Which Historical DEM is Which?

November 22, 2018   3:22 PM

From the archive. Note that links no longer work.

2016-05-26
RE: YK 30m DEM details

> *You mentioned that there were 2 versions of the 30m DEM. How can I tell which one is which, and how do they differ?*
>
> *My second question is, I am aware that the DEM are not ideal to infer catchment boundaries, as the DEM do not represent bare ground. I don't know of another dataset we can use, so have been using them to delineate watersheds…– if there is a better dataset, pls let me know -.*

Thank you for the feedback on the presentation. ☺

The Yukon 30m DEM is from here
ftp://ftp.geomaticsyukon.ca/DEMs/30m_tiff/

The newer one is CDED a.k.a. Yukon 30m DEM v2 and is available from
ftp://ftp.geomaticsyukon.ca/DEMs/CDED_50k/
or http://www.geobase.ca/

v1 was generated from National Topographic Database (NTDB) vectors.

v2 was generated from Canvec a.k.a. planimetric or ortho-corrected NTDB .

Canvec was rubber sheeted to match Landsat 7 to within 30 meters. For many places in the territory the difference is negligible to non-existent, however a few locations have shifted up to hundreds of meters horizontally.

If you are given 2 DEM files for, say 115A, and don't know which is which:

- generate a shaded relief image for each one
- load the 1:50,000 watercourse layers for each of NTDB and Canvec
- look for the best stream alignment

In this image the top half is v1 relief and the bottom v2 relief, with shadows accentuated. In the circled area, see how the watercourses hold to the shadow line faithfully for each source. V1 matches NTDB and CDED matches Canvec.

The horizontal displacement here is about 100m.
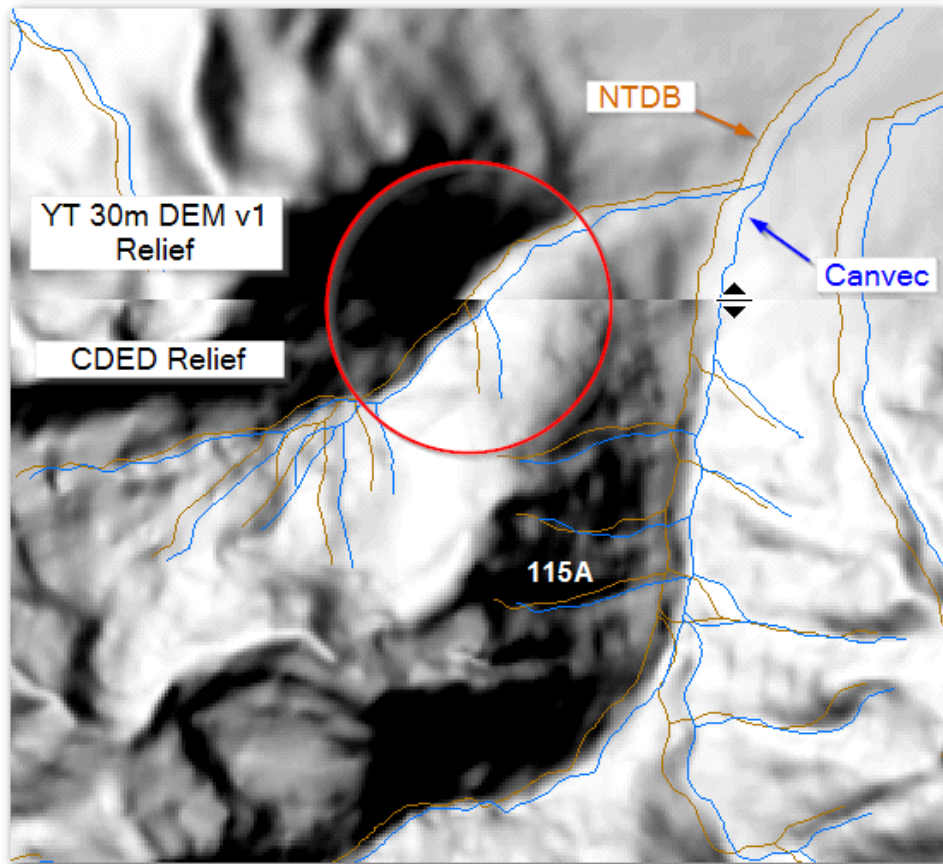
Hmmm, this would have been a good slide to put in!

Both of these DEMs are bare earth. It's newer satellite derived models (DSM) which have trees etc.

Unfortunately automated watershed delineation from these are only so-so. They simply aren't good enough resolution to do a good job. We've tried several times to generate watersheds automatically and have always ended up re-interpreting the boundaries by hand anyway (using the generated ones as a guide along with aerial photos and other data).

Best regards,

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