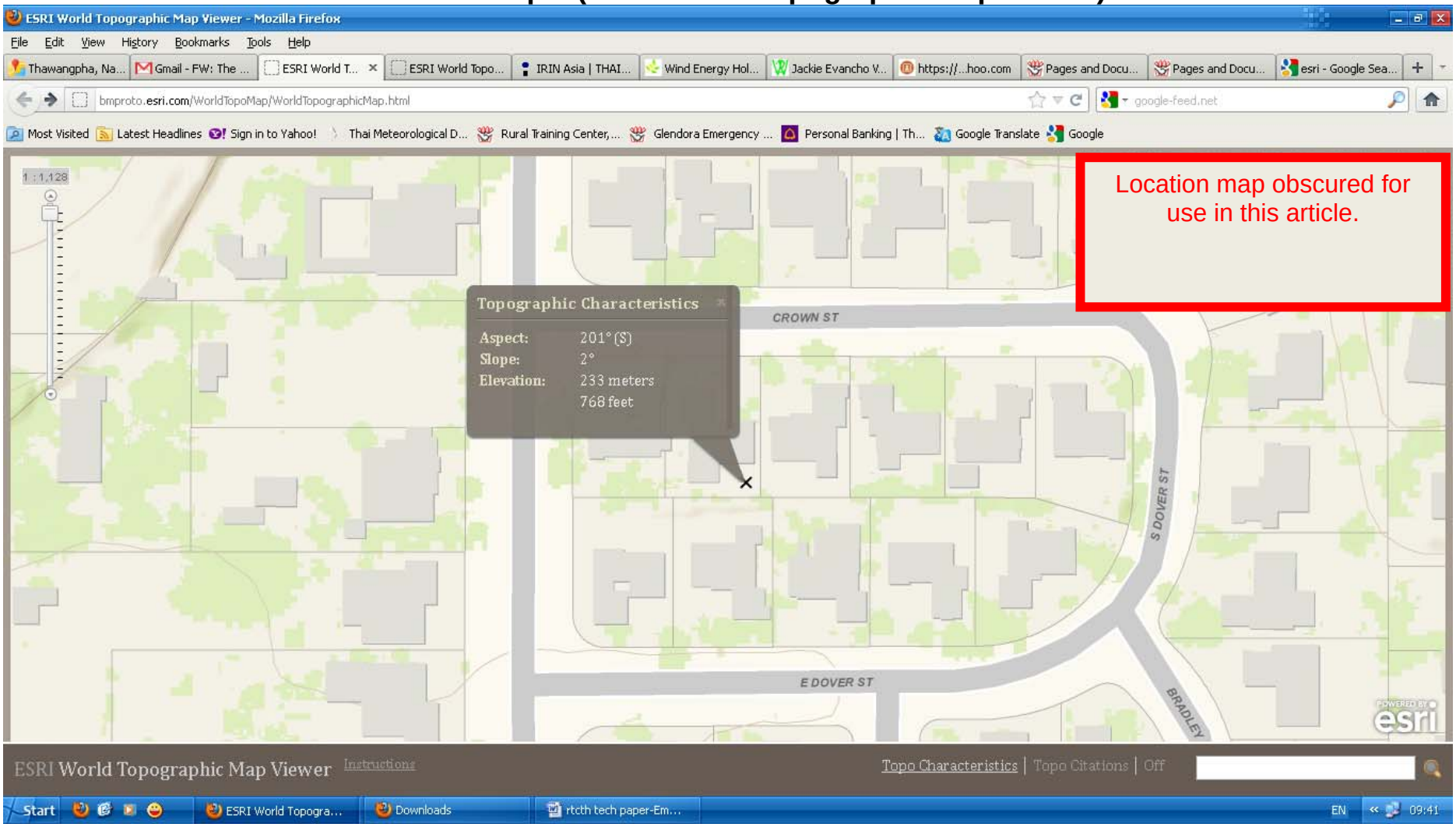

Largest display scale possible; no map data available at this time; no contour data displayed; no bar scale display function (only representative fraction given on original)
Source: http://bmproto.esri.com/WorldTopoMap/WorldTopographicMap.html#

## Ban Na Fa Area Topographic Map (Google Earth)




This topographic map display from Google Earth is what we currently use. The Index contours (red arrows) allow us to determine the contour interval as 20 m. The bar scale is used to estimate the horizontal distance for the slope angle estimate. **Note:** This display was enlarged from the screen shot take from Google Earth. However, the bar scale is still valid, and used with the contour data we can manually estimate the elevation, slope angle. However, at this scale, only a general impression can be ascertained. This is not suitable for a site survey for building or detailed site planning.

## US Test Sample (ESRI World Topographic Map Viewer)




**Note:** Don't be mislead by the "precise" numerical data given in the display. This is useful general information. But don't try to use this for site specific / construction planning.