

# topography

**Cirque:** A bowl shaped, hollow recess in a mountain resulting from ice erosion  
**Moraine:** A pile of unsorted rock debris left behind by glaciers

High mountains, deep canyons, pond-studded plateaus, ancient landslides, glacial lake bottoms, and rolling hills provide a rich variety of landforms in the Peel watershed.

To the southeast, the high, jagged peaks of the Backbone Ranges and Source Peaks, straddling the Yukon/NWT border, contain most of the remaining glaciers in the region and constitute one of the few glaciated areas along the continental divide.

To the south, the Wernecke Mountains host the headwaters of the Wind, Snake and Bonnet Plume Rivers. The Wernecke Mountains are part of the Selwyn Mountains (which also include the Hess and Logan Mountains further south). The Werneckes form a rugged series of mountain ranges characterized by sheer cliffs and steep talus slopes, dotted with small alpine lakes nestled in cirques and alpine valleys. With mountain peaks over 1800 metres high, the Werneckes include the Knorr and Bonnet Plume Ranges between the Snake and Bonnet Plume Rivers. The 2470-metre high glaciated Mount MacDonald dominates the surrounding area.

Flowing north from the Werneckes, the three rivers enter a terrain of undulating plateaus and low hills, the Peel Plateau and Bonnet Plume Basin. While a few hills reach to 900 metres in height, the Peel Plateau is mostly between 450 and 600 metres above sea level and the Bonnet

Plume Basin below 450 metres. The rivers flow in valleys carved broad and U-shaped by successive glacial advances. Small lakes are scattered throughout. Wetlands are common and extensive in the lower reaches of the rivers.

To the west of the watershed, the Ogilvie Mountains give rise to the other three main tributaries of the Peel River, the Hart, Blackstone and Ogilvie Rivers. The Taiga Valley separates the Werneckes and the South Ogilvie Mountains from the remainder of the Ogilvies. The South Ogilvie Mountains are higher than the northern ones and consist of rugged mountains and rolling tundra uplands. The rugged peaks often contain cirques and their slopes consist of broken rock called scree or talus. Unlike the northern Ogilvies, the southern Ogilvie Mountains were heavily glaciated by valley glaciers. As a result, you can find deep deposits of gravel in the valleys and lower slopes that were left behind by glaciers in the form of moraines.

The northern Ogilvie Mountains are rolling mountains and hills composed mainly of sedimentary rocks such as limestone, dolomite and shales. There are large expanses of bare scree slopes and the summits are bare too. These mountains have been described as looking like large piles of rock rubble. In places erosion has carved ridges into towers and pinnacles called ramparts or castellations. There is little sign of glaciation. The Taiga Ranges form

The Wernecke Mountains in the Snake River region. [CA]



the eastern extent of the North Ogilvie Mountains.

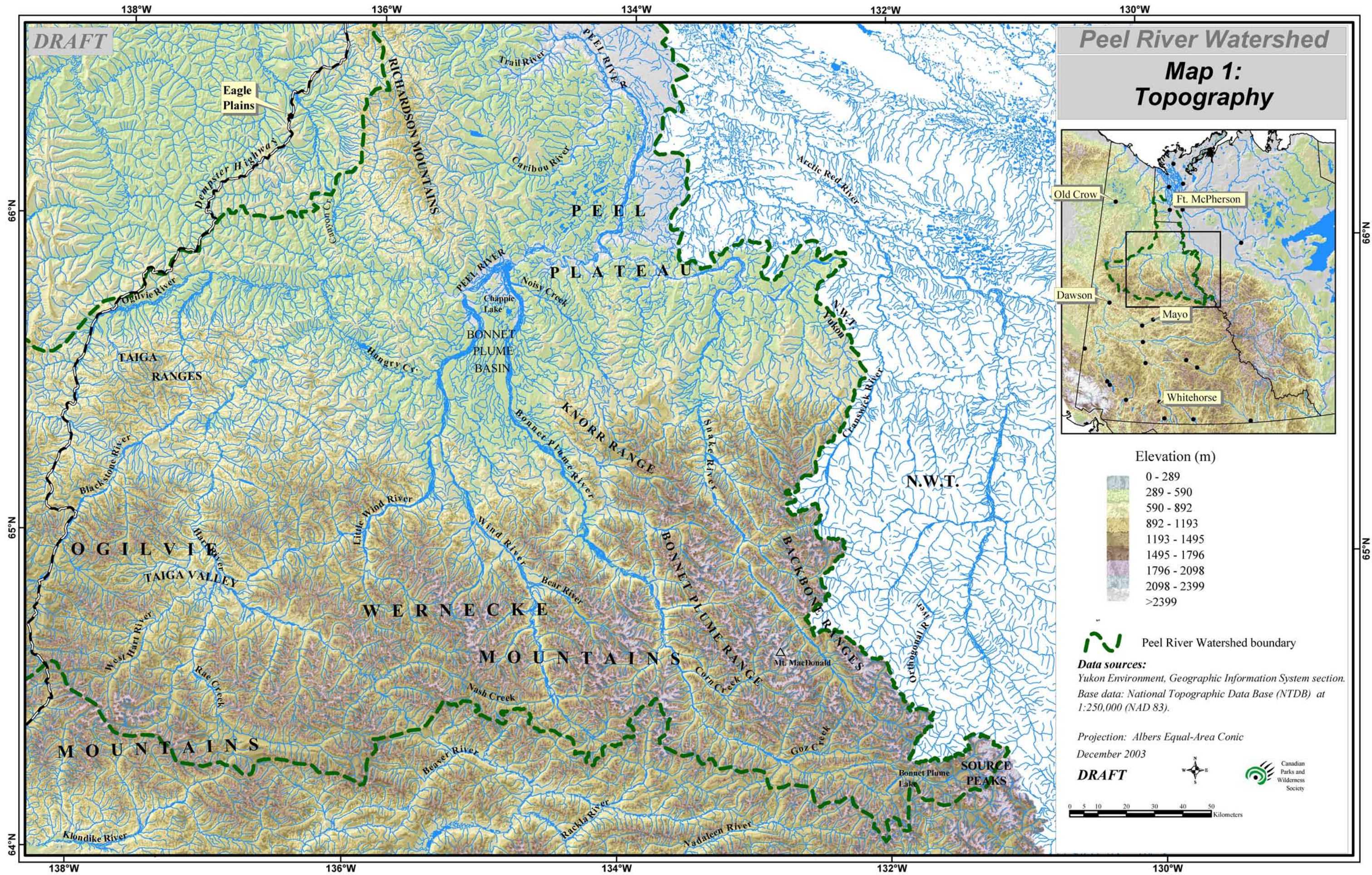
To the north of the Peel River watershed are the Richardson Mountains from which smaller tributaries like the Caribou, Trail and Road Rivers drain. The Richardson Mountains run in a north-south direction and are the northernmost extension of the Rocky Mountains chain. They mark the divide between rivers flowing into the Arctic Ocean and those flowing into the Pacific Ocean. Only the eastern side of the Richardson Mountains has been glaciated. Peaks are highest in the southern Richardson Mountains, where some reach elevations of 1600 metres above sea level or more. The northern Richardson Mountains are more subdued. There are few lakes in the Richardson Mountains.

Sources: *Bostock, 1948; Calef, 1984; CPAWS, 2000; Oswald and Senyk, 1977*

**middle:** The Peel Plateau is studded with ponds and wetlands complexes. [RR]

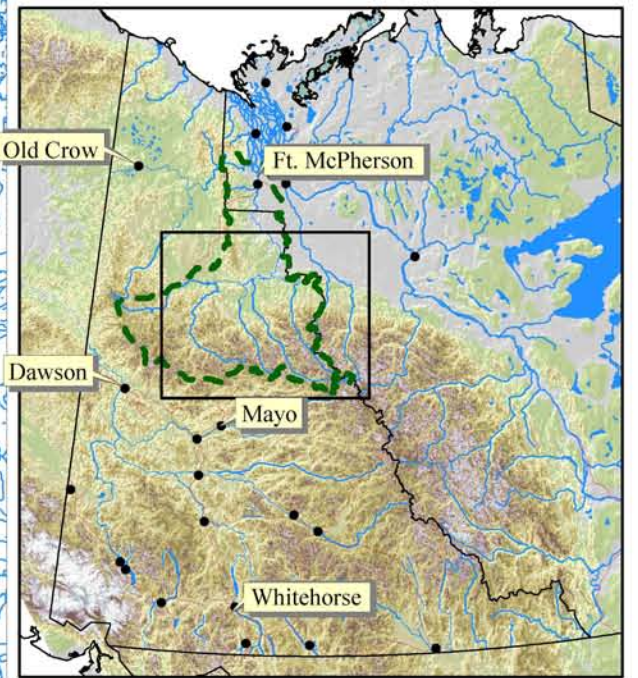
**bottom:** Rivers in the Werneckes flow through valleys carved broad and u-shaped by successive glacial advances. [RR]



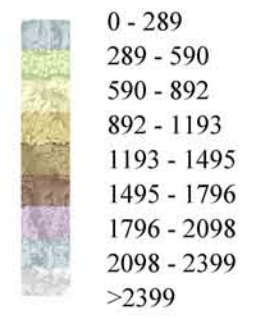


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**Peel River Watershed**  
**Map 1: Topography**



Elevation (m)



**Peel River Watershed boundary**

**Data sources:**  
 Yukon Environment, Geographic Information System section.  
 Base data: National Topographic Data Base (NTDB) at 1:250,000 (NAD 83).

**Projection:** Albers Equal-Area Conic  
 December 2003

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