

Digital Elevation Model of the Greater Toronto and Oak Ridges Moraine Areas, Southern Ontario (Chromo-Stereo Enhancement)
 Cell Resolution: 30 metres

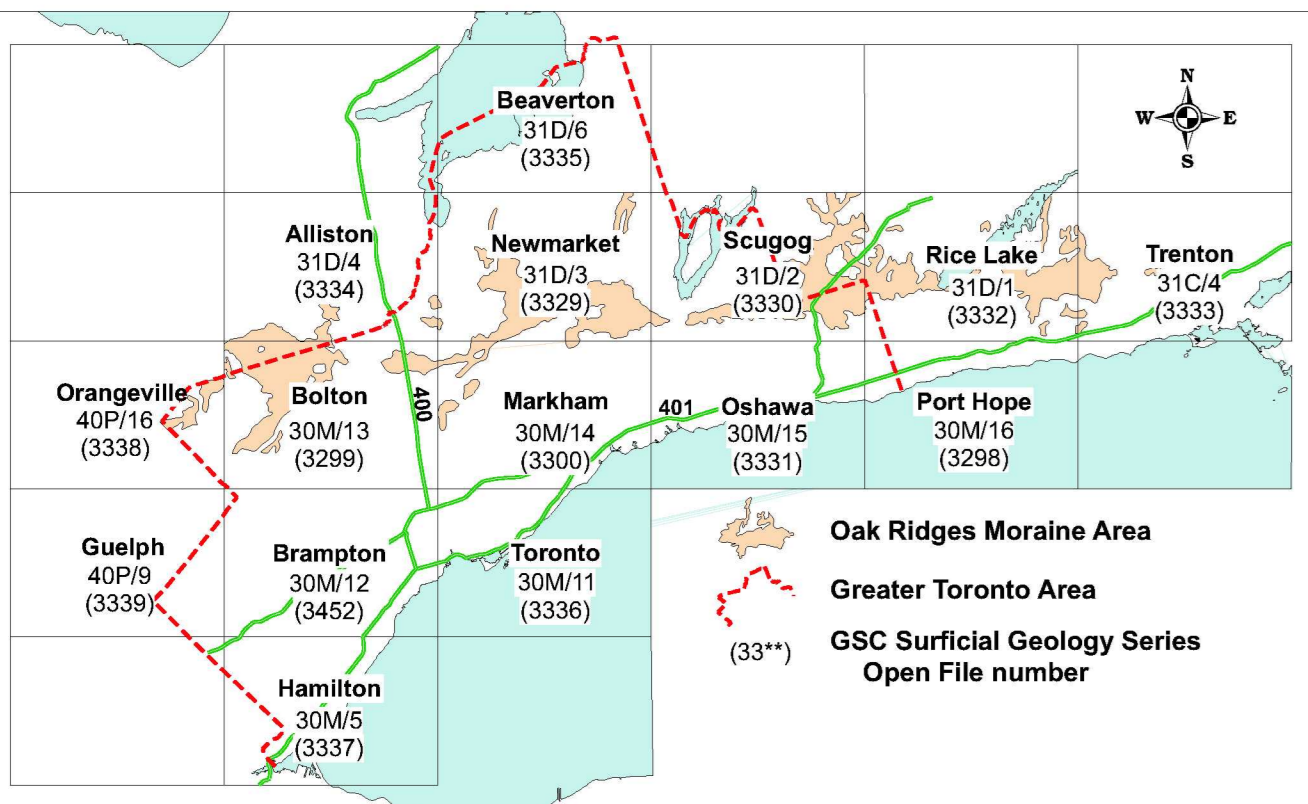


Figure 1: The Greater Toronto and Oak Ridges Moraine areas, southern Ontario, with 1:50,000 scale NTS maps used to generate the Digital Elevation Model outlined. Note, complete DEM area is not presented in accompanying map.

Recommended citation:
 Kenny, F.M., 1997. Digital Elevation Model of the Greater Toronto and Oak Ridges Moraine areas, southern Ontario, (Chromo-Stereo enhancement); Geological Survey of Canada and Ontario Ministry of Natural Resources, Geological Survey of Canada, Open File 3423, Modified August 2001.

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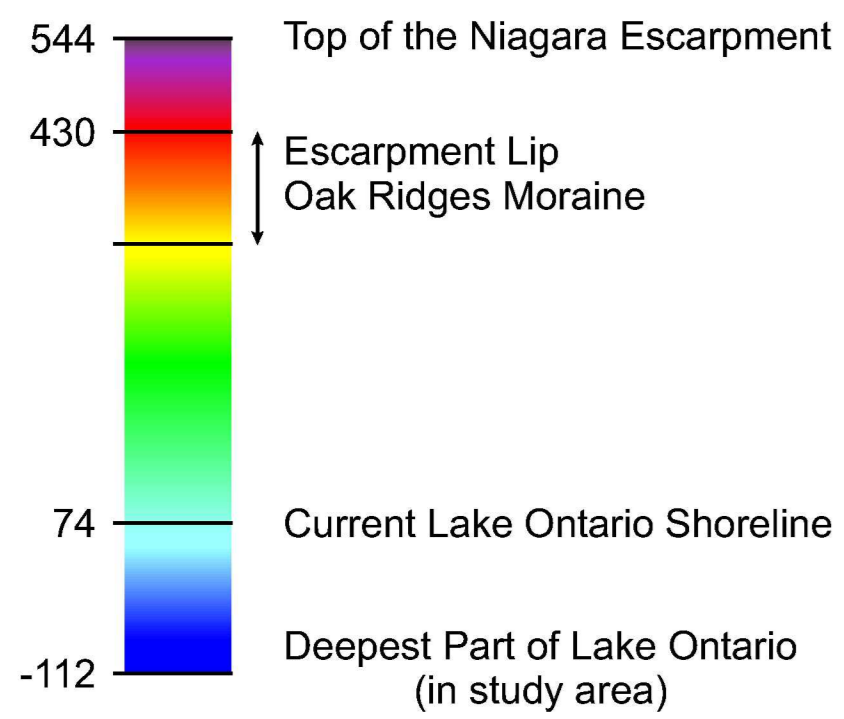


Figure 2: Colour (hue) elevation (metres) assignments.

DESCRIPTION
 For the Oak Ridges Moraine area of southern Ontario (Fig.1), a quality controlled, 32,000 square kilometre DEM has been developed, using 23, digital 1:50,000 scale National Topographic Series maps and 18 digital Lake Ontario bathymetric charts (Kenny et al., 1999). Enhancements of this model are being used as a component of a surficial geological mapping program in this area, the Oak Ridges Moraine NATMAP program.

An enhancement of the DEM, seen here, was designed to display both local (high frequency) and regional (low frequency) variations in terrain in a single composite. Local variations in elevation, corresponding largely to terrain features (such as drumlins, kames, hummocky terrain, etc.), were visually enhanced using a shaded relief enhancement technique. The regional variations in terrain, corresponding largely to the much broader terrain elements (such as the Oak Ridges Moraine, the Niagara Escarpment, etc.) were enhanced using the DEM to modulate a complete spectrum of colours (Fig. 2). These two DEM enhancements are terrain informative on their own, but when merged into a single composite in Intensity, Hue, Saturation (IHS) colour-space their individual characteristics are retained and the resulting composite provides an informative depiction of the terrain. The terrain mapping potential of this composite is further enhanced when viewed with Chroma-Depth tm glasses, where a 3-dimensional illusion is generated by a process known as chromo-stereoscopy (Toutin and Rivard 1995, Toutin 1997).

CREDITS
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REFERENCES
 Kenny, F.M., Paquette, J., Russell, H.A.J., Moore, A., and Hinton, M. 1999. Digital Elevation Model of the Greater Toronto Area, Southern Ontario and Lake Ontario Bathymetry. Geological Survey of Canada, Ontario Ministry of Natural Resources, and Canadian Hydrographic Service. Geological Survey of Canada, Open File D3678, 1 March 1999, digital release.
 Toutin, T. and Rivard, B. 1995. A new tool for depth perception of multi-source data. Photogrammetric Engineering and Remote Sensing, 61, No.10, 1209-1212.
 Toutin, T. 1997. Qualitative Aspects of Chromo-Stereoscopy for Depth Perception, Photogrammetric Engineering and Remote Sensing, 63, No.2, 193-203.

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