A

TORNADO PROJECT SUMMARY SHEET

F=0 ONT

1. DATE AND TIME TUE MAY 30, 1978 1250 EST

2. LOCATION OR PATH (attach map)
~~KENT WINGHAM~~ 0697803
Brussels to Kent Bluevale

3. PATH LENGTH ☐ NOT KNOWN ☐ <1mi; ☐ 1-4mi; ☐ 5-10mi; ☐ 11-50mi; ☐ LENGTH IF>50mi

4. PATH WIDTH ☐ 5. TORNADO PART OF SQUALL LINE? ☐ YES; ☐ NO; ☐ UNKNOWN:

6. ANY UNUSUAL COLORATION? ☐ YES; ☐ NO; ☐ UNKNOWN

7. ANY UNUSUAL SOUND? ☐ YES; ☐ NO; ☐ UNKNOWN

8. IF ANSWER TO 6 OR 7 YES, ELABORATE;

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning heavy rain, no rain, etc.)
TENNIS BALL SIZED HAIL
RADAR TOPS 14 KM

10. TOTAL DAMAGE ESTIMATE $ U

11. TOTAL DEATHS NONE

12. TOTAL INJURED NONE

13. TOTAL HOMELESS NONE

14. LIST ALL REFERENCES

WINGHAM ADVANCE TIMES JUNE 7, 1978 p1.
BRUSSELS POST JUNE 7, 1978.
Telephone investigation by M.J Newark June 8, 1978
M.J Newark: The Severe local storms of May 30, 1978.
Weather Enterprises Report 78:02.

15. SUMMARIZE REMARKS PERTAINING TO (a) FUNNEL; (b) INTERESTING OR CAPRICIOUS EVENTS.

(a) cone shaped. black cloud seen aloft at the southern end of the damage track.

(b) Barns unroofed or otherwise damaged. Farm equipment tossed around.

WORKSHEET

IDTO 0697803

① ORIGIN x 1748180 C 500

y 4846500

② LIFT-OFF x_1 1748170 C 500

y_1 4852300

③ $(x_1 - x)$ = 100

④ $(y - y_1)$ = 5800

⑤ Standard Error S_x

⑥ Standard Error S_y

⑦ DAMAGE LENGTH

$$L = [(x_1 - x)^2 + (y - y_1)^2]^{1/2}$$

③+④ [→r,θ] = 5800 m.

⑧ $\alpha = \tan^{-1} \dfrac{|y - y_1|}{|x - x_1|}$

[X↔Y] = 89°

⑨ Standard Error $S_L = (S_x^2 + S_y^2)^{1/2}$

⑤+⑥ [→r,θ] = 707 C

⑩ $\beta = \dfrac{\tan^{-1} S_L}{L}$

⑦+⑨ [→r,θ]

[X↔Y] = 7°

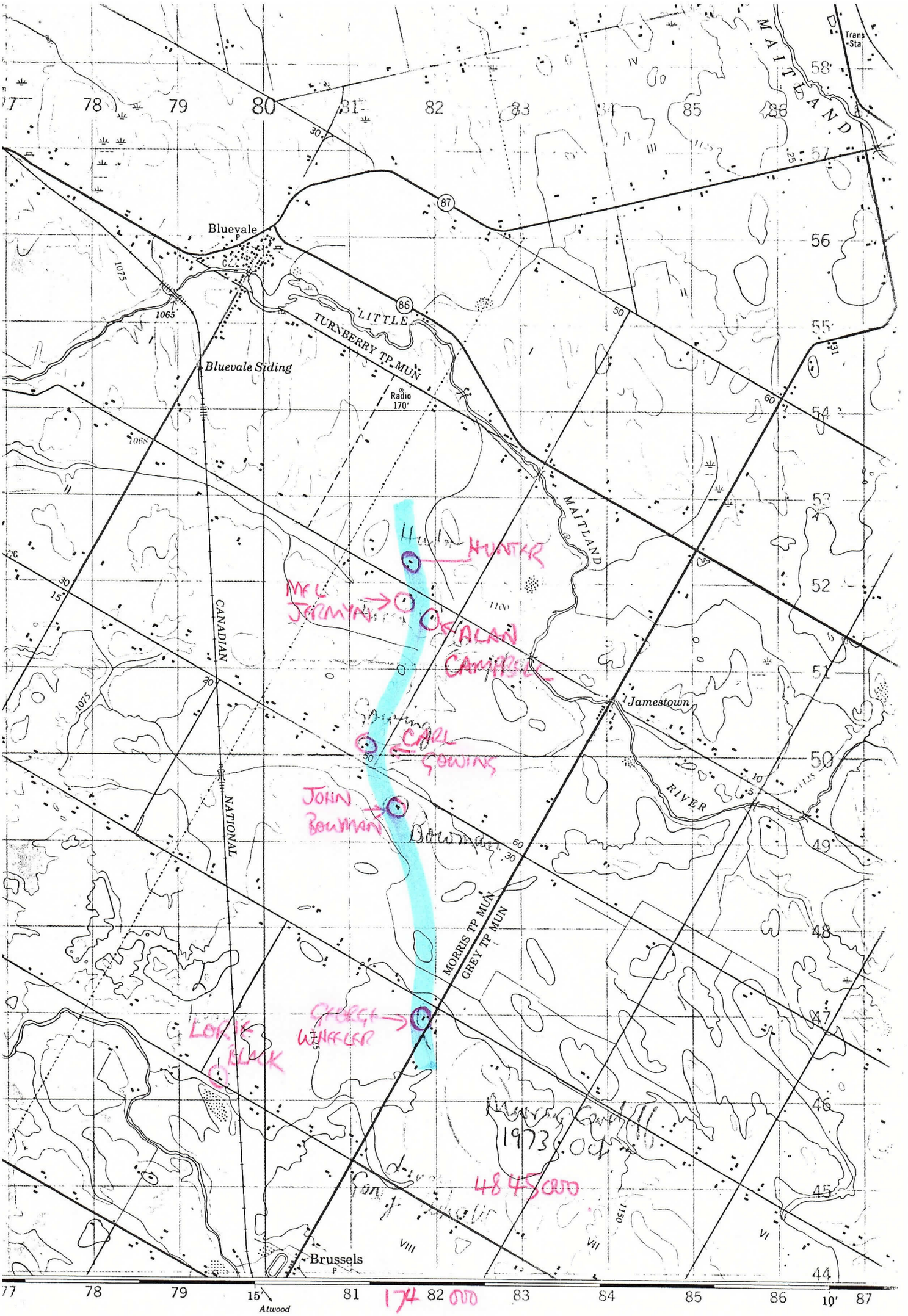
NE Quad $\phi = 90 - \alpha$

NW Quad $\phi = 270 + \alpha$

SW quad $\phi = 270 - \alpha$

SE quad $\phi = 90 + \alpha$

⑪ ϕ = 179°



WINGHAM
ONTARIO

Scale 1:50,000 Échelle

0 1 2 3 Milles

tres 1000 0 1000 2000 3000 4000 Mètres

Information concerning location and precise elevation of bench marks can be obtained by writing to the Geodetic Survey, Surveys and Mapping Branch, Ottawa.

CONVERSION SCALE FOR ELEVATIONS

Metres 30 20 10 0 50 100

Feet 100 50 0 100 200 300 400

CONTOUR INTERVAL 25 FEET

Elevations in Feet above Mean Sea Level

Telephone Investigation of a tornado near Wingham, Ont
by M.J.Newark on June 8, 1978.

Storm date Tuesday May 30, 1978 . Time 1350EDT.
Place. 2nd and 3rd concessions of Morris township.
Length of tornado path approximately 2miles (3 km).
Width uknown.

Farm of Alan Campbell (519) 887-9451
North side 2nd conc. 1¼ mi west of Huron county road #12, 2½ mi south of highway 86. lot 26
Storm described as extreme in intensity coming from the SW. Hail 1 inch in diameter. Several barns unroofed and one (not very sound construction) demolished. A 1200lb rack lifted from a wagon and carried 30 feet while the waggon itself carried about 15 feet. Heard a terrible roar.

Farm of Mel Jermyn (519) 887-9493
next door neighbour of A Campbell on conc 2. lot 25
Trees,crops, and windows damaged by golf-ball sized hail. (The broken windows were on the south side of the house).

Farm of Carl Gowing (519) 887-9248
South side of conc 2 across from Campbell.
Hail and wind described as having unusual force. Largest hail stones the size of tennis balls. Storm duration 5 or 10 minutes. Limbs and leaves stripped from trees. Clock stopped at 1350 EDT.

Farm of John Bowman (519) 887-6127 lot 27 or 28
north side of 3rd conc about 3/4 mi southeast of the Gowing farm.
Barn partly unroofed and one end taken out. Debris concentrated along the track of the storm for about 100 rods. No damage suffered by neighbours.

Farm of Lorie Black (519) 887-9288
Conc 4 to the southwest of the Bowman farm.
Mr Black and two friends sheltered in a small outbuilding noticed a black funnel shaped cloud at approximately 1330EDT. It was aloft and their farm suffered no damage. At the time of the sighting there

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George Wheeler: lot 30 n½ conc 4 887-6789
Ted Cowan lot 26 n½ 4

was some very light rain falling. The funnel moved northeastwards fairly quickly and was followed by heavier rain, lightning and ½ inch diameter hail.

Comments.

The concession lines in this township run from NW to SE. Each farmer was questioned carefully about the direction of the storm and it appears to have been moving perpendicularly to the concession lines or from southwest to northeast. None of the farmers questioned knew of any damage north of concession 2 or south of concession 3. Although the noise made by the storm was very loud, nobody reported hearing unusual sounds.

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WITHOUT THE PERMISSION OF

WEATHER ENTERPRISES
PO BOX 427
BRAMPTON
ONTARIO. L6V 2L4

ESTABLISHED 1872

The Brussels Post

BRUSSELS ONTARIO

107th Year — Issue No. 23

WEDNESDAY, JUNE 7, 1978

Rare twister hit here Tuesday

Some residents of the Brussels area got a surprise in the form of a small twister Tuesday which caused major damage on the farm of Jim Bowman of R.R.5, Brussels and minor damage to other farm homes.

The Bowmans probably suffered the most damage with the storm taking the roof off the barn and breaking some beams.

The Bowmans estimated that the damage cost could run over $7,000 or $8,000 but added that, "you can't hardly tell how much it's going to cost until you get the bill".

He also said the hail cut about six or eight inches off the alfalfa.

Windows were broken by hail in several homes including those of Ted Cowan and Mel Jermyn and windows in the barn at Carl Gowing's.

Culverts on the road north of Brussels could not handle the sudden torrential rain and there was considerable flash flooding.

The storm acted not unlike a mini-tornado, touching down here and there.

Brussels escaped damage but had the heavy downpour of rain and an electrical storm while only a short distance away the dust was flying.

Fortunately there have been no reports of injury to anyone.

Mrs. Ted Cowan of R.R.5, Brussels, said it started to rain about 12:45 and then at about 1:25 it started to hail. Mrs. Cowan turned to her husband and said it sounded like the windows were going to break. Sure enough the hail broke all her storm windows which she hadn't taken off yet.

By two o'clock the hail had stopped but it continued to rain and the hailstones weren't melting very fast.

"By six o'clock we were still picking up hailstones the size of alleys," Mrs. Cowan said.

The storm also damaged a good 40 acres of wheat and about 50 acres of corn and the Cowans are just waiting to see whether the two crops are going to come or not.

Mrs. Mel Jermyn of R.R.2 Brussels, said they had doors and windows blown out of the house and she described the hail as being the size of golf balls.

They're not too sure of the crop damage yet but Mrs. Jermyn said the storm had stripped the grass and ruined the strawberry patch.

Alan Campbell had two windows blown off his house and damage to some farm equipment out in the yard which got swung around in the storm.

A barn on Mr. Campbell's other farm which he doesn't use was blown down.

One wagon rack was demolished and a bale elevator was upset over onto another piece of farm machinery. Mr. Campbell said it would be a fair bit of work to replace parts in the machinery but there wasn't too much damage that was going to cost a lot.

Mr. Campbell said that his hay and grain fields were flattened but that the corn wasn't up yet. "It was really frightening for maybe five to ten minutes, then it was gone, Mr. Campbell said of the strong wind.

Carl Gowing of R.R.2, Bluevale had damage to the windows in his three pig barns and Mrs. Gowing said the strawberry patch was a total loss and that the hay fields were cut right off.

Charles Thomas had some of the roof torn off his barn in Morris Township.

Tony Chir of the Sky Harbor Airport Weather Station in Goderich says a twister is the result of cooler weather coming up against the hot air mass.

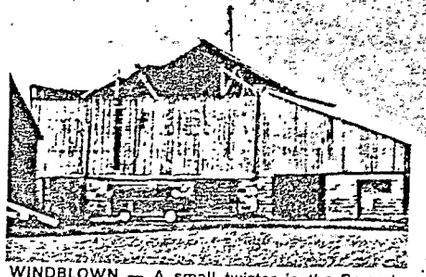
The reason for it hitting the Brussels area only could be that twisters are very sporadic in nature according to Mr. Chir.

He said it would have to touch ground to be called a twister and if it took a barn up or ripped the land up then it could be classified as a twister.

Graham Campbell, weather technician at Sky Harbor Airport weather station made a further check with the Ontario Weather Centre in Toronto to see if the storm that went through Brussels could actually be classified as a twister.

He said that Michael Newark from the Centre with the description of the damage given to him and because it hit only one area he figures that the localized energy meant a twister.

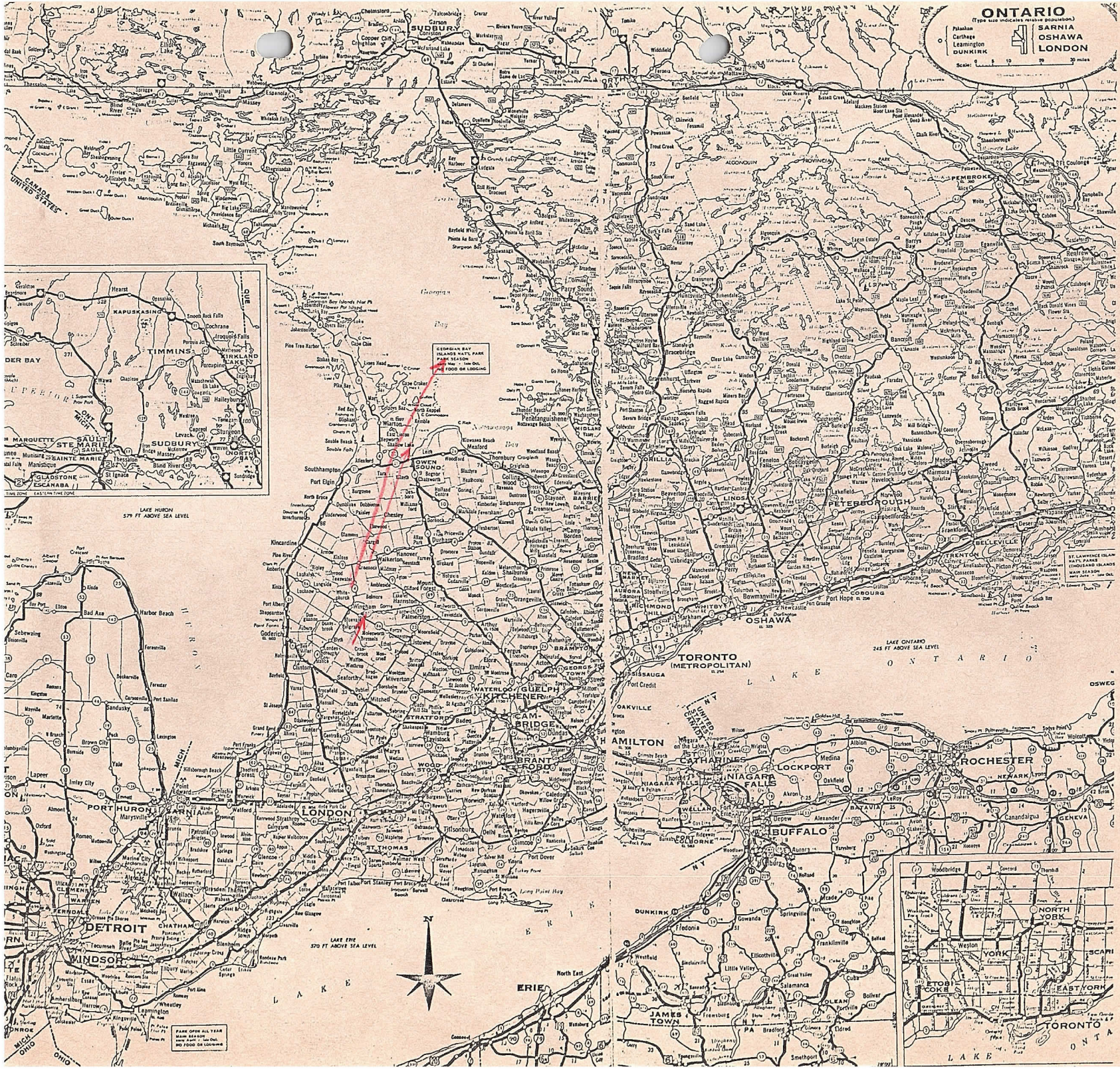
Mr. Campbell said Mr. Neward was surprised to hear about the twister since it was only about the third or fourth reported in Ontario within the last year.

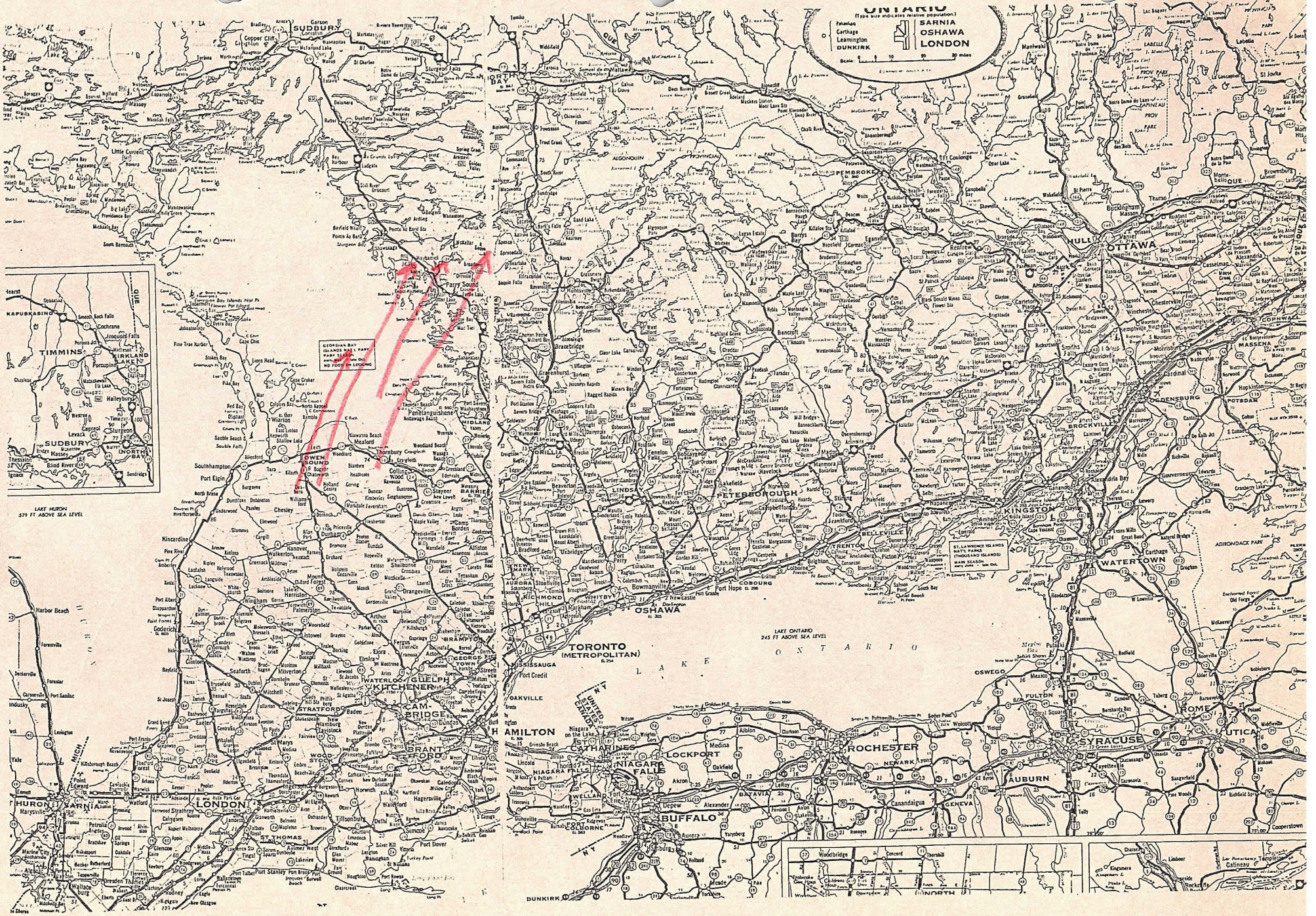


WINDBLOWN — A small twister in the Brussels area took the roof off a barn on a farm owned by Jim Bowman. Mr. Bowman estimated that it could take $7,000 or $8,000 to be repaired. The roof was blown 100 rods down the field. (Photo by Langlois)



1948	14 KM X	max R	188.4 mm hr⁻¹ @ 5KM	272/133 KM
07	12KM X	"	71.8 mm hr⁻¹ @ 2KM	275/128 KM
1827	9 KM X	"	66.8 mm hr⁻¹ @ 3KM	290/148 KM
1904	11 KM X	"	48.7 mm hr⁻¹ @ 3KM	301/144 KM
1924	10 KM X	"	UNK	
1943	11 KM X	"	84.1 mm hr⁻¹ @ 4KM	314/161 KM
2002	11 KM X	"	54.6 mm hr⁻¹ @ 3KM	321/167 KM
2021	11 KM X	"	40.4 mm hr⁻¹ @ 6KM	322/181 KM


ONTARIO
(Type size indicates relative population)
Pakenham
Carthage
Leamington
DUNKIRK
SARNIA
OSHAWA
LONDON
Scale: 0 5 10 20 30 miles
CANADA
UNITED STATES
SUDBURY
NORTH BAY
PEMBROKE
TIMMINS
KAPUSKASING
KIRKLAND LAKE
SAULT STE MARIE
GLADSTONE
ESCANABA
GEORGIAN BAY ISLANDS NATL PARK
PARK SEASON
MAY 24 — Labor Day
NO FOOD OR LODGING
LAKE HURON
579 FT ABOVE SEA LEVEL
OWEN SOUND
PENETANGUISHENE
ORILLIA
LINDSAY
PETERBOROUGH
BELLEVILLE
TRENTON
COBOURG
Port Hope
OSHAWA
AURORA
NEWMARKET
RICHMOND HILL
WHITBY
Port Credit
OAKVILLE
TORONTO
(METROPOLITAN)
MISSISSAUGA
LAKE ONTARIO
245 FT ABOVE SEA LEVEL
ONTARIO
LAKE
BRAMPTON
GEORGE TOWN
GUELPH
KITCHENER
WATERLOO
CAMBRIDGE
STRATFORD
BRANTFORD
WOODSTOCK
HAMILTON
ST CATHARINES
NIAGARA FALLS
WELLAND
Port Colborne
BUFFALO
LOCKPORT
ROCHESTER
NEWARK
GENEVA
BATAVIA
LONDON
PORT HURON
SARNIA
ST THOMAS
CHATHAM
WINDSOR
DETROIT
WARREN
CLEMENS
LAKE ERIE
570 FT ABOVE SEA LEVEL
ERIE
North East
DUNKIRK
JAMESTOWN
Fredonia
Westfield
Springville
Franklinville
Ellicottville
Little Valley
Salamanca
Olean
Bolivar
Portville
Bradford
Eldred
Smethport
PARK OPEN ALL YEAR
MAIN SEASON
NO FOOD OR LODGING
MICH
OHIO
PA
NY
HURON
ERIE
HIGH
NORTH YORK
YORK
EAST YORK
ETOBICOKE
TORONTO
LAKE
ONTARIO
ST. LAWRENCE ISLAND NATL PARKS
(THOUSAND ISLANDS)
MAIN SEASON


ONTARIO
(Type size indicates relative population)
Pakenham
Carthage
Leamington
DUNKIRK
SARNIA
OSHAWA
LONDON
Scale: 0 10 90 30 miles
SUDBURY
TIMMINS
KIRKLAND LAKE
SUDBURY
NORTH BAY
KAPUSKASING
LAKE HURON
579 FT ABOVE SEA LEVEL
GEORGIAN BAY ISLANDS NAT. PARK
PARK SEASON
NO FOOD OR LODGING
OWEN SOUND
PENETANGUISHENE
PARRY SOUND
ORILLIA
MIDLAND
BARRIE
COLLINGWOOD
STRATFORD
GODERICH
KITCHENER
GUELPH
CAMBRIDGE
BRANTFORD
WOODSTOCK
LONDON
ST. THOMAS
HURON
VARNIA
PEMBROKE
ALGONQUIN PROVINCIAL PARK
MULL
OTTAWA
CORNWALL
MASSENA
OGDENSBURG
POTSDAM
BROCKVILLE
KINGSTON
WATERTOWN
ADIRONDACK PARK
PETERBOROUGH
LINDSAY
BELLEVILLE
TRENTON
COBOURG
PORT HOPE
NEWMARKET
AURORA
RICHMOND HILL
WHITBY
OSHAWA
TORONTO
(METROPOLITAN)
MISSISSAUGA
BRAMPTON
GEORGETOWN
OAKVILLE
HAMILTON
ST. CATHARINES
NIAGARA FALLS
WELLAND
PORT COLBORNE
BUFFALO
LOCKPORT
ROCHESTER
NEWARK
AUBURN
GENEVA
BATAVIA
SYRACUSE
FULTON
OSWEGO
ROME
UTICA
LAKE ONTARIO
245 FT ABOVE SEA LEVEL
ONTARIO
LAKE
ST. LAWRENCE ISLANDS NATL PARKS
MAIN SEASON
NO FOOD OR LODGING
UNITED STATES
DUNKIRK
MICH
N.Y.

① 210/35 km hr⁻¹
② 210/50 km hr⁻¹
③ 210/50 km hr⁻¹
④ 210/50 km hr⁻¹

② 65 km
③ 115 km



27.
001=29

5280

.62
2 12
7.46

	MAX	DBS	ICM	RAIN	RATE
	0030Z		11	69	mm/hr
39 TUSD	0109Z		12	94	mm/hr
	0128Z			84	mm/hr
	0148Z		11	52	mm/hr
	0207Z			33	mm/hr
	0246		9		
28 TUSD	0306		9		

.5280
5 7.4
3696.0
.2112.0
3907 2.0

.1.6
3.2
4 8.0
3 2
5 1 2

9 × 5/8

3/12 × 5/8 2

15
7.5
35

9.(45.5"/5.6

5
5.6
25000
30000