

ROCKY MOUNTAIN TRENCH

by Mike Nash

80 kilometres east of Prince George is the Rocky Mountain Trench. Beyond that, looking east-northeast, you can see the western edge of the Rocky Mountains and the ancient continent of North America, called the Cordilleran Miogeocline.

About 160 million years ago, the first of a succession of Pacific Plate fragments called Terranes, began to collide with the western edge of the North American Continent, pushing up the Earth's crust to create the Rocky Mountains, and later to fashion the rest of British Columbia as successive Terranes piled up one behind the other. For a while, the site of present-day Prince George was situated on the ocean, and the Continent of Australia was located offshore. The Cassiar Terrane was the first to collide with North America, and today stretches northwest from present-day Valemount high into the Yukon Territory. As the Cassiar Terrane struck the ancient Continent, it began to slip sideways in a northwesterly direction in what is called a Strike Slip Fault. The result of this action was to create the northern Rocky Mountain Trench which, with the Tintina Trench in the Yukon, is one of the longest linear features on the Earth. After striking the edge of continental North America, the Cassiar Terrane slipped in a northwesterly direction during many millions of years for a distance of about 750 kilometres.

To get a sense of the geological complexity of North Central British Columbia, as you drive west along Highway 16, starting in Sugarbowl-Grizzly Den Provincial Park 80 kilometres east of Prince George, to British Columbia's Interior Plateau at Fraser Lake, a distance of about 250 kilometres, you cross five successive Terranes. Beginning with the Cassiar Terrane at Sugarbowl, you cross onto the Slide Mountain Terrane at Purden Lake, then onto the Quesnellia Terrane at Tabor Lake, onto the Cache Creek Terrane at Cluculz Lake, and onto the Stikinia Terrane at Fraser Lake. The Cassiar Terrane in Sugarbowl-Grizzly Den Provincial Park, and the Cordilleran Miogeocline north across the valley from there make up the Continental Margin.



Rocky Mountain Trench and the Fraser River viewed from Driscoll Ridge, 100 km east of Prince George: Photo © Mike Nash

Many new protected areas were added along the Yellowhead Highway portion of the Rocky Mountain Trench during British Columbia's Protected Area Strategy of the late 1990s. These include *Sugarbowl-Grizzly Den Provincial Park* (including the scenic and historic *Grand Canyon of the Fraser*), *Slim Creek Provincial Park*, *West Twin Provincial Park*, *Erg Mountain Provincial Park*, *Ptarmigan Creek Provincial Park*, and more. For YouTube slide shows of some of these places, see <http://www3.telus.net/pgoutdoors>

The Yellowhead Highway 16, heading east from Prince George towards the world-renowned Rocky Mountain Parks of Mount Robson, Jasper and Banff is a marvelous scenic wildlife corridor where moose, deer, mountain caribou, elk, coyotes, wolves, black bears, grizzly bears, lynx etc. can be seen, especially in the spring feeding on new roadside vegetation, and where primordial forests and wild mountain streams still, in places, tumble down to the roadside.