

# DV 2001-04

Geological map of Québec, edition 2001

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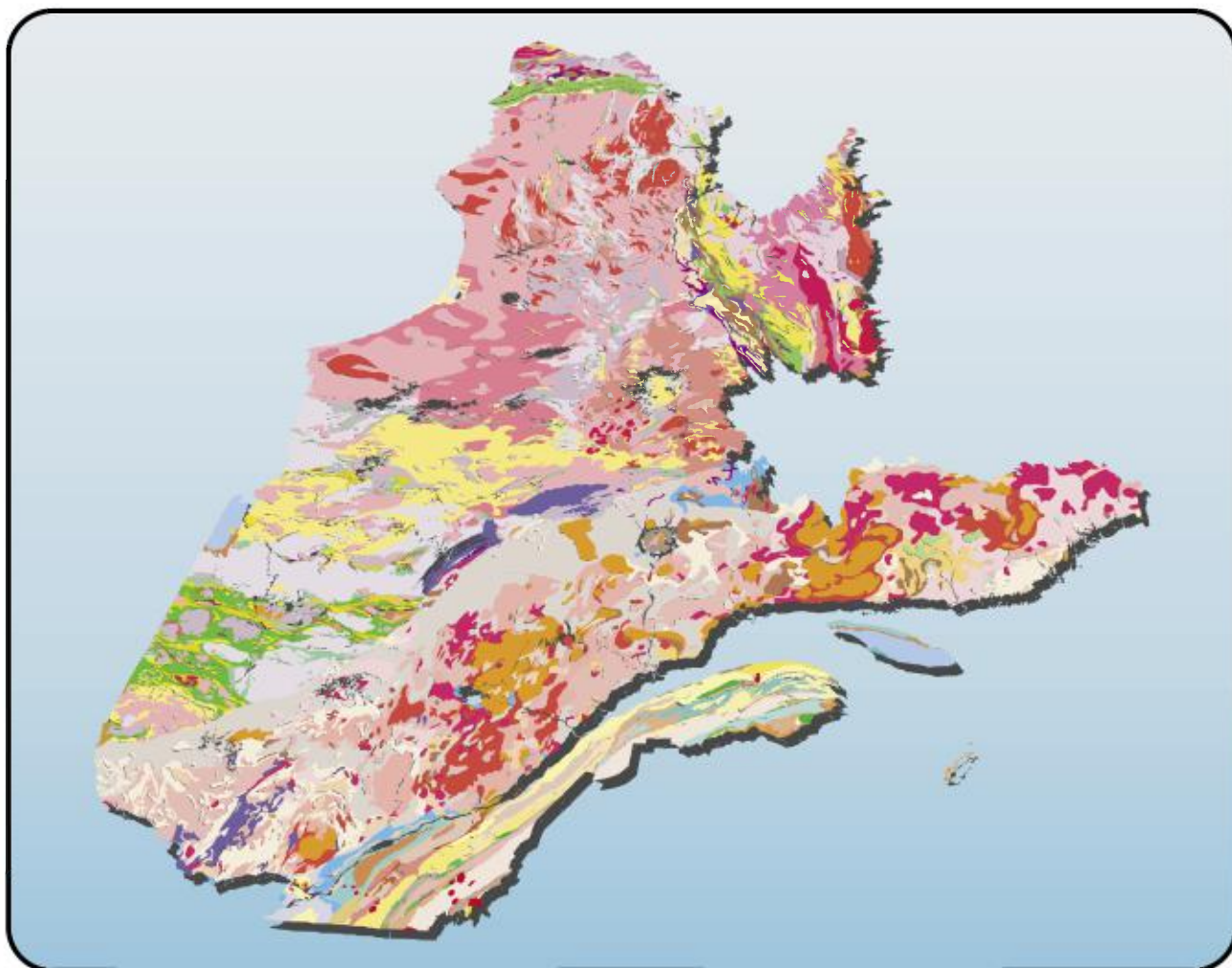
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# Geological map of Québec - Edition 2001

Robert Thériault and Chantal Bilodeau

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## DV 2001-04 : Geological map of Québec – Edition 2001

Robert Thériault et Chantal Bilodeau

### INTRODUCTION

This document includes a new geological map of Québec (edition 2001) at a scale of 1 : 2 000 000 prepared by the Ministère des Ressources naturelles (MRN) during the last year. The completion of several new geological mapping surveys in various parts of Québec by the MRN and the Geological Survey of Canada (GSC) over the last 15 years made it necessary to update the former geological compilation map of Québec published by the MRN (Avramtchev, 1985).

The 2001 edition of the geological map of Québec is a compilation of the results of geological mapping surveys carried out by the MRN at a scale of 1 : 250 000, and of geological compilation maps from various sources ranging in scale from 1 : 50 000 to 1 : 1 000 000. While being based on lithological characteristics, the map also presents the major stratigraphic units recognized in Québec. The geology of Québec is subdivided into 5 major divisions, which are : 1) Superior Province; 2) Churchill Province; 3) Grenville Province; 4) Appalachian Province; and 5) St. Lawrence, Anticosti and James Bay platforms.

The Superior Province is an Archean craton that occupies the central part of the Canadian Shield. It is composed of Archean terranes discordantly overlain by Proterozoic and Paleozoic sedimentary rocks. The geology of the northern part of the Superior Province has been simplified from 1 : 250 000 scale geological maps completed during the last three years by the MRN as part of the Far North mapping project. The integration of new geoscientific data in this portion of the map represents a significant improvement compared to the previous geological map of Québec, where the geology was compiled from 1 : 1 000 000 scale reconnaissance mapping surveys dating back to the fifties and sixties (Eade, 1966; Stevenson, 1968). The geology of the southern part of the Superior province, which is made up of the Abitibi and Pontiac subprovinces, is taken mainly from a 1 : 500 000 scale compilation map prepared by the MRN (Hocq, 1990).

The Churchill Province is composed mainly of an assemblage of cratonic blocks of Archean to Paleoproterozoic age, which are bordered by the Nouveau-Québec, Ungava and Torngat Paleoproterozoic orogenic belts. The geology of the eastern part of the Churchill is taken mainly from a 1 : 1 000 000 scale compilation map of the GSC (Wardle *et al.*, 2000), whereas the northern portion was compiled from geological maps published at a scale of 1 : 50 000 and 1 : 100 000 by the MRN and the GSC (St-Onge and Lucas, 1997).

The Grenville Province is a polycyclic mobile belt last deformed during the Grenville Orogeny. It is formed of a complex assemblage of diverse lithologies that include widely exposed, high-temperature intrusive rocks (anorthosites,

mangerites, charnockites). To the southeast, the Grenville Province is discordantly overlain by Cambro-Ordovician rocks of the St. Lawrence Platform. In this new edition, the geology of the Grenville Province is the same as on the previous geological map of Québec. However, the preparation of new 1 : 250 000 scale compilation maps expected to be completed during the upcoming year will take into account the recent geological mapping surveys. The updated geology of the Grenville Province will be included in the 2002 edition of the geological map of Québec.

The Appalachian Province and the platform sequences consist mainly of Paleozoic sedimentary rocks occurring along the edge of the Canadian Shield. The Appalachians are composed of two large structural units, the Taconian and Acadian. The geology of the Appalachian Province and St. Lawrence Platform is taken from the geological highway map of the Lower St. Lawrence and Gaspé Peninsula published by the MRN in 1994, and also incorporates results of the new geological mapping surveys.

This version of the geological map of Québec will be updated again next year (edition 2002), and will incorporate the results of the new geological mapping surveys, as well as the 1 : 250 000 scale compilation maps prepared by the MRN during the upcoming year.

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# MRN (SIGÉOM) COMPILATION MAPS USED DURING PREPARATION OF THE 1 : 2 000 000 SCALE MAP

## 1 : 50 000 scale

NTS* 12L/03 (SI-12L03-C3G-98J)	NTS 35F/16 (SI-35F16-C3G-98E)
NTS 12L/04 (SI-12L04-C3G-98J)	NTS 35G/01 (SI-35G01-C3G-99I)
NTS 31G/09 (SI-31G09-C3G-99F)	NTS 35G/02 (SI-35G02-C3G-00H)
NTS 35F/01 (SI-35F01-C3G-98E)	NTS 35G/03 (SI-35G03-C3G-00G)
NTS 35F/02 (SI-35F02-C3G-98E)	NTS 35G/04 (SI-35G04-C3G-00H)
NTS 35F/03 (SI-35F03-C3G-00H)	NTS 35G/05 (SI-35G05-C3G-00H)
NTS 35F/04 (SI-35F04-C3G-98E)	NTS 35G/06 (SI-35G06-C3G-00H)
NTS 35F/05 (SI-35F05-C3G-98E)	NTS 35G/07 (SI-35G07-C3G-00H)
NTS 35F/06 (SI-35F06-C3G-98E)	NTS 35G/08 (SI-35G08-C3G-98F)
NTS 35F/07 (SI-35F07-C3G-98E)	NTS 35G/09 (SI-35G09-C3G-98F)
NTS 35F/08 (SI-35F08-C3G-00G)	NTS 35G/10 (SI-35G10-C3G-00H)
NTS 35F/09 (SI-35F09-C3G-00G)	NTS 35G/11 (SI-35G11-C3G-00H)
NTS 35F/10 (SI-35F10-C3G-98E)	NTS 35G/12 (SI-35G12-C3G-00H)
NTS 35F/11 (SI-35F11-C3G-98E)	NTS 35G/13 (SI-35G13-C3G-00H)
NTS 35F/12 (SI-35F12-C3G-99H)	NTS 35G/14 (SI-35G14-C3G-00G)
NTS 35F/13 (SI-35F13-C3G-99H)	NTS 35G/15 (SI-35G15-C3G-00G)
NTS 35F/14 (SI-35F14-C3G-99H)	NTS 35G/16 (SI-35G16-C3G-98E)
NTS 35F/15 (SI-35F15-C3G-98I)	

## 1 : 250 000 scale

NTS 11N (SI-11N-G2B-00C)	NTS 33J (SI-33J-C2G-99D)
NTS 12E (SI-12E-C2G-00B)	NTS 33K (SI-33K-C2G-00I)
NTS 21M (SI-21M-C2G-01A)	NTS 33L (SI-33L-C2G-00I)
NTS 23K (SI-23K-C2G-01A)	NTS 33M (SI-33M-C2G-99A)
NTS 23N (SI-23N-G2P-00I)	NTS 33N (SI-33N-C2G-99A)
NTS 24A (SI-24A-C2G-01A)	NTS 33O (SI-33O-C2G-99A)
NTS 24B (SI-24B-C2G-01A)	NTS 33P (SI-33P-C2G-99A)
NTS 24F (SI-24F-G2P-01B)	NTS 34B (SI-34B-C2G-99D)
NTS 24G (SI-24G-C2G-00B)	NTS 34C (SI-34C-G2P-99D)
NTS 24H (SI-24H-C2G-00B)	NTS 34F (SI-34F-G2P-98E)
NTS 24J (SI-24J-C2G-00B)	NTS 34K (SI-34K-C2G-99D)
NTS 24N (SI-24N-C2G-01A)	NTS 34L (SI-34L-C2G-99D)
NTS 25F (SI-25F-C2G-00K)	NTS 34M (SI-34M-C2G-99D)
NTS 31M (SI-31M-C2G-00G)	NTS 34N (SI-34N-C2G-99D)
NTS 32E (SI-32E-C2G-00K)	NTS 34O (SI-34O-C2G-99F)
NTS 32I (SI-32I-G2P-01B)	NTS 35B (SI-35B-C2G-00B)
NTS 32J (SI-32J-G2P-01A)	NTS 35C (SI-35C-C2G-99A)
NTS 32K (SI-32K-G2P-01B)	NTS 35D (SI-35D-C2G-99A)
NTS 32L (SI-32L-C2G-00A)	NTS 35E (SI-35E-C2G-00B)
NTS 32M (SI-32M-C2G-00A)	NTS 35I (SI-35I-C2G-00B)
NTS 32N (SI-32N-C2G-01A)	NTS 35J (SI-35J-C2G-00B)
NTS 33E (SI-33E-C2G-00J)	NTS 35K (SI-35K-C2G-00B)
NTS 33H (SI-33H-C2G-00B)	NTS 35L (SI-35L-C2G-00B)
NTS 33I (SI-33I-C2G-99D)	

\* NTS : National Topographic System