

0698424

A ✓

F1

TORNADO PROJECT SUMMARY SHEET

1. DATE AND TIME *Sept. 10, 1984 1630 EDT*

2. LOCATION OR PATH (attach map)
Canal Lake, Ont.

3. PATH LENGTH NOT KNOWN *1km* <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;
7) "screaming roar, like a jet plane"

9. LIST ANY ASSOCIATED PHENOMENA (Such as hail, vivid lightning heavy rain, no rain, etc.)

10. TOTAL DAMAGE ESTIMATE \$ 11. TOTAL DEATHS

12. TOTAL INJURED 13. TOTAL HOMELESS

14. LIST ALL REFERENCES

15. SUMMARIZE REMARKS PERTAINING TO (a) FUNNEL; (b) INTERESTING OR CAPRICIOUS EVENTS.
Track from SW → NE

*T.D. 17654050
4937710*

*L.O. 17657450
4938500*

B 0698425 ✓

F1

TORNADO PROJECT SUMMARY SHEET

1. DATE AND TIME Sept. 10, 1954 1630 EDT

2. LOCATION OR PATH (attach map) Lake Dalrymple, Ont.

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

4. PATH WIDTH 50m 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 \$ 11. TOTAL DEATHS

12. TOTAL INJURED 13. TOTAL HOMELESS

14. LIST ALL REFERENCES

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

Track from SW → NE
T.O. 17650625
4947600
L.O. 17651325
4948475

The CANAL LAKE and DALRYMPLE LAKE TORNADOES of September 10, 1984

Investigation dates September 22 and 26, 1984
Investigation, photographs and report by Steven Leitch
Downsview office 667-4662

INTRODUCTION:

On the afternoon of September 10, 1984 at about 16:30 EDT (20:30 GMT) two separate tornadoes touched down in the west side of Carden township at Canal Lake and Dalrymple Lake. Carden township is situated about 10 km northeast of the Lake Simcoe shore. Both tornado tracks were quite short, 1 km each, and were oriented from southwest to northeast. Two cottage roofs were partially removed, small boats and docks were damaged, TV antennas and towers were wrecked, trees fell on power lines and sections of bush had many trees knocked down. To the best of my knowledge there were no injuries or fatalities.

SYNOPSIS:

A sharp and active cold front was crossing southern Ontario from the northwest during this time of the afternoon. Witnesses to both storms said that the storms came up suddenly and the Canal Lake storm had lots of lightning and thunder while at Dalrymple lake there was none. On this day funnel clouds had been reported near Sudbury and North Bay.

DAMAGE LOCATIONS - First at CANAL LAKE: (refer to the fold out maps at the back of this report for locations)

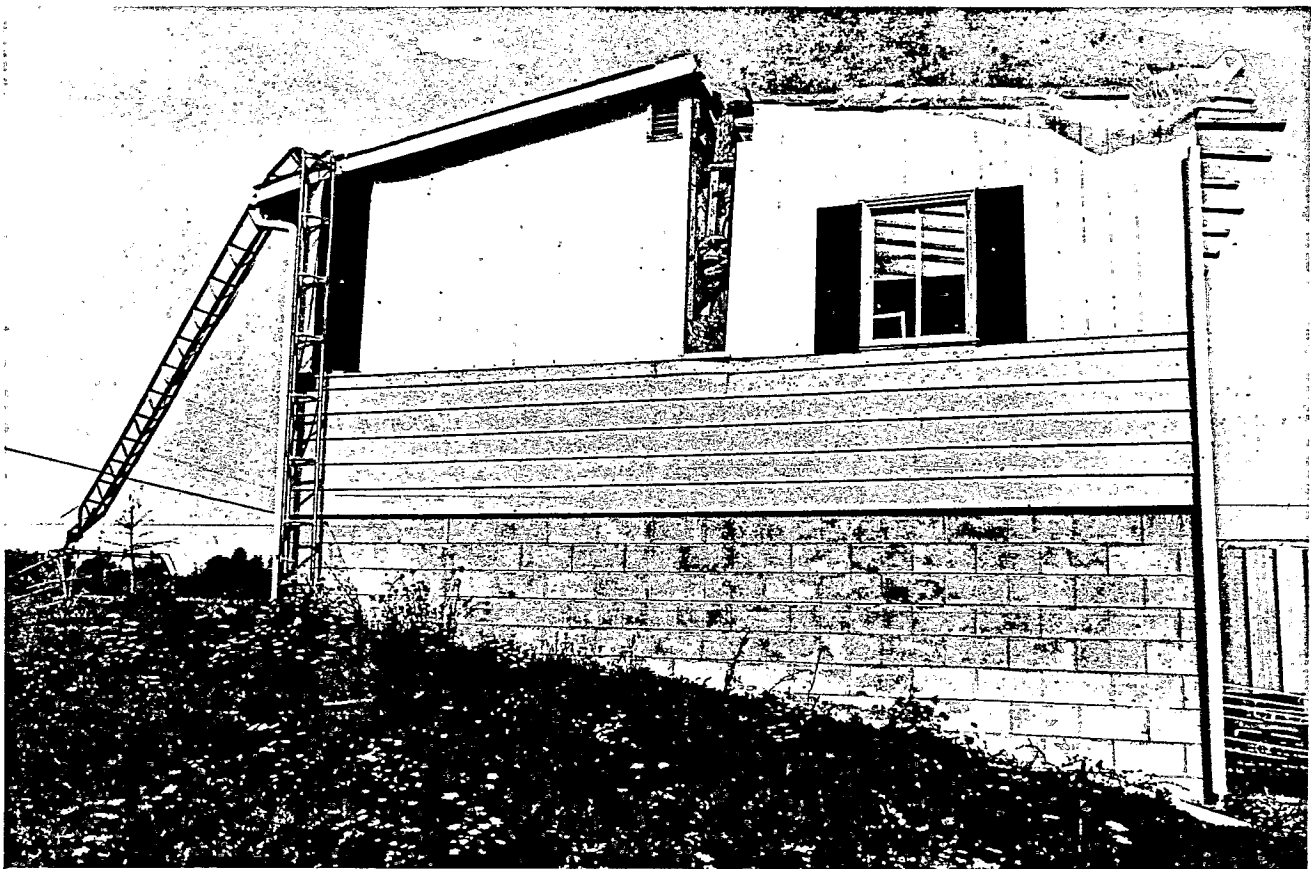
- 1) There was reported to be a broken tree that I feel was broken by the storm but not by the tornado.
- 2) A small group of cedar trees was uprooted northeastward. Again, I feel that this was not caused by the tornado.



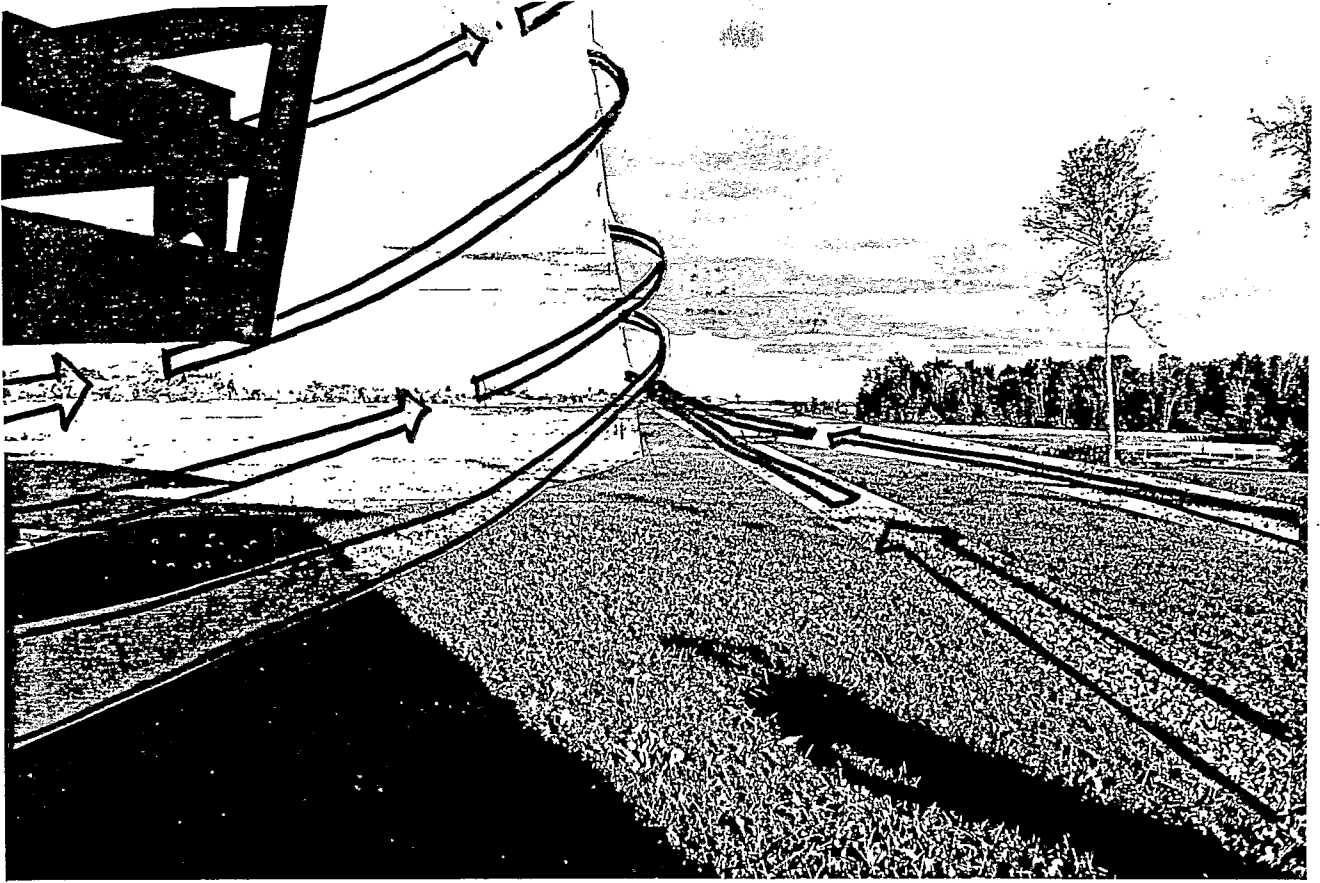
- 3) (ABOVE) A number of trees were knocked down in a bush area near a cottage road. They were mostly poplars and conifers that fell, generally, northward.



Looking southwest at the house that had half of its roof removed by the storm. The disintegrated roof lays strewn in the foreground of this photo.



Looking at the west wall of the modular home with half its roof missing. At the time of this photo the house was in a partial state of reconstruction 12 days following the storm.



- 4) (ABOVE) - EYEWITNESS - Doug Varcole - telephone 705-438-3591
Doug Varcole's house is located on the northwest corner of Canal Lake. He was at home in his basement office when the storm struck. At about 4:30 pm the clouds became dark, he heard banging noises outside and suddenly for a few seconds there was a 'screaming roar like a jet plane that was about to crash into his house'. He sensed that the house was straining under the wind and thought that it was going to let go. He then looked eastward from his basement window and viewed a rushing wind curving counter-clockwise away from him and carrying debris outward and upward over the lake (as reconstructed in the ABOVE photo). At his house and the adjacent houses TV antennas were broken, trees were uprooted to the northwest, another tree was broken eastward, some shingles were removed, small boats were thrown onto shore or conversely into the water, a satellite dish heart was wrecked and a metal garden shed (which had been screwed down to a wooden platform) was dismantled and blown northwestward. One piece of the shed was wrapped over a power line.
- 5) (PHOTOS OPPOSITE) A modular home had the south half of its roof ripped off and blown 100m northeast where it landed disintegrated and strewn for another 50m. Shredded pink fiberglass insulation could be seen scattered along a line to the northeast through an open field. Most of the windows on the south side were broken, the southwest wall had been pushed in and the TV tower folded northeast over the edge of the roof.

CONCLUSION for CANAL LAKE:

Based on the interview with Doug Varcole and his report of the jet plane roar, his view of the curving and upward movement of debris, and the narrowness of the damage track, I feel that this storm was an F 1 strength tornado. Numerous trees were downed and part of a roof had been removed which is consistent with the F 1 tornado definition. The track was only about 1km long and was oriented from south-southwest to north-northeast. The width of the damage is only roughly estimated at 50 m.



A broken willow tree at the Sharps (location 6) at Fox' Beach



A 50 m wide swath of trees was found in the bush at Fox' Beach.
The length of the swath was estimated to be 100-200 m.

DAMAGE LOCATIONS at LAKE DALRYMPLE'S FOX' BEACH

(refer to the fold out maps at the back of
this report for the numbered locations)

- 6) EYEWITNESS - Mr. and Mrs. Ron Sharp - telephone 705-833-2485
Mr. and Mrs. Sharp have a house at Fox' Beach with a good southwesterly view over the water. At 4:15 pm they had just closed all of their windows when, all of a sudden, heavy rain streamed across the west and south windows so hard that it looked as if someone had turned a fire hose on them. At some time between 4:20 and 4:25 pm they looked southwest at the lake surface and watched as a foaming, white wall of water (aligned approximately north-south and about 1 to 1.3 m high) progressed from west to east right passed their shoreline. They were able to look south right down this line and reiterated that it was a wall of water not a wave. The wall took with it one of the small, lightly constructed and un-anchored docks from the shore side of their house. Other anchored docks remained. The power went off shortly afterwards as trees fell over power lines at 4:30 pm. A large willow tree had some of its branches knocked off (see photo OPPOSITE-TOP) and smaller branches were strewn down a field northeastward. Trees that lay on power lines were reported to have been burning. Some lawn furniture left outside had not been moved at all. There had been no lightning or thunder during the storm and afterwards the sun came out making it a nice day.
- 7) For 400 m north along Fox' Beach other cottages had trees and TV antennas knocked over east-northeastward. Part of a heavily constructed cottage roof had been removed, siding damaged and windows broken at Harnetts cottage. Boats were thrown on shore by the wave and some were blown farther inland or down the beach. A steel chimney on one cottage was knocked down and a tree punctured a cottage roof.
- 8) (OPPOSITE - BOTTOM) A 50 m swath of trees through a swampy bush was knocked over, generally, northward. Other trees were damaged more intermittently outside this swath.
- 9) A few trees near the edge of the bush west of the main road and trees on the east side, along the road, were uprooted or broken northeastward.
- 10) I spotted one freshly broken limb on a tree near the road. This looked like the last of the damage.

CONCLUSION for DALRYMPLE LAKE:

The wind directions during the storm and estimated afterwards by tree falls generally indicated convergence. This along with the partial roof removal and the number of trees downed in the bush would indicate a tornado of strength F 1. But the amount of heavy rain just preceding the storm presents the possibility that the storm was downburst in nature. The evidence leaning to tornado seems to be stronger. The damage track length was about 1 km and approximately 50-100 m wide. Orientation was from southwest to northeast.

PHOTOGRAPHS:

The negatives for the photographs in this report plus others not used in the report are available and on file with Steve Leitch.
Telephone office 667-4662
home 661-7011



This is an extra photograph of the damage at Doug Varcole's house. (Location 4) These trees on his lawn have been uprooted to the northwest while another tree only 20 m away (not shown) fell to the east.

F Scale Damage and Definitions

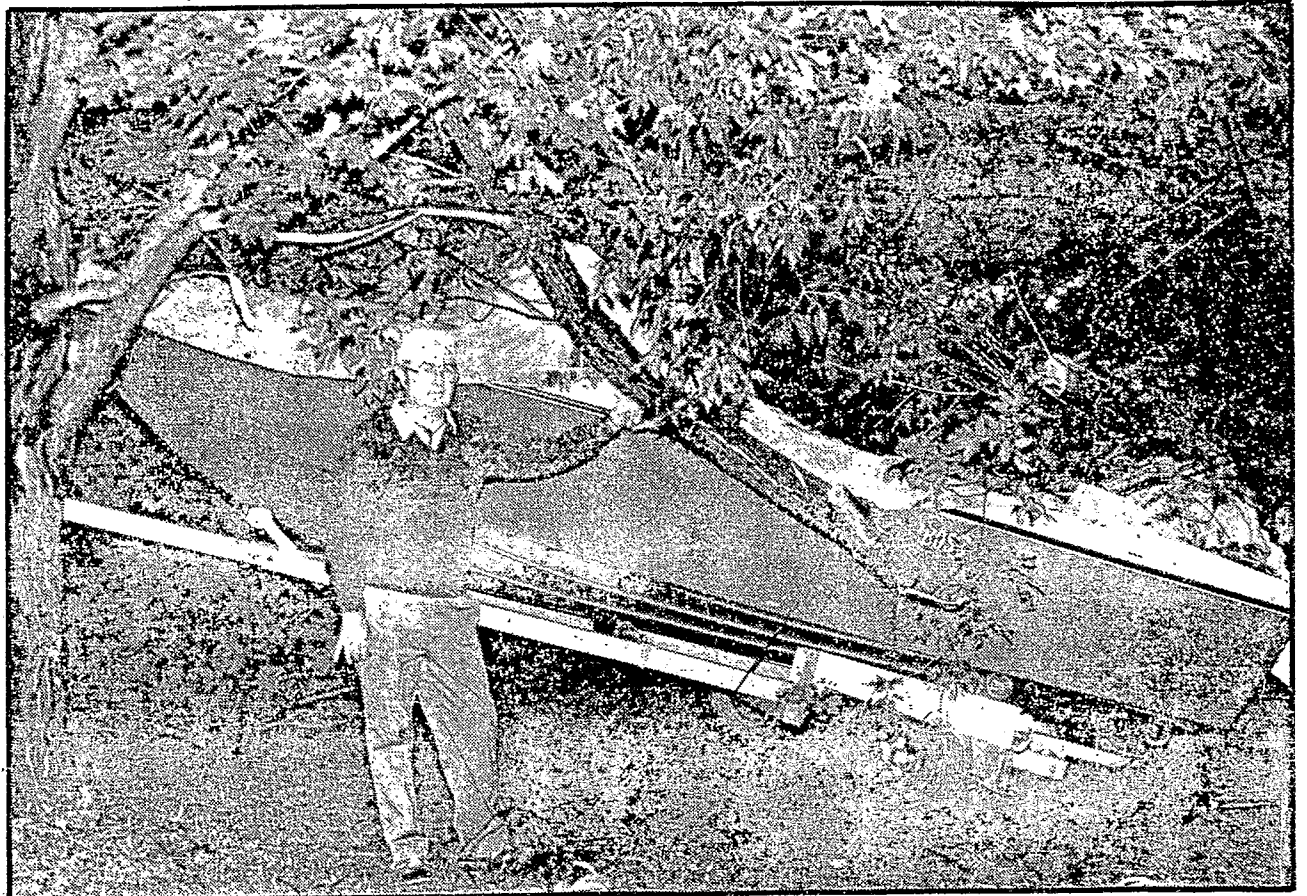
F0	(64 - 115 km/h) <u>T.V. antennae bent. A few roof shingles removed from houses and roofing stripped from barns. Patches of siding removed from houses, awnings or canopies damaged. Aluminum garden sheds moved or buckled and garden furniture blown around. Fences blown down. Trees broken or uprooted (intermittently in heavily treed bush lots).</u>
F1	(116 - 179 km/h) <u>Large areas of roofing material stripped from homes or industrial buildings. Barn roofs entirely removed and boards or siding removed from barn walls. Some impact damage from flying missiles. Unanchored buildings twisted on their foundations. Steel hydro-electric transmission towers knocked down. Summer cottages moved off their foundation.</u>
F2	(180 - 251 km/h) <u>Structural failure of roofs and porches. Barns demolished to the foundation. Empty stave concrete silos blown over or the upper portions of partly filled stave silos demolished. Unanchored 1 - storey houses moved entirely off their foundation. Cottages rolled over or carried short distances. Farm wagons or equipment carried short distances. Areas of total damage in heavily treed bush lots. Considerable impact damage from flying missiles.</u>
F3	(252 - 330 km/h) <u>Upper storeys of brick houses destroyed. Extensive structural damage to frame houses. Heavy farm machinery and automobiles moved or upset. Unanchored 2 - storey frame houses moved entirely off their foundation. Tombstones blown over or carried short distances. House trailers entirely demolished. Extensive impact damage from flying missiles.</u>
F4	(331 - 416 km/h) <u>Two-storey brick homes almost completely destroyed. Empty poured concrete silos blown down. Automobiles, vans, heavy farm equipment carried long distances through the air. Extensive structural failure of industrial buildings.</u>
F5	(417 - 509 km/h) <u>Little remains intact.</u>

The Packet & Times

\$1.70 Weekly For Home Delivery

ORILLIA, ONTARIO, TUES., SEPT. 11, 1984

30¢ Per Copy



John Naylor of Oshawa arrived just in time to help a friend begin removing tree limbs dumped on his boat by the storm.

Tornado, or not tornado is question

BY MIKE GAVIN
Packet Staff Reporter

DALRYMPLE — When they have finally finished the big clean-up job facing them, residents of Fox' Beach here will take time to reflect on their good fortune after being spared injuries and more extensive damages in a severe storm yesterday afternoon.

The extremely high winds toppled dozens of trees and snapped dozens of tree limbs and a few TV antennas as it raced about 400 metres along the beach.

A section of one cottage's roof was blown about 150 metres away.

But damage to homes, cottages, boats and other property on the eastern shore of Dalrymple Lake appeared relatively light,

most probably because the force of the storm was broken up by the heavy tree cover in the area. There's no damage estimate yet.

After blowing along the beach, the winds headed inland, where they knocked down a wide swatch of trees in the bush.

The storm struck just after 4 p.m., as torrential rains were being dumped on Orillia and much of Central Ontario. It was severe enough that for John Huk, a cottager from Scarborough watching it blow in from his front window, it looked like a tornado.

"It gave you the impression that the rain, the clouds and the lake — the top and bottom — were coming together," said Huk.

"The cottage was just shaking.

"It was a mini-tornado. Definitely," Huk added.