References

Deblonde, C., Cocking, R.B., Kerr, D.E., Campbell, J.E., Eagles, S., Everett, D., Huntley, D.H., Inglis, E., Parent, M., Plouffe, A., Robertson, L., Smith, I.R., and Weatherston, A., 2017. Surficial Data Model, version 2.3.0: revisions to the science language of the integrated Geological Survey of Canada data model for surficial geology maps; Geological Survey of Canada, Open File 8236, 1 .zip file. https://doi.org/10.4095/302717

Prest, V.K., 1973. Surficial deposits of Prince Edward Island; Geological Survey of Canada, Map 1366A, scale 1:126 720. https://doi.org/10.4095/108971

Table 1. Radiocarbon ages.

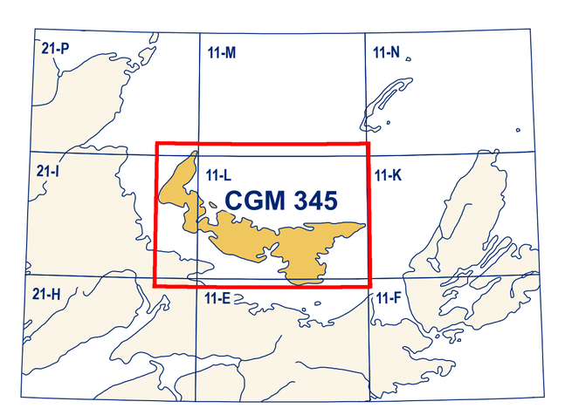
Map no.	Age (BP 1950)	Lab. Identification	Elev. (m a.s.l.)	Material	Core Depth (cm)
1	12 670 ± 340	GSC-160	0	Shells	0
2	12 410 ± 170	GSC-101	0	Shells	0
3	1980 ± 115	GX-372	3	Shells, Drowned forest, Peat	222
4	1570 ± 130	GX-582	3	Drowned forest	222
5	9880 ± 150	GSC-773	0	Peat	0
6	8000 ± 140	GSC-1494	0	Peat	0
7	2235 ± 155	GX-2646	<1	Shells, Drowned forest, Peat	120–123
8	4550 ± 245	GX-2647	<1	Shells, Drowned forest, Peat	126–129
9	6850 ± 180	GX-2653	-36	Shells, Drowned forest, Peat	160–164
10	4285 ± 180	GX-1595	-14	Oyster	70
11	4607 ± 130	GX-1599	-14	Oyster	100
12	5125 ± 120	GX-1606	-28	Peat	40
13	6850 ± 100	S-185	-37	Oyster	0
14	9720 ± 440	GX-1597	-43	Shells, Drowned forest, Peat	210
15	8630 ± 180	GSC-793	0	Peat	0
16	910 ± 90	I-GSC-23	0	Drowned forest	0
17	8430 ± 150	GSC-775	0	Peat	0

Abstract

This new surficial geology map product represents the conversion of Map 1366A (Prest, 1973) and its legend, using the Geological Survey of Canada's Surficial Data Model (SDM version 2.3.0) (Deblonde et al., 2017). All geoscience knowledge and information from Map 1366A that conformed to the SDM were maintained during the conversion process. Additional legacy information that exists on the original map is not included here. Supplementary legacy information from original marginal notes was added to complement the converted map unit descriptions. The purpose of converting legacy map data to a common science language and common legend is to enable and facilitate the efficient digital compilation, interpretation, management, and dissemination of geological map information in a structured and consistent manner. This provides an effective knowledge-management tool designed around a geodatabase that can expand, following the type of information to appear on new surficial geology maps.

Résumé

Ce nouveau produit cartographique de la géologie des formations superficielles correspond à la conversion de la Carte 1366A (Prest, 1973) et de sa légende, en se servant du Modèle de données pour les formations superficielles (MDFS version 2.3.0) de la Commission géologique du Canada (Deblonde et al., 2017). Toutes les connaissances et l'information de nature géoscientifique de la Carte 1366A qui sont en conformité avec le modèle de données ont été conservées pendant le processus de conversion. De l'information additionnelle présente sur la carte originale n'est pas incluse ici. De l'information contenue dans les notes marginales de la carte originale a servi à compléter les descriptions des unités cartographiques converties. Le but de la conversion de cartes publiées antérieurement suivant un langage scientifique commun et une légende commune est de permettre et de faciliter la compilation, l'interprétation, la gestion et la diffusion efficaces de l'information géologique cartographique en mode numérique de façon structurée et cohérente. Cette façon de faire offre un outil efficace de gestion des connaissances élaboré à l'aide d'une géodatabase qui pourra évoluer suivant le type d'information à paraître sur les nouvelles cartes de la géologie des formations superficielles.



National Topographic System reference

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Natural Resources Canada / Ressources naturelles Canada

CANADIAN GEOSCIENCE MAP 345

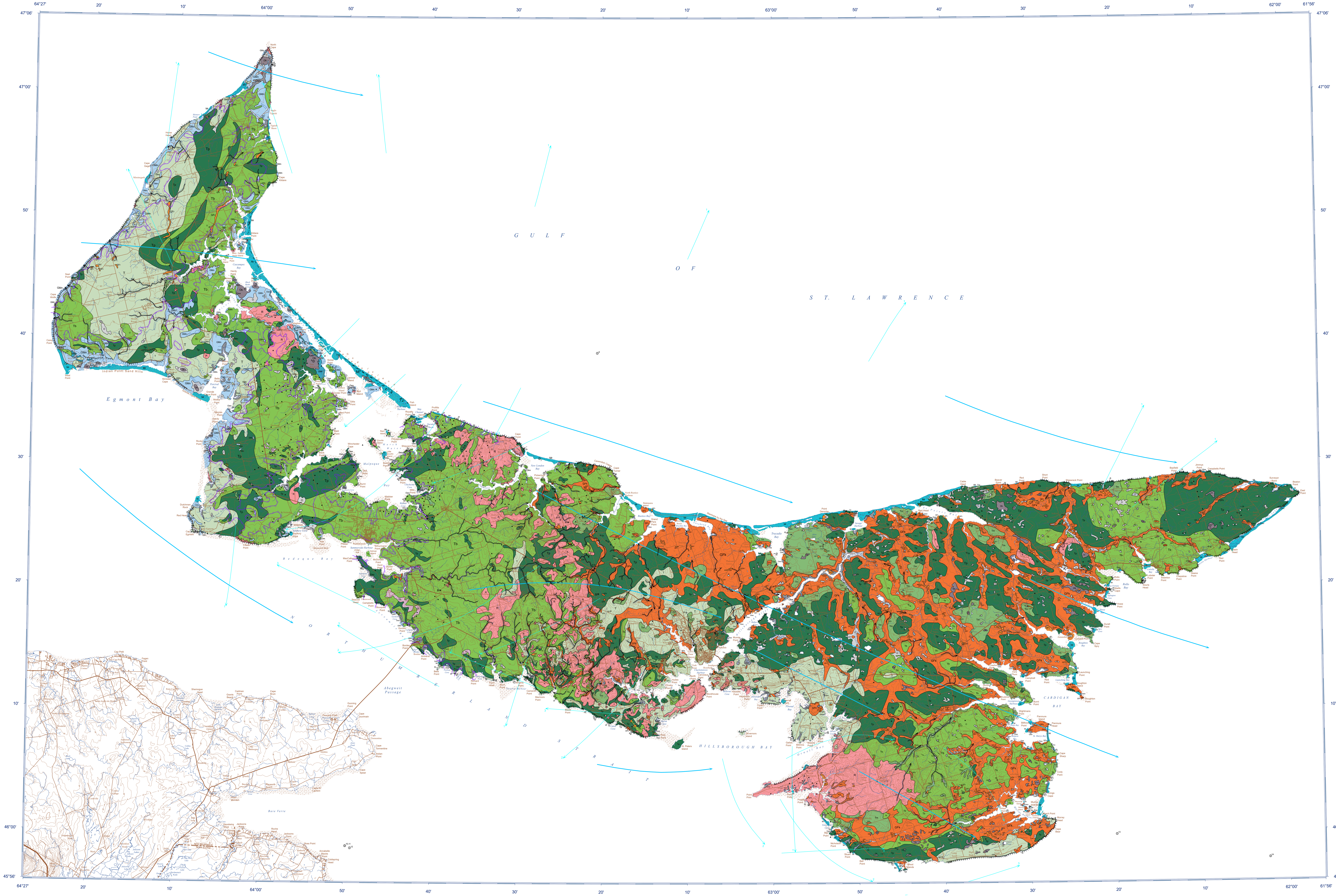
SURFICIAL GEOLOGY

PRINCE EDWARD ISLAND

Prince Edward Island

parts of NTS 11-L, E, 21-I, and 21-P

1:200 000



QUATERNARY

POST GLACIATION AND RECENT (HOLOCENE) ENVIRONMENT

- **Ows** — **Salt marsh:** varied mixture of mud, sand, living and decaying seashore organic matter, grass, sedge; varied thickness, up to 5 m; may rest on glacial or postglacial sediments; in places covered by sand and silt as the sea rises; associated with the tidal zone.
- **Ob** — **Organic peat blanket:** peat, sphagnum peat; varied thickness, with peat up to 6 m thick; the deeper peat deposits may have fibrous or woody layers; peatland, swamp, bog, muskeg; may include rooted stumps of trees and shrubs drowned by past and ongoing sea level rise.
- **O** — **Organic deposits, undifferentiated:** sapropel (algal ooze, gyttja), muck, black earth, may include minor overlying Sphagnum peat; thickness is less than 5 m.
- **Mr** — **Marine beach sediments:** silt, sand, minor gravel; varied thickness, generally less than 8 m; reach ridges, bars, spits, tidal flats; barrier islands and bay-mouth bars developed as a result of ongoing sea level rise; may include small eolian dunes and blowouts.

PROGLACIAL AND EARLY POSTGLACIAL ENVIRONMENT

- **GMr** — **Glaciomarine beach sediments:** gravel and sand, poorly to well stratified, pebbles and cobbles of soft sandstone and harder calcareous breccia and sandstone and igneous erratics; varied thickness, up to 5 m; beach, bar, spit deposited as a result of postglacial marine overlap in the western part of the island, up to 25 m elevation; may be fossiliferous.
- **GMn** — **Glaciomarine littoral and nearshore sediments:** sand with minor silt, clay, and gravel; varied thickness; deposited in shallow water as a result of postglacial marine overlap in the western part of the island, up to 25 m elevation.

PROGLACIAL AND GLACIAL ENVIRONMENT

- **GL** — **Glaciolacustrine sediments, undifferentiated:** fine sand, well stratified; up to 2 m thick; deposited in ponds formed by damming of glacial meltwater by retreating glacier.
- **GFk** — **Kame terrace and glaciofluvial outwash sediments:** sand, gravel, boulders, includes minor ice-sloughed debris and ablation till in valleys; well to poorly stratified and sorted; varied thickness, up to 9 m; deposited by the release of glacial meltwater in ice-marginal positions and in lowlands; valley-side kames denote the successive positions of glacial streams confined between the shrinking ice lobes and the valley walls; valley trains deposited by glacial meltwater.
- **GFr** — **Esker and kame sediments:** cobble, gravel, sand, silt, minor boulders; well to poorly stratified; lithologies generally consist of soft sandstone but include harder calcareous breccia, sandstone, and igneous erratic clasts near Alberton; varied thickness, up to 9 m; sinuous ridges rarely longer than 1.5 km; includes irregular to rounded hills; deposited by glacial meltwater.

GLACIAL ENVIRONMENT (WISCONSIN GLACIATION)

- **Tm** — **Ablation moraine complex:** stony to bouldery sand till, with lenses of stratified silt, sand, gravel, some substratified glacial debris, unsorted, loose; varied thickness; deposited by the melting of debris-laden glacier ice; includes small end moraine in Malpeque Bay area; locally washed by meltwater.
- **Tp** — **Clay-sand till:** ground moraine; matrix is generally clay-sand; varied stone content; compact; varied thickness, a few cm to 5 m thick; gradational boundaries between other till units; may include fluted landforms in the eastern part of the island, and minor loose ablation till.
- **Tb** — **Sand till:** ground moraine; matrix is generally sandy; varied stone content; compact; varied thickness, a few cm to 5 m thick; gradational boundaries between other till units; may include fluted landforms in the eastern part of the island, and minor loose ablation till.
- **T** — **Clay and clay-silt till:** ground moraine; matrix is generally clay to clay-silt; varied stone content; compact; varied thickness, a few cm to 5 m thick, but may reach 9 to 10 m along coastal areas; gradational boundaries between other till units.

PRE-QUATERNARY

- **R** — **Bedrock, undifferentiated:** Triassic (225 to 200 million years) basalt, breccia; Permo-Carboniferous (300 to 225 million years) calcareous mudstone breccia lenses, mudstone, conglomerate, sandstone; may be overlain by up to 1 m of surficial sediments.

Geological contact, defined

Terrace scarp, coastal cliff

Beach crest

Limit of submergence, marine, defined

Meltwater channel:

- *Minor, may include spillway, mainly subglacial, direction unknown*
- *Minor, may include spillway, mainly subglacial, direction known*
- *Major, may include spillway, mainly subglacial, direction unknown*

Drumlinoid or fluting, length not mapped to scale

Ice flow direction:

- *During main ice-sheet phase of glaciation*
- *During ice-cap phases of glaciation (1 = oldest, 3 = youngest)*

Erratic observation, foreign stone on surface or in glacial or glaciomarine sediments (*see* geodatabase for abundance)

Striation:

- *Direction unknown*
- *Direction known, direction of ice flow determined (locally by 'mini' crag-and-tail and roche moutonnée features)*

Fossil observation, marine shells, drowned forest, peat (*see* geodatabase)

Station location, ground observation, bedrock or fossil data (*see* geodatabase)

Dated sample location, with number (*see* Table 1)

Recommended citation
Geological Survey of Canada, 2022. Surficial geology, Prince Edward Island, Prince Edward Island, parts of NTS 11-L, E, 21-I, and 21-P; Geological Survey of Canada, Canadian Geoscience Map 345 (Surficial Data Model v. 2.3.0 conversion of Map 1366A), scale 1:200 000. https://doi.org/10.4095/306969

Geological Survey of Canada
Canadian Geoscience Maps

Author: Geological Survey of Canada

Geology by V.K. Prest (modified from maps by G.H. Crowl, L. Frankel, E.B. Owen, and V.K. Prest)

Geology conforms to Surficial Data Model v. 2.3.0 (Deblonde et al., 2017).

Geological data conversion by D.E. Kerr, 2016 and 2017

Geomatics by M. Pyne and C.D. Stevens

Cartography by E. Everett

Scientific editing by L. Ewert

Initiative of the Geological Survey of Canada, conducted under the auspices of Natural Resources Canada's Open Geoscience Project

Map projection Lambert Conformal Conic, standard parallels 49°00'N and 77°00'N
North American Datum 1983

SURFICIAL GEOLOGY
PRINCE EDWARD ISLAND
Prince Edward Island
parts of NTS 11-L, E, 21-I, and 21-P
1:200 000

5 0 5 10 15 20 km

Base map at the scale of 1:50 000 from Natural Resources Canada, with modifications
Elevations in metres above mean sea level

Mean magnetic declination 2022, 17°12'W, decreasing 9.3' annually
Readings vary from 17°29'W in the NE corner to 16°52'W in the SW corner of the map.

This map is not to be used for navigational purposes.

The Geological Survey of Canada welcomes corrections or additional information from users (gscpublications-cgcpublications@nrcan-rncan.gc.ca).

Data may include additional observations not portrayed on this map. *See* map info document accompanying the downloaded data for more information about this publication.

This publication is available for free download through GEOSCAN (https://geoscan.nrcan.gc.ca/).

CANADIAN GEOSCIENCE MAP 345
SURFICIAL GEOLOGY
PRINCE EDWARD ISLAND
Prince Edward Island
parts of NTS 11-L, E, 21-I, and 21-P

Canada