C

TORNADO PROJECT SUMMARY SHEET

F=0 ONT

1. DATE AND TIME TUE MAY 30, 1978 2145 EST

2. LOCATION OR PATH (attach map) CARLING BAY 0697804

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.)

10. TOTAL DAMAGE ESTIMATE $ U 11. TOTAL DEATHS NONE

12. TOTAL INJURED NONE 13. TOTAL HOMELESS NONE.

14. LIST ALL REFERENCES

Personal communication with Climat Centre, Ontario Region, A.E.S.

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

(a) no remarks

(b) cottage moved off its foundation


21
22
23
24
81°
80°
79°
NORTH BAY
Sturgeon Falls
Cache Bay
Powassan
Trout Creek
South River
Sundridge
Magnetawan
Burk's Falls
Kearney
Huntsville
Rosseau
Parry Sound
Bracebridge
Gravenhurst
Orillia
Barrie
Midland
Penetanguishene
Collingwood
Wasaga Beach
Meaford
Owen Sound
Thornbury
Stayner
Creemore
Markdale
Flesherton
Chatsworth
Durham
Dundalk
Shelburne
Alliston
Beeton
Tottenham
Bradford
Cookstown
Newmarket
Aurora
Orillia
Midland
Coldwater
Elmvale
Wasaga Beach
Penetanguishene
Parry Sound
Huntsville
Bracebridge
Gravenhurst
Barrie
Orillia
Collingwood
Owen Sound
Meaford
Thornbury
Stayner
Creemore
Markdale
Flesherton
Chatsworth
Durham
Dundalk
Shelburne
Alliston
Beeton
Tottenham
Bradford
Cookstown
Newmarket
Aurora
Georgina
Brock
Uxbridge
Scugog
Whitchurch-Stouffville
Markham
Vaughan
King
Caledon
Mono
Adjala-Tosorontio
Essa
Clearview
Wasaga Beach
Collingwood
Blue Mountains
Meaford
Owen Sound
Chatsworth
Georgian Bay
Severn
Muskoka
Lake of Bays
Huntsville
Parry Sound
Seguin
Georgian Bay
Tiny
Penetanguishene
Midland
Tay
Severn
Orillia
Ramara
Oro-Medonte
Barrie
Innisfil
Bradford West Gwillimbury
East Gwillimbury
Newmarket
Aurora

CLIMAT REQUESTS

DATE : 05/06/78

REQUEST FROM : A. Brindle - 839-0746
" 7126

RECEIVED BY : Don

NATURE OF REQUEST (LOCATION, TYPE OF DATA OR ANALYSIS, ETC.)

MR Brindle arrived at his cottage
Carling Bay (Parry Sound) to find the

ACTION ON REQUEST :

his cottage has moved approx
6' to East. completely off its foundat

He last visited his cottage
May 21st - ?

TIME SPENT ON REQUEST : Checked Fort log Book.

CHARGES FOR SERVICE : called OPP. Parry Sound - Cons
Beaupple - check logs and
could find nothing -
Parry Sound - Coast Guard - (MR. Lee's Office Superintendent) ove

Location 1/2 mi south of Carling. Cottage moved from SW to NE.
Dent Bay..

Ministry of Natural Resources
show nothing in the way
of damage reports - or complaints
of trees down etc. a few tents
fell down during rain storm wed May 3

THE SEVERE LOCAL STORMS OF MAY 30,1978

by M.J.Newark,
Weather Enterprises,
PO Box 427,
Brampton,Ontario. Report 78:02

INTRODUCTION

The last few days of May and early June,1978 were characterized by unsettled weather throughout the Great Lakes area, with a number of severe local storms. On tuesday May 30, 1978, localized thunderstorms broke out across the Michigan Peninsula, Essex and Kent counties in southwestern Ontario, and also in areas surrounding Lake Huron and Georgian Bay. Confirmed tornadoes or damaging wind storms were reported as follows;

(a) 1000 EDT, Chatham, Ontario, property damage due to wind.
(b) Afternoon, tornadoes in the northeastern segment of the Michigan Peninsula.
(c) 1350 EDT, Brussels, Ontario, a confirmed tornado causing property damage to nearby farm properties.
(d) 1600 EDT, tornado funnel spotted near Lorrain, Ohio.
(e) 1619 EDT, tornado funnel reported 9 km west of Windsor, Ontario.
(f) 1625 EDT, tornado funnel over Grosse Isle (Detroit River).

THE WEATHER SITUATION

The airmass over the province was warm and humid. Maximum temperatures reached 30°C as far north as Earlton, and dewpoints were in the general range of 16°C to 19°C. A cooler, drier airmass was pushing eastwards across the state of Michigan during the day, and along the boundary zone between the two different airmasses frequent shower and thunderstorm activity was observed (figure 1).

Vertical thunderstorm updrafts were maximized by air diverging horizontally aloft at the right entrance to a jet stream velocity maximum.

WEATHER SATELLITE AND RADAR OBSERVATIONS

(a) Weather Satellite Photographs

Half-hourly pictures taken of the evolving weather situation taken by the Geostationary Operational Environmental Satellite (GOES), show a huge thunderstorm complex over the west end of Lake Erie at 0830 EDT. This moved northwards crossing Chatham at about 1000 EDT and into southwestern Lake Huron by early afternoon. At 1300 EDT a small but intensifying thunderstorm split off from the parent complex, and in turn moved northwards, causing the Brussels tornado. It finally moved out across Georgian Bay and dissipated in the vicinity of Point-au-Baril during the early evening.

A third wave of thunderstorm cells then formed near Durham at about 2000 EDT, and like their predecessors, moved northwards across Georgian Bay. These cells showed rapid weakening after 2300 EDT by which time they were north of Parry Sound.

(b) Weather Radar

The print-out from the Atmospheric Environment Service radar located at Woodbridge, Ontario (range 200 km and received at 20 minute intervals) was unable to "see" the first wave of thunderstorm activity in the vicinity of Chatham. The tracks of the most intense storms in the second wave have been copied from the radar pictures,and are shown in figure 2. At the time (1350 EDT) of the Brussels tornado, the radar indicated that the storm was topped at about 14 km. Calculations show that it was moving in a northerly direction at 18 km hr^{-1}. Figure 3 shows the radar echoes associated with the tornado. Details concerning it were gathered by means of telephone interviews

with those involved, and the information obtained is appended to this report.

The tracks of the principal thunderstorms in the third wave, as obtained from the radar pictures, are shown in figure 4. In general they were moving towards the northeast at 50 km hr^{-1}, and their tops ranged between 9 and 11 km.

CONCLUSION

Air of tropical origin lay over southern Ontario on tuesday May 30, 1978. An approaching cold front triggered a number of thunderstorms, a few of which developed tornadoes or damaging wind gusts and hail.

Three distinct waves of thunderstorms can be traced across southwestern Ontario, each travelling in a northerly direction, and each displaced slightly eastwards from the preceding wave.

The first wave caused damaging wind gusts in Chatham, Ontario, at about 1000 EDT. The second wave caused a tornado and property damage to farms near Brussels, Ontario, at 1350EDT. The track of the third wave was mostly across the waters of Georgian Bay. These thunderstorms made landfall from 2215 EDT to 2245 EDT between Twelve Mile Bay and Killbear Provincial Park.

REFERENCES

Severe Weather Log, Ontario Weather Centre, tuesday May 30,1978.

Wingham Advance Times, wednesday June 7, 1978, p1.

The Brussels Post, wednesday June 7, 1978, p1.

M.J.Newark, Telephone Investigation Report, Brussels Tornado. June 8, 1978.

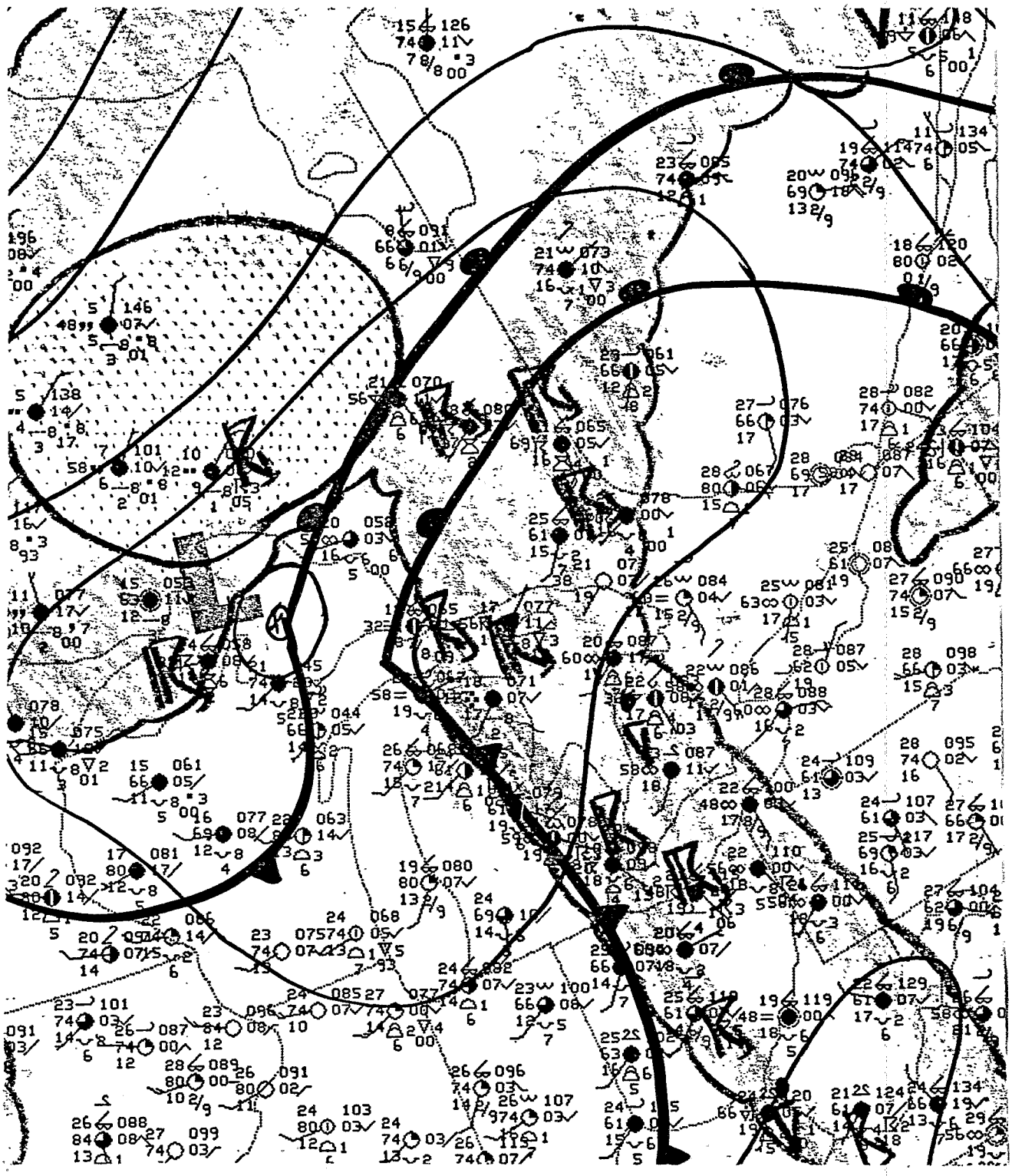


FIG 1. Surface weather map.
2000 EDT, tuesday, May 30,'78

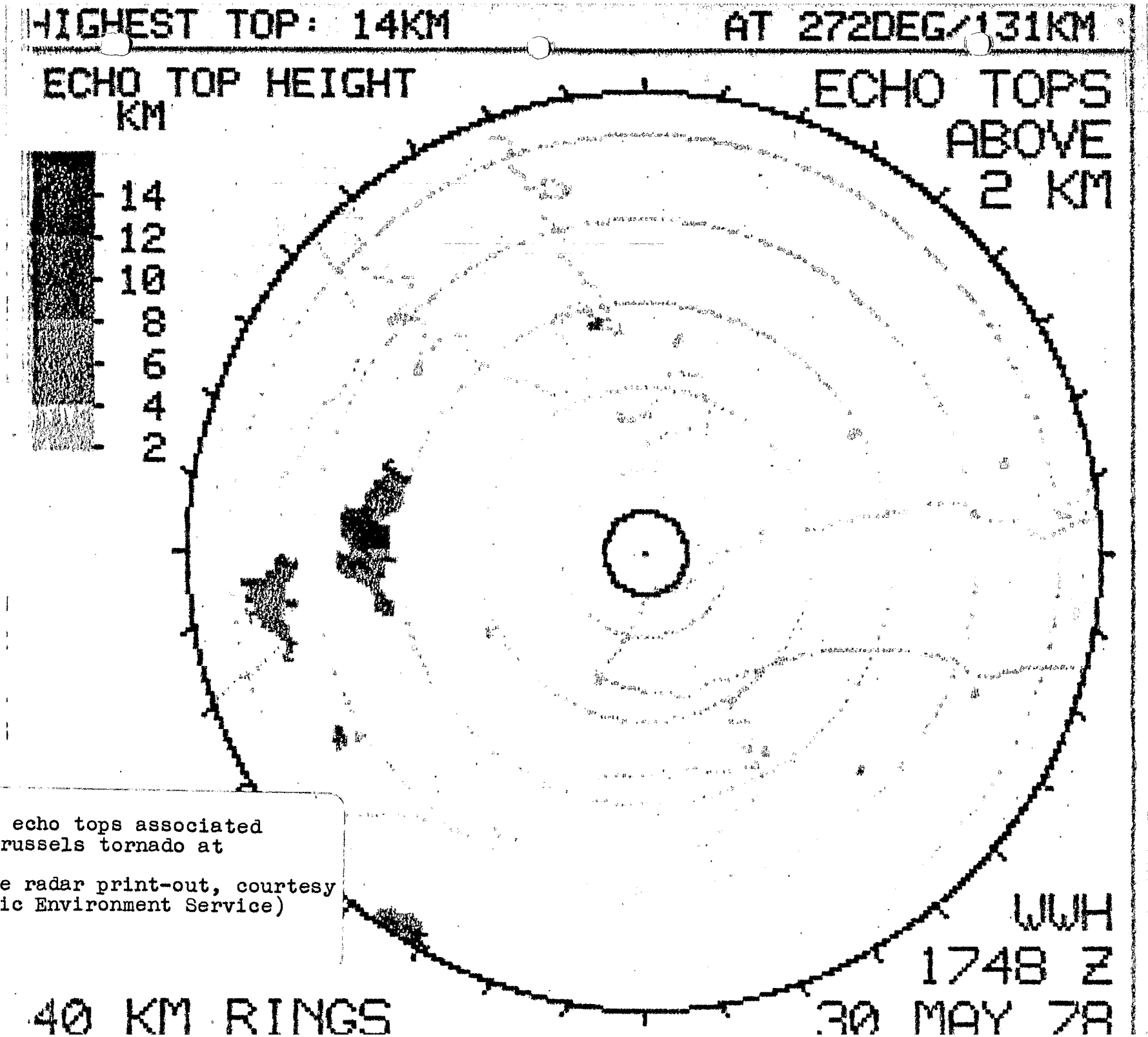


FIG 3. The echo tops associated with the Brussels tornado at 1348 EDT.
(Woodbridge radar print-out, courtesy Atmospheric Environment Service)

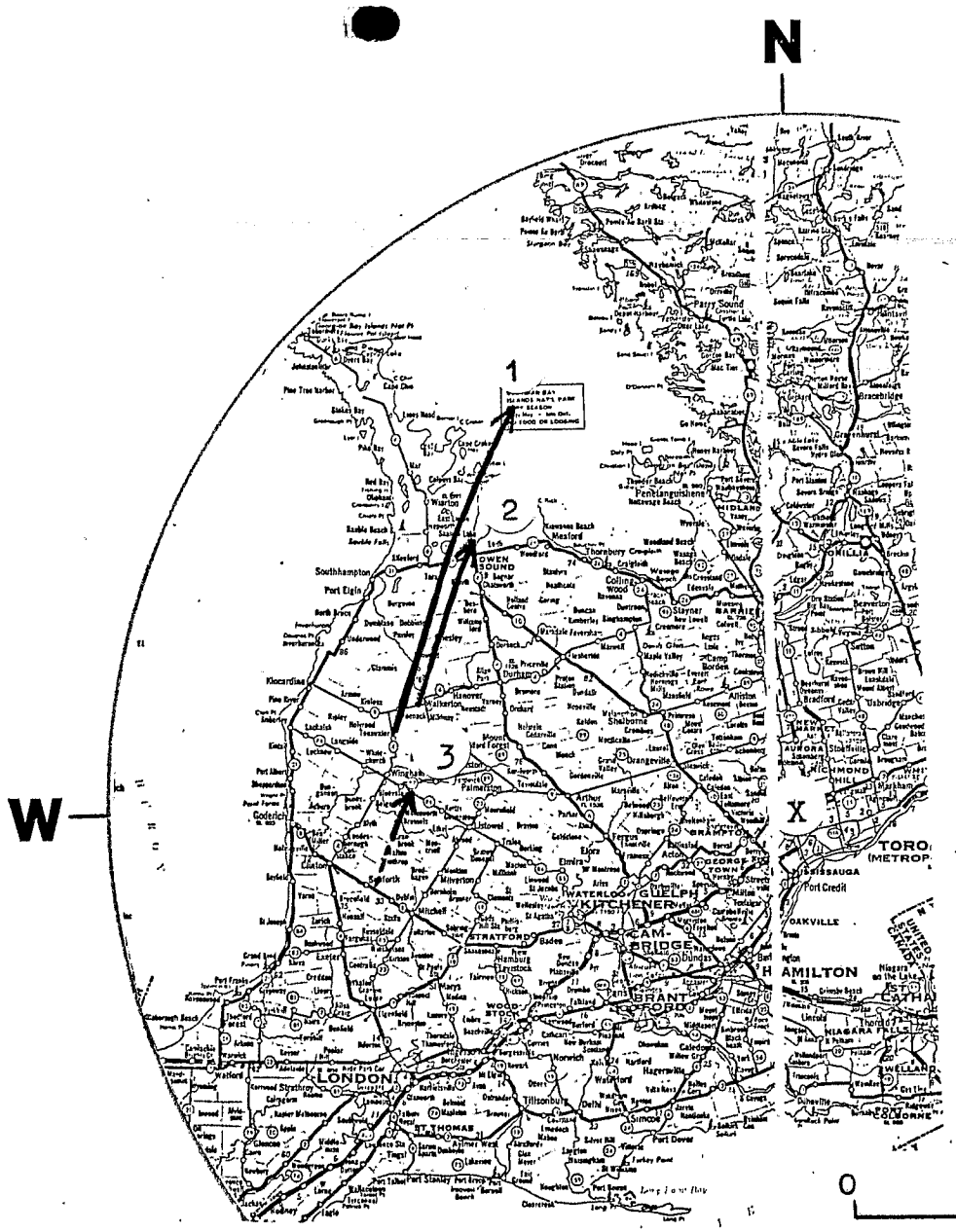


FIG 2. Tracks of the principal thunderstorms of the second wave as seen by the radar located at X. 1350EDT to 1620 EDT. Number 3 is the track of the Brussels tornado (origin point of the parent thunderstorm cell unknown).

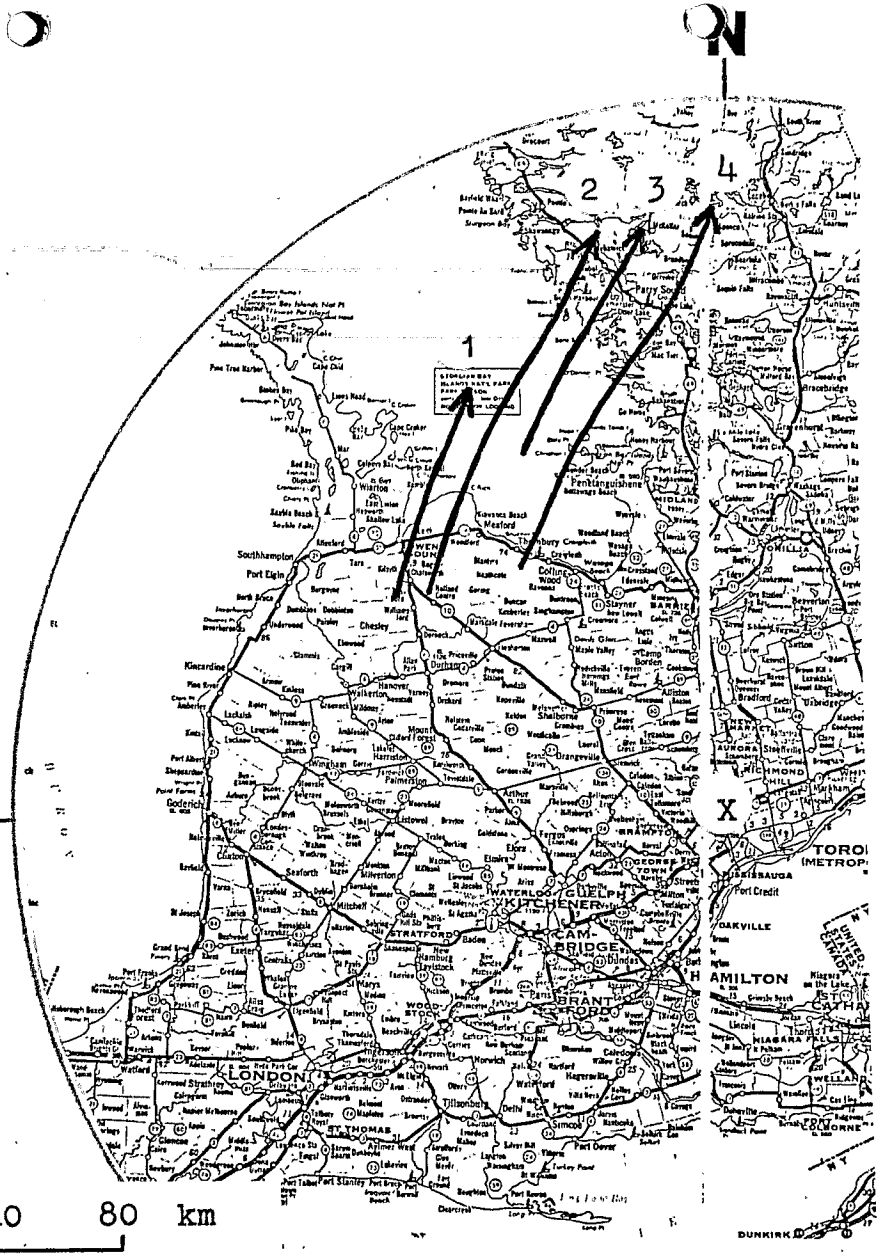


FIG 4. Tracks of the principal thunderstorms of the third wave as seen by the radar located at X. 2010 EDT to 2310 EDT.

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.
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.

Farm of Mel Jermyn (519) 887-9493
next door neighbour of A Campbell on conc 2.
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
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

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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WEATHER ENTERPRISES
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