II. PHYSICAL GEOGRAPHY

2.1 Geographic Data

2.1.1 Location

Longitude 91 37' W
Latitude 48 45 1/2' N

2.1.2 Altitude

393 m above sea level

2.1.3 Land Area

330.66 km^2
33,068 hectares
128 sq. miles
81,709 acres

2.1.4 Accessibility

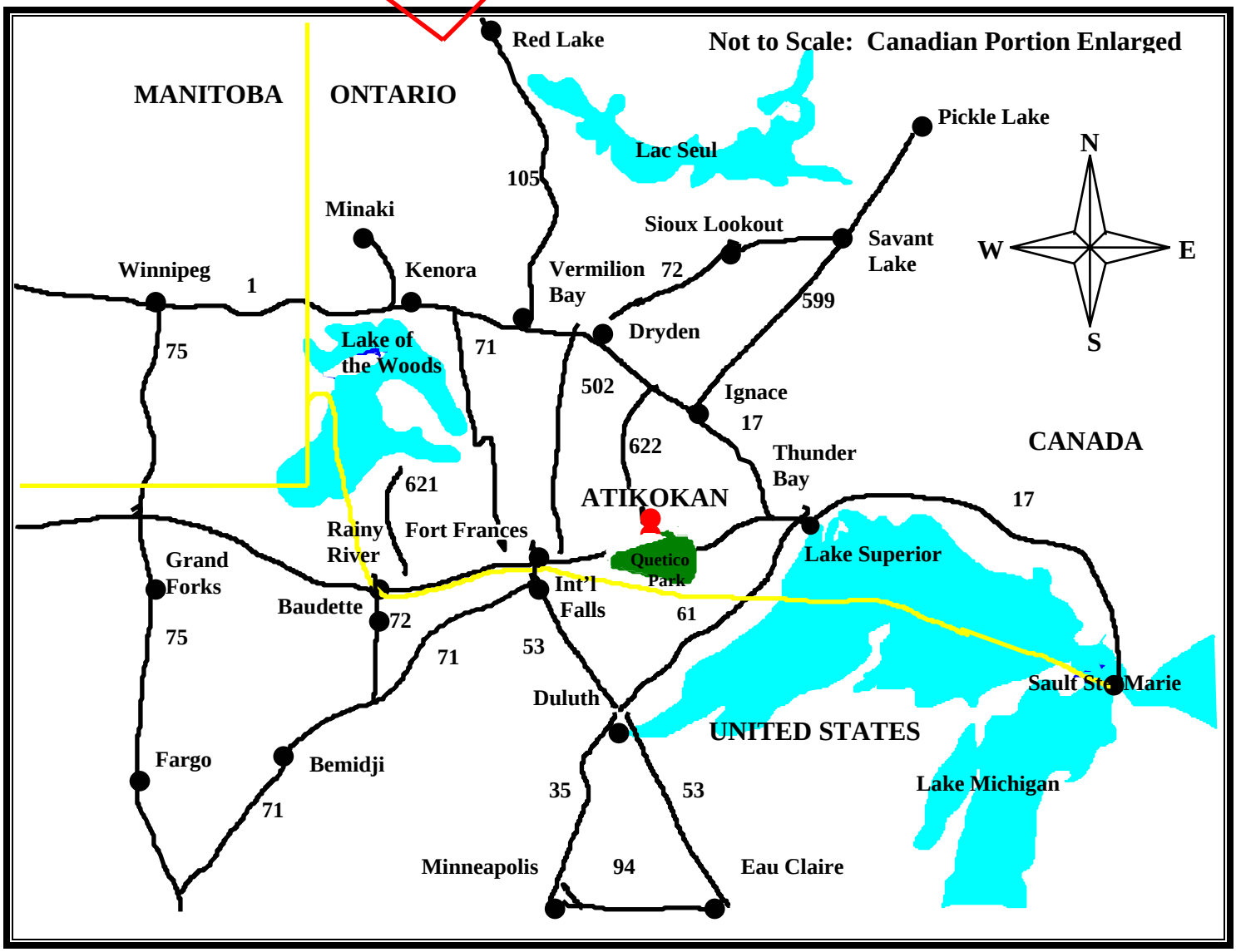
Atikokan has access to two major highways, Hwy. 17 (TransCanada) and Hwy. 11. These two highways can be reached by the use of secondary highways. Hwy. 17 can be reached by travelling 135 km north on Hwy. 622 and Hwy. 11 can be accessed by travelling 3.2 km south on Hwy. 11B. All the highways are generally in good condition.

Table 2.1.1: Road Distance and Direction from Atikokan to Various Centres

CENTRE	DIRECTION	KILOMETERS	MILES
Thunder Bay	EAST	202	126
North Bay	EAST	1,294	804
Sudbury	EAST	1,202	748
Toronto	SOUTH EAST	1,570	1,033
Ottawa	SOUTH EAST	1,664	1,035
Montreal	SOUTH EAST	1,890	1,175
Fort Frances	WEST	136	84
Winnipeg	WEST	533	331
Regina	WEST	1,083	673
Calgary	WEST	1,833	1,170
Vancouver	WEST	3,010	1,870
U.S. Entry Point			
International Falls	WEST	137	85
Pigeon River	SOUTH EAST	263	164
Duluth	SOUTH	519	323
Minneapolis	SOUTH	765	476
Chicago	SOUTH	1,264	786

Figure 2.1.1: Location of Atikokan

Atikokan's central location is ideal for those who are travelling to the area. Atikokan offers easy access to both Canadian and American markets within one day of travelling. In addition, Atikokan borders the world reknowned Quetico Provincial Park.



2.2 Geology

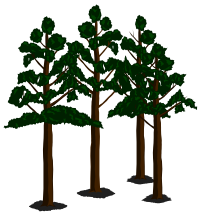
Atikokan lies at the southern edge of the Wabigoon Subprovince, which is situated within the Superior Province of the Canadian Shield. The rocks of the Superior Province consist mainly of grey and pink granite with narrow volcanic and sedimentary belts. The oldest Precambrian rocks in the Superior Province are found in the Atikokan area which is known to be a very stable crustal area.

The rocks south of Atikokan consist of mica schists, gneissic and granite rocks. These rocks form part of the Quetico Gneissic Belt that makes up part of the Quetico Subprovince. These rocks can be found east and west of Atikokan for many kilometers along Hwy. 11. It is interesting to note that these rock formations which now lie at a 45^{o}-60^{o} angle, at one time existed in horizontal layers. Tectonic activity was responsible for this folding and tilting.

The Greenstone volcanic-sedimentary rocks exist in a narrow belt for many kilometers in all directions from Atikokan. The Greenstone rocks contain valuable amounts of minerals such as: gold, silver, iron, copper, asbestos, zinc, lead, nickel and talc which may form economic mineral deposits.

The salient feature in the Atikokan District is the Steep Rock Iron Range. This famous range contains four distinctive layers: volcanic lava and ash, iron ore, paint rock and dolomitic limestone. The distinctive layers of iron ore are composed of goethite (85%) and hematite (15%) with impurities of quartz and “ash rock”. Many spectacular crystal specimens can be found within the iron ore, ash rock and limestone rocks at Steep Rock and Caland iron ore mines.

2.3 Topography



The pristine landscape of the Atikokan area attracts tourists from all over the world to enjoy its beauty. Glaciation is the major force that scarred and shaped the land, resulting in a rugged landscape consisting of numerous ridges, gullies, lakes and rivers. The maze of interconnecting lakes, rivers, ponds and streams generally flow in the east-west direction with all water bodies west of the Arctic Watershed (located approximately 70 km east of Atikokan) draining into the Pacific Ocean.

Much of the land has extensive areas of exposed bedrock, while the remaining land consists of soils which are shallow and sandy, and a mixture of gravel and stones. The land in the Atikokan area supports forests, which are Boreal in nature, and sustains many species of lichens, mosses and trees. Atikokan lies very close to the transition zones between the Boreal Forest, Great Lakes-St. Lawrence Forest, and the Prairie Grasslands. Therefore, the flora and fauna in the Atikokan area is very diverse. The major tree species that exist include: black spruce, jack pine, balsam fir, white birch, and poplar.

2.4 Climate

Atikokan enjoys four distinct seasons. Each season is unique and captures a beauty of its own. Autumn months, September and October, paint the landscape with a beautiful collage of colours. Winter months, ranging from November to late March, are characterized as being cold and dry. Despite the air being quite dry, Winter in Atikokan brings an abundance of snow that is ideal for favourite activities such as: skiing, snowmobiling and ice fishing. "April showers bring May flowers" describes Spring in Atikokan. Moderate temperatures warm the air and melt the snow and ice. Summer months range from June to late August and are characterized by warm temperatures and a moderate amount of precipitation.

Table 2.4.1: Temperature (^{o}C)

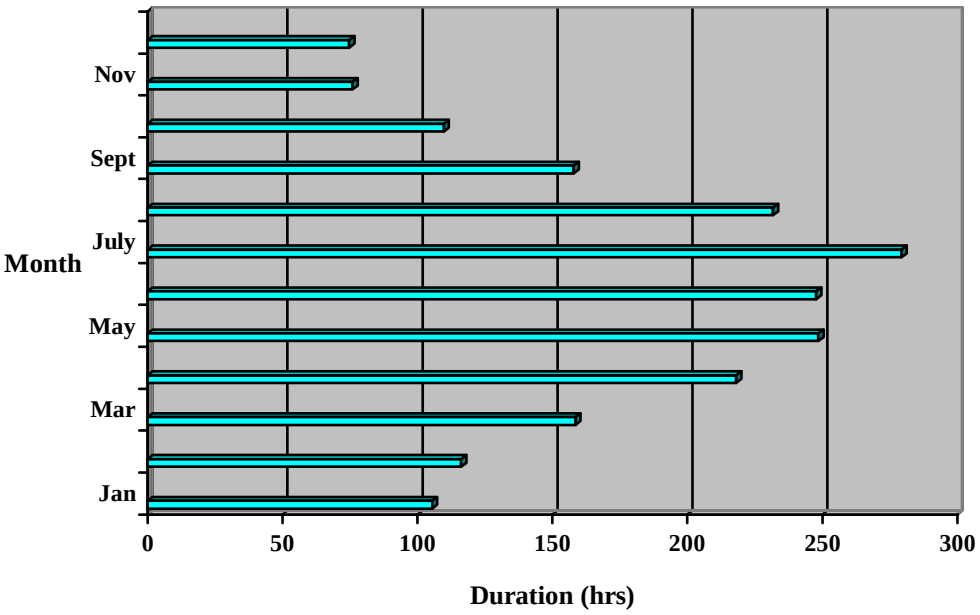
MONTH	MEAN DAILY	DAILY MAXIMUM	DAILY MINIMUM	EXTREME MAXIMUM	EXTREME MINIMUM
January	-18.07	-11.23	-24.88	7.8 (1973)	-45.2 (1982)
February	-13.8	-6.5	-20.9	11.7 (1976)	-45.6 (1967)
March	-6.5	0.4	-13.4	17.2 (1967)	-38.3 (1967)
April	2.8	10.0	-4.4	28.3 (1977)	-28.9 (1982)
May	10.4	18.0	2.7	34.4 (1969)	-10.0 (1967)
June	14.7	21.7	7.7	32.6 (1987)	-3.4 (1978)
July	17.7	24.7	10.8	35.6 (1975)	-0.6 (1975)
August	16.1	22.8	9.3	35.0 (1976)	-2.8 (1976)
September	10.4	16.5	4.3	37.2 (1976)	-7.8 (1976)
October	4.5	9.6	-.06	26.1 (1975)	-17.7 (1981)
November	-4.8	0.0	-9.5	20.2 (1978)	-37.4 (1985)
December	-14.2	-8.4	-20.1	9.2 (1982)	-42.0 (1983)

Table 2.4.2: Precipitation

MONTH	RAINFALL (mm)	SNOWFALL (cm)	TOTAL PRECIPITATION (mm)
January	0.27	10.73	28.75
February	1.0	33.8	24.7
March	11.6	32.8	37.4
April	27.1	16.2	42.9
May	66.6	4.2	70.8
June	103.3	0	103.3
July	97.9	0	97.9
August	97.8	0	97.8
September	89.4	2.7	91.6
October	58.4	11.6	68.4
November	12.2	42.8	48.2
December	2.9	35.3	27.9
YEAR TOTAL	**568.47**	**220.13**	**739.35**

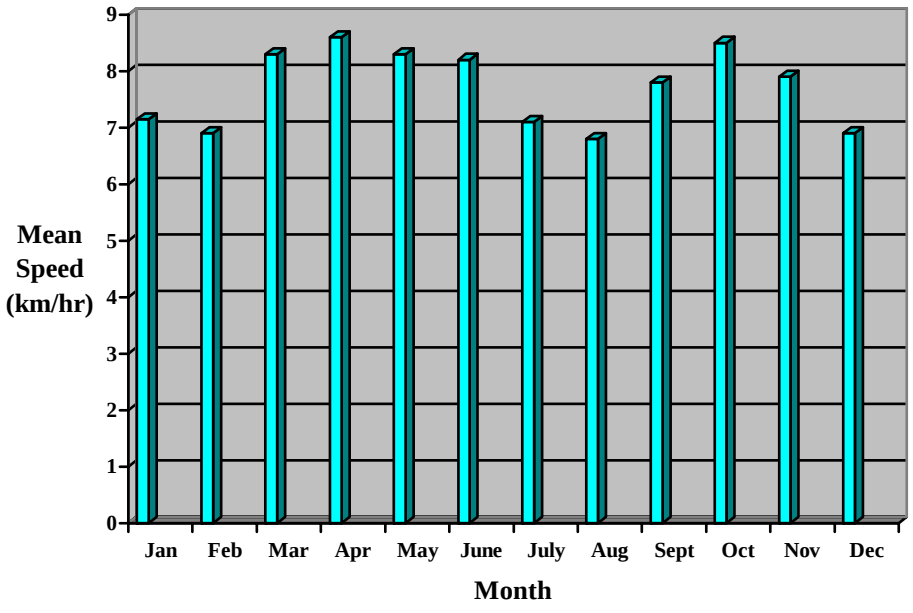
Source: Environment Canada

Figure 2.4.1: Average Duration of Sunshine per Month



Year Total of Sunshine 2,024.37 hours

Figure 2.4.2: Average Wind Speed by Month

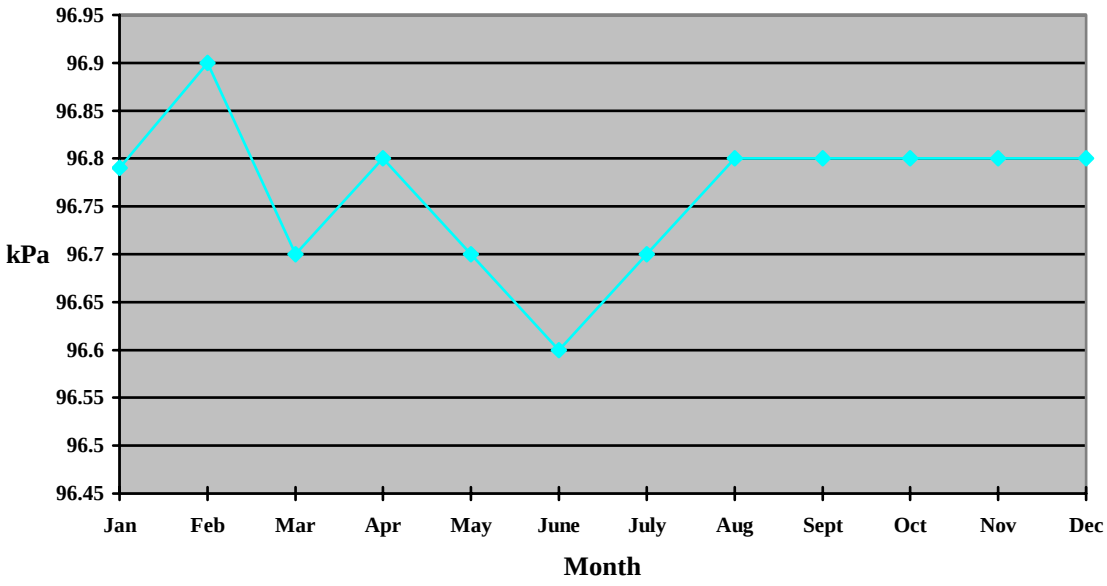


Source: Environment Canada

Table 2.4.3: Wind Direction

MONTH	PREVAILING DIRECTION
January	WEST
February	WEST
March	WEST
April	NORTH WEST
May	NORTH WEST
June	NORTH WEST
July	WEST
August	SOUTH
September	WEST
October	SOUTH
November	WEST
December	WEST
YEARLY MEAN	**WEST**

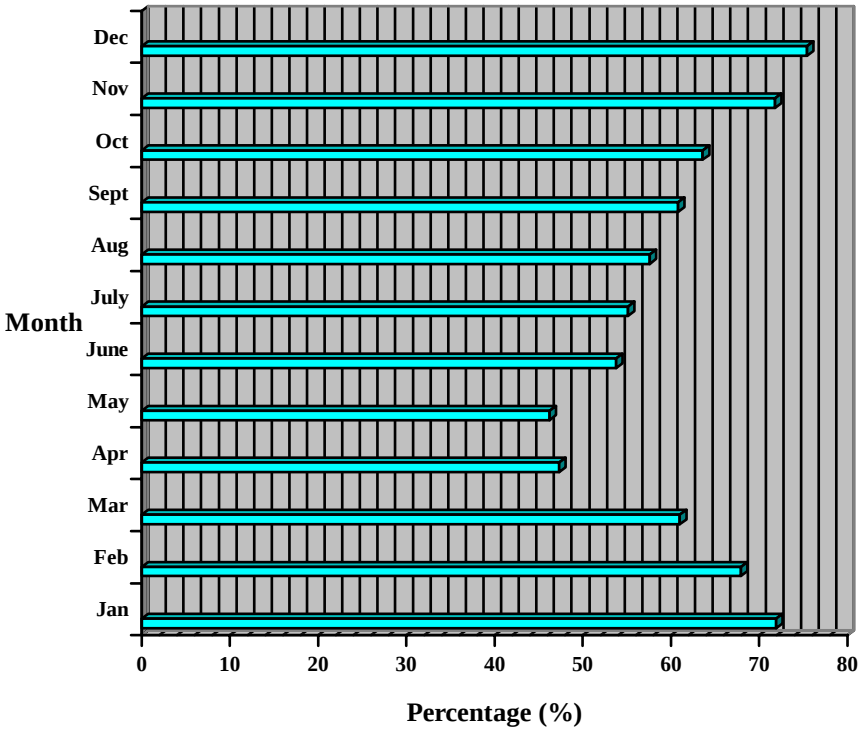
Figure 2.4.3: Mean Barometric Pressure per Month



Annual Mean Barometric Pressure 96.8 kPa

Source: Environment Canada

Figure 2.4.4: Mean Relative Humidity per Month
1500L(%)



Source: Environment Canada