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TERRAIN TECHNIQUES

GALLERY

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PHOTOSHOP RELIEF LAYERING

Made using Adobe Photoshop and ArcGIS Pro.

Starting with a DEM in ArcGIS Pro, hillshade and shaded relief layers were made using their associated tools. Once exported from ArcGIS Pro the layers were imported into Photoshop. To highlight ridge lines, and shadows; transparencies, colour overlays, blending options and other Photoshop tools were used.

Auyuittuq National Park
Nunavut, CA
Scale 1:450,000

A STUDY IN RELIEF

IMHOF SWISS HILLSHADE

Made using ArcGIS Pro & the Terrain Toolbox
Created by Kenneth Field, Linda Beal.

The desired effect of a Swiss hillshade is to have yellow tones as highlights and blue-green tones as the shadows. This is done by combining two modified hillshades and a layer tinted DEM which are displayed with transparencies to produce an effect similar to the Swiss-style hillshade.

Joe Mountain, Yukon, CA
Scale 1:100,000

A STUDY IN RELIEF

HACKING A DEM SUNRISE

Made using ArcGIS Pro.

For this terrain I tried to replicate what a sunrise would look like, looking over the mountains high in the sky. This terrain was made using a hillshade overlaid with 3 different DEMs. The hillshade used a colour ramp that ranged from black - brown - purple - orange. One of the overlaying DEMs was used to highlight peaks. The 2 remaining DEMs were used as to replicate mist and darkness.

Richardson Mtns, Yukon, CA
Scale 1:200,000

A STUDY IN RELIEF

TOPOGRAPHIC

Made using ArcGIS Pro & Adobe Photoshop.

Hillshade made using the IMHOF Swiss Method. Vector data (roads, rivers, lakes, contours) and place names were then overlayed and symbolized. Once the basemap was made the map was imported into Photoshop where an oil painting effect was applied.

PEMBERTON

99

Alpine
Meadows

99

Whistler
Creek

WHISTLER

SPEARHEAD RANGE

FITZSIMMONS RANGE

Cheakamus Lake

Whistler
British Columbia, CA
Scale 1:200,000

Garibaldi
Lake

A STUDY IN RELIEF

PLAN OBLIQUE

Made using ArcGIS Pro & the Terrain Toolbox
Created by Kenneth Field, Linda Beal.

This 3D terrain was created From a single DEM
using the Plan Oblique geoprocessing tool from the
Terrain Toolbox at an inclination angle of 10
degrees.

Big Raven Plateau
British Columbia, CA
Scale 1:470,500

A STUDY IN RELIEF

MDOW HILLSHADE

Made using ArcGIS Pro.

Traditional computer-generated shaded-relief maps emphasize structures that happen to be obliquely illuminated, but wash out structures that are illuminated along the structural grain. This image, which emphasizes oblique illumination on all surfaces, is generated by combining computer-generated shaded-relief images illuminated from 225°, 270°, 315°, and 360° azimuth; each 30° above the horizon (Robert Mark).

Les Laurentides, Quebec, CA
Scale 1:250,000

A STUDY IN RELIEF

BUMP MAP

Made using ArcGIS Pro.

A bump map is used to show areas of vegetation.
The bump map is made using a LandSat Image.
Areas of vegetation are interpreted from the
LandSat data and are converted into bumps using
map algebra in the Raster Calculator tool to create a
generated texture.

Joe Mountain, Yukon, CA
Scale 1:120,000

A STUDY IN RELIEF

SOURCES

Digital Elevation Models accessed from CanVec - GeoGratis

Photoshop Relief Layering (Scale 1:450,000 - Canada Lambert Conformal Conic)
IMHOF Swiss Hillshade (Scale 1:100,000 - UTM, CSRS, Zone 8N)
Hacking a DEM Sunrise (Scale 1:200,000 - GCS North American 1983 CSRS)
Topographic (Scale 1:200,000 - GCS North American 1983 CSRS)
Plan Oblique (Scale 1:470,500 - UTM, CSRS, Zone 11N)
MDOW Hillshade (Scale 1:250,000 - UTM, CSRS, Zone 18N)
Bump Map (Scale 1:120,000 - UTM Zone 8 Northern Hemisphere)
(www.geogratis.gc.ca)

Vector Data accessed from CanVec GeoGratis

Date accessed - April 15th, 2017.
(www.geogratis.gc.ca)

Programs Used

Adobe Photoshop (Cover page, back page, Photoshop Relief Layering, Topographic
ArcGIS Pro (All Plates)
Project layout and text completed using Adobe InDesign

