

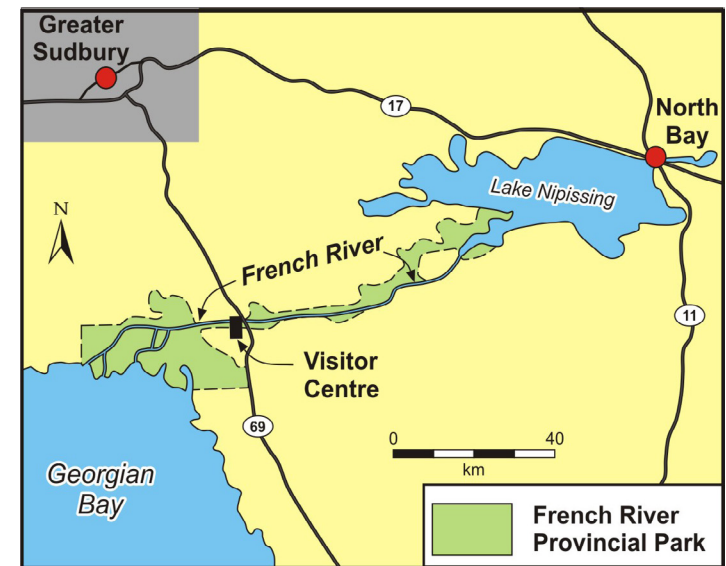
French River Provincial Park

A Historic Waterway Through Canadian Shield Gneiss

Between Parry Sound and the city of Greater Sudbury, Highway 69 crosses a rocky Canadian Shield landscape characterized by forested bedrock knolls, hills, wetlands and many small lakes. Ninety kilometres north of Parry Sound, Highway 69 passes through French River Provincial Park. The French River, connecting Lake Nipissing with Georgian Bay, has been an important waterway for First Nations. It was also a vital link in the canoe route for French explorers, fur traders and voyageurs between Montreal, the upper Great Lakes and the far West. The French River has been designated a Canadian Heritage River and remains a very popular recreational canoe route. French River Provincial Park protects this historic waterway. The park has an excellent visitor centre, with easy access, that highlights the history, geology and ecology of this famous waterway. Trails and a suspension bridge provide striking views of the river's rock-walled gorge.



A typical Canadian Shield landscape at Key River along Highway 69, south of French River Provincial Park.

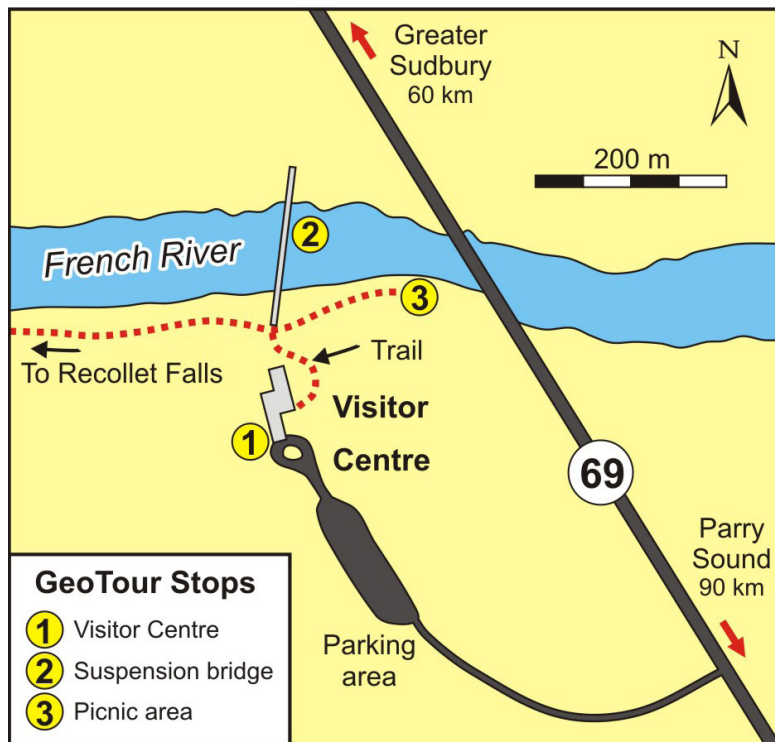


French River Provincial Park protects the historic canoe route from Georgian Bay to Lake Nipissing

French River Provincial Park

How to get there

French River Provincial Park Visitor Centre is 60 km south of Greater Sudbury along Highway 69. (Note that when the four-laning of Highway 69 is completed, the highway will be redesignated as Highway 400.)



Map of French River Provincial Park near the Visitor Centre. The trail from the Visitor Centre leads to a nearby suspension bridge and picnic area, and 1.5 km westward, to Recollet Falls, a small, 100 m wide cascade.

Canadian Shield and Gneiss

French River Provincial Park sits near the southern limits of the Canadian Shield, a vast and largely unsettled region of Canada known for its rocky landscapes, thin soils and abundant lakes and wetlands. The Shield forms the ancient geological core of the North American continent and has some of the oldest rocks found on Earth. These ancient rocks are largely hard and resistant granite, gneiss and volcanic rocks that were formed more than a billion years ago.



French River lies along the southern limits of the Canadian Shield.

A close-up of gneiss displaying light and dark layers that have been contorted into folds by ancient Earth forces.

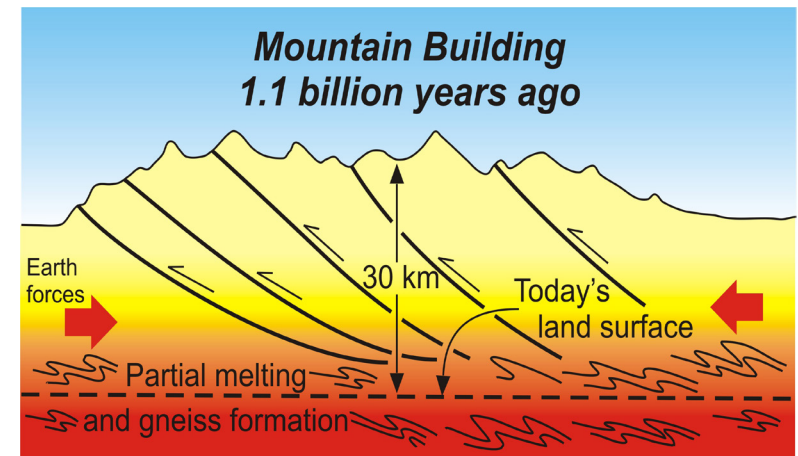


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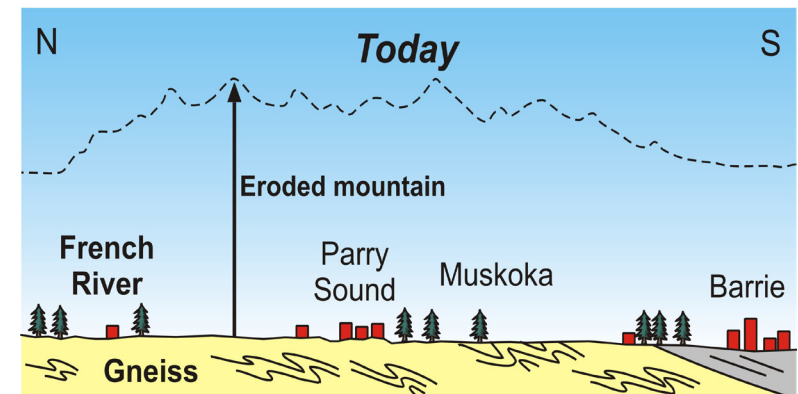
South of Greater Sudbury, *gneiss* (pronounced “nice”) is the dominant type of rock. Gneiss is recognized by the presence of alternating dark- and light-coloured layers, or bands, with the latter characterized by a granitic “salt-and-pepper” texture. This granite-like texture reflects an origin deep in the Earth where pre-existing rocks, perhaps sandstone and shale, were subjected to temperatures and pressures close to the melting point of the rock. Bands in the gneiss are often contorted, suggesting conditions where Earth forces squeezed and deformed these rocks like modelling clay during this period of metamorphism.

People find the colours and patterns of gneiss appealing and so it is used as a building stone to face buildings, floors and countertops. Several quarries operate to the north and south of French River Provincial Park to quarry this rock for building stone and for landscaping.

Most Canadian Shield rock south of Greater Sudbury is part of a belt of gneiss that extends from Ontario to Labrador. This gneiss is the eroded remnants of an ancient mountain range that existed along the southeastern edge of North America a billion years ago and has since been worn away by erosion. Today all that remains are the once deeply buried parts of these mountains, now exposed at the Earth’s surface. This ancient mountain range formed in much the same way that the Himalaya mountains are forming today, where the Indian continent is being pushed into the Asian continent by tectonic forces.



A road cut through a bedrock knoll along Highway 69 south of French River exposes folded layers of Canadian Shield gneiss.



Gneiss represents the eroded roots of ancient mountains, like the ones shown in this diagram. Pre-existing rocks, perhaps sandstone and shale, were changed to gneiss during collision of 2 ancient continents.

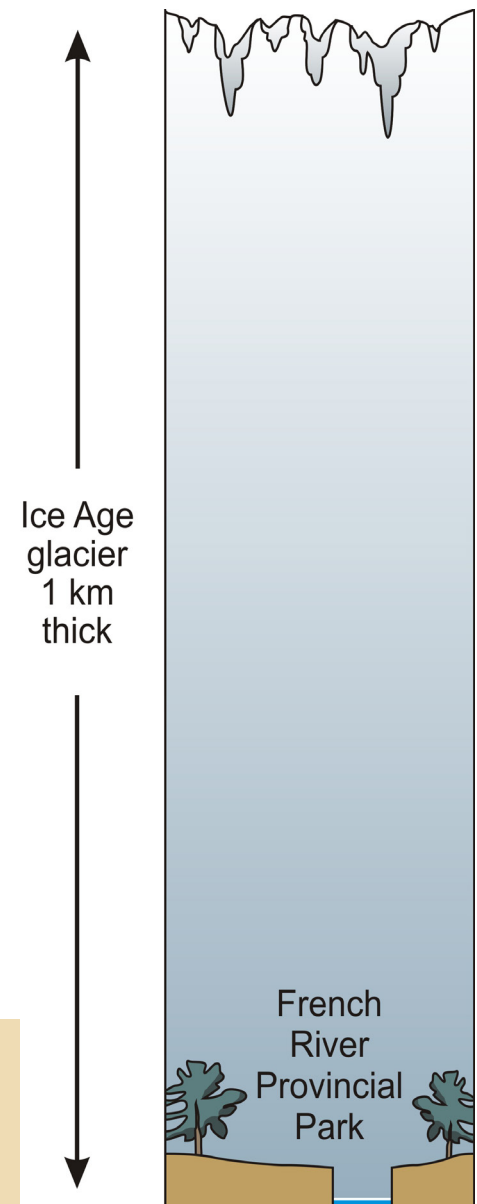
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Imagining an Ice Age

Fourteen thousand years ago, the French River region lay below at least a kilometre of slow-moving glacier ice. This was the final stage of the Ice Age, a time over the past 2 million years when vast continental ice sheets covered much of Canada and advanced and melted back many times. As the ice sheets advanced, sand, mud and stones lodged in the base of the ice scratched, ground and polished the rock surface below, sculpting today's familiar rocky landscapes of the Canadian Shield.



During the Ice Age, a series of vast continental ice sheets covered almost all of Canada.



Imagine French River Provincial Park buried below a kilometre of glacier ice!

French River Provincial Park

➤ Stop 1: Visitor Centre

GPS co-ordinates: N46° 1.019', W80° 35.138'

French River Provincial Park has a fine visitor centre that is well worth a visit. Its award-winning building houses exhibits that weave the story of the river, from its geological origins and ecology, to its role as a vital historic waterway for French explorers, fur traders and voyageurs.



Stop 1: Displays inside the Visitor Centre include geological exhibits about the local gneiss bedrock and its mineral components, and how Ice Age glaciers sculpted the land.

Stop 1: The Visitor Centre (background) at French River Provincial Park is built into a rolling hillside of glacier-smoothed bedrock knolls of gneiss (foreground).



French River Provincial Park

➤ Stop 2: Suspension Bridge

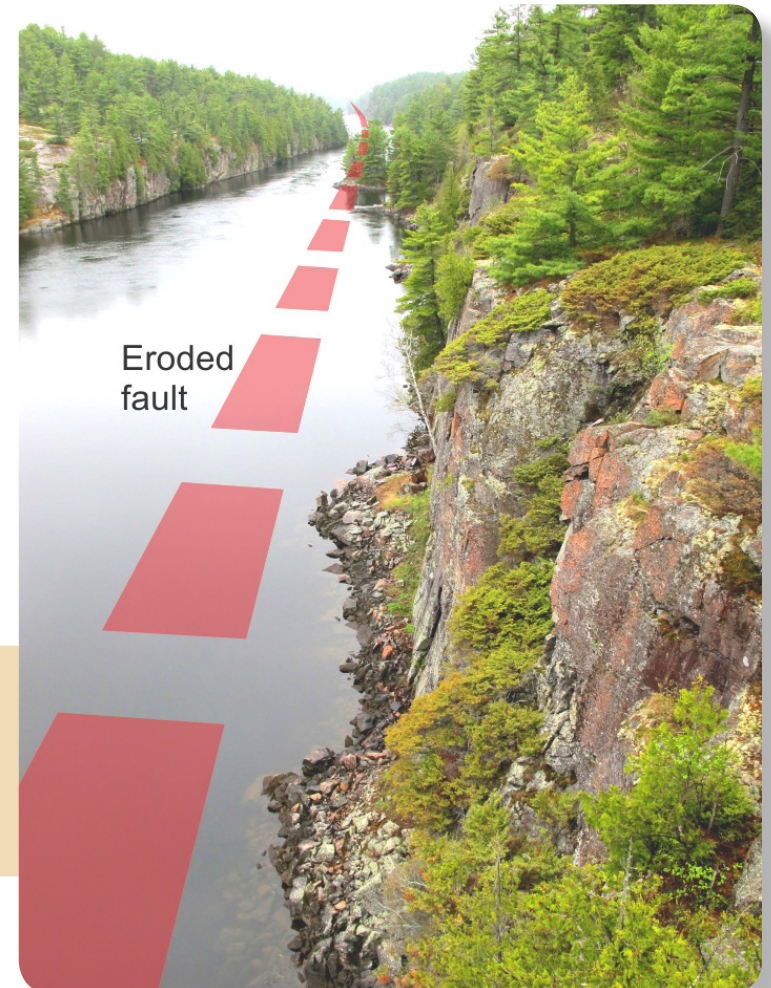
GPS co-ordinates: N46° 1.117', W80° 35.135'

A short walk from the Visitors Centre leads to a snowmobile suspension bridge across the French River gorge. This bridge is the largest of its kind in the world, at 156 m long, 3.7 m wide and 27 m high over the water surface. You can feel the bridge sway on a windy day! The bridge provides excellent views up and down river of the rock-walled gorge and waterway. You will be impressed by the surprisingly straight course of the gorge to the west of the bridge. The river follows the eroded trace of an ancient geological fault.



Stop 2: A view, from the picnic area, of the suspension bridge across the French River. The waterway flows through a striking vertical-walled rock gorge.

Stop 2: Looking west from the suspension bridge along the straight, cliff-bound gorge of the French River. The remarkably linear course of the waterway and vertical rock walls reflect its origin as an ancient geological fault, which later became eroded by glaciers and water flowing along the broken rocks filling the fault.



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➤ Stop 3: Picnic Area

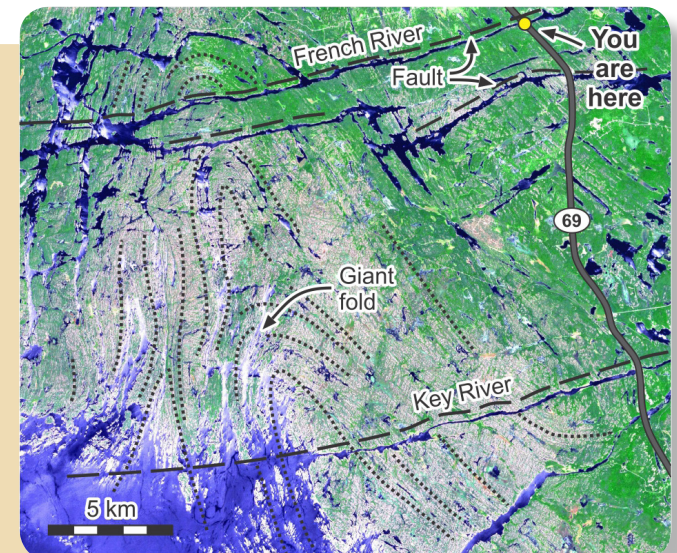
GPS co-ordinates: N46° 1.098', W80° 35.050'

A short walk to the east along the French River from the south end of the suspension bridge leads to a picnic area on the rock bluffs above the river. At the picnic area, the glacier-smoothed surface of the gneiss bedrock displays layering that is contorted into folds. These layers and folds in the gneiss reflect an origin deep in the Earth below an ancient mountain range that formed when 2 ancient continents collided. The gneiss at your feet was a different kind of rock, perhaps sandstone and shale, before the 2 continents collided. During the mountain building these rocks were subjected to temperatures and pressures approaching the melting point of the rock, causing the minerals in the rock to recrystallize and the rock itself to behave like putty, flattening and stretching into layers, and crumpling into convolute folds. Such folds occur at all scales within the bedrock of the French River region. The largest folds are tens of kilometres in size and visible from space.



Stop 3: Folds in layered gneiss are exposed at the picnic area. Note the small fractures that form narrow furrows cutting across the layering of the gneiss bedrock. These small-scale features at your feet are repeated at a much larger scale, and are visible from space, as illustrated in the satellite image.

Stop 3: A satellite image of the French River region shows giant folds in the gneiss bedrock created during an ancient period of mountain building. The French River, along with other rivers in the region, follows the trace of geological faults that cut the folded bedrock. Erosion of the fractured rock by Ice Age glaciers and meltwater along the geological faults has created the channels for the French River and several other major rivers. Image generated from Natural Resources Canada GeoBase Orthoimage 2005–2010 under the Open Government Licence—Canada.



French River Provincial Park

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