0198301 A C F= 1

TORNADO PROJECT SUMMARY SHEET

1. DATE AND TIME August 3, 1983 early evening

2. LOCATION OR PATH (attach map) Sunshine Pool, Nfld.

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.) - rain

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.

b) Trees broken and uprooted, small wooden cabin overturned.

T.D. 216 83000
545 3250
875 0









0002-0103

Environment Canada / Environnement Canada

Atmospheric Environment Service / Service de l'environnement atmosphérique

PHOTOS

DO NOT BEND

Government of Canada / Gouvernement du Canada

ROUND TRIP MEMORANDUM **NOTE ALLER RETOUR**

SEP 12 1986

FROM / DE: Stu Porter (for address see over)

File No. (originator) – Dossier nº (source): 8770-1

TO / À: Mike Newark

File No. (addressee) – Dossier nº (destinataire):

Subject - Objet: Attached report by John Bursey

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Mike John asked me to pass on to you some remarks received from Reg Bath, DFO warden. Apparently some time after Aug 3, 1983 Reg was in that area and reported that just to the Northwest (approx) of the area John described there is another area of downed trees. Area is about 500-600 metres long by 3-5 metres wide. John was unaware of this when he wrote his report.

Signature: Stu Date: Sept 5/86

Reply - Réponse

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Many thanks for this information. In view of all the circumstantial evidence (the roar, the narrow swath of damage and particularly the clear indication of convergence) I would be 99% confident that the event was a tornado.

Best regards to you and John

Signature: Mike Date: Sept 28/86

7540-21-029-0717

CGSB STANDARD FORM 59

FORMULE NORMALISÉE 59 DE L'ONGC

1 ADRESSEE / DESTINATAIRE

Please add reply – Keep this copy and return No. 2 to originator.
Ajouter la réponse – Garder cet exemplaire et renvoyer le nº 2 à la source.

STU PORTER
Scientific Services Meteorologist
AES Bldg 303 Pleasantville
Po Box 9490 STN B
ST JOHNS, NFLD
A1A 2Y4 772-4695

REPORT ON THUNDERSTORM OF AUGUST 3, 1983, AT SUNSHINE POOL ON THE GANDER RIVER

Introduction

In the early evening of August 3rd, 1983, a severe thunderstorm occurred at Sunshine Pool on the Gander River. Sunshine Pool is located about 8 km upriver from the mouth of the river at Gander Bay. The storm was witnessed by Messrs. Ian Eisan, Roland Whittle, Eric Stratton, Wayne Lyon and Doug Massie, residents of Gander, who were salmon fishing in the area at that time. This account of the event was pieced together from correspondence and conversations with Messrs. Eisan, Whittle, Lyon and Stratton provided to Mr. G. MacMillan of the Gander Weather Office and the undersigned.

Eyewitness Reports

On this day, the weather was hot and humid. Late in the afternoon, a large thundercloud built up in the west and drifted toward Sunshine Pool. At first, it was very dark and quiet. Approximately 10 - 15 minutes before the storm reached the pool, a light rain began while continuous thunder and lightning accompanied the approaching thundercloud. The leading edge of the dark, approaching cloud was observed to be rotating horizontally at a high rate of speed (much like the vortex from the wingtip of an airplane).

As the storm drew near to Sunshine Pool, the fishermen saw tree leaves and other debris spiraling upward in a clockwise direction, reaching heights of 100 - 200 meters. Mr. Eisan, who was fishing in a pool between 50 - 60 meters from the Department of Fisheries and Oceans (DFO) cabin, noticed a doughnut-shaped cloud above and behind the cabin. It was observed to be approximately 15 - 22 meters in diameter, with its center slowly rotating clockwise around a center other than its own (dashed circle, Figure 1). It was very dark above the rotating doughnut cloud with constant thunder and lightning. After Mr. Eisan had observed it for some minutes, he decided to work his way upriver to meet Mr. Stratton. During this process, he heard a loud explosion (others reported hearing this plus a loud thump and another loud roar that diminished as rapidly as it had occurred). Extremely strong winds then began and first, blew upriver and later, downriver. While this was happening, Mr. Eisan was lying among rocks, clinging to one to avoid being blown away. However, he was torn from his hold but managed to cling to another rock after being blown a short distance. These winds were estimated by Mr. Eisan as being at least 150 mph. During this brief interval, trees were uprooted, broken off and thrown into the river; mostly in the channel in front of the cabin but some of the lighter material as far away as 200 meters eastward.

Mr. Stratton, standing beyond the periphery of the strongest winds, noticed that the "center" or "core" of the wind field moved upriver just east of the cabin and disappeared from view around the island. Shortly afterward, a wave crest about two meters high was seen propagating downriver (in the channel just east of the cabin), and it swept most of the debris away.

That evening as they walked through the woods to the highway, the fishermen noted that the bogs were still covered with a few centimeters of running water.

Survey of Damage

The cabin was overturned and displaced upriver (Figure 2). Trees were flattened, and some were broken off from about one third to half way up the stem. Direction of lie of the uprooted trees and approximate area of damage are shown in Figure 3.

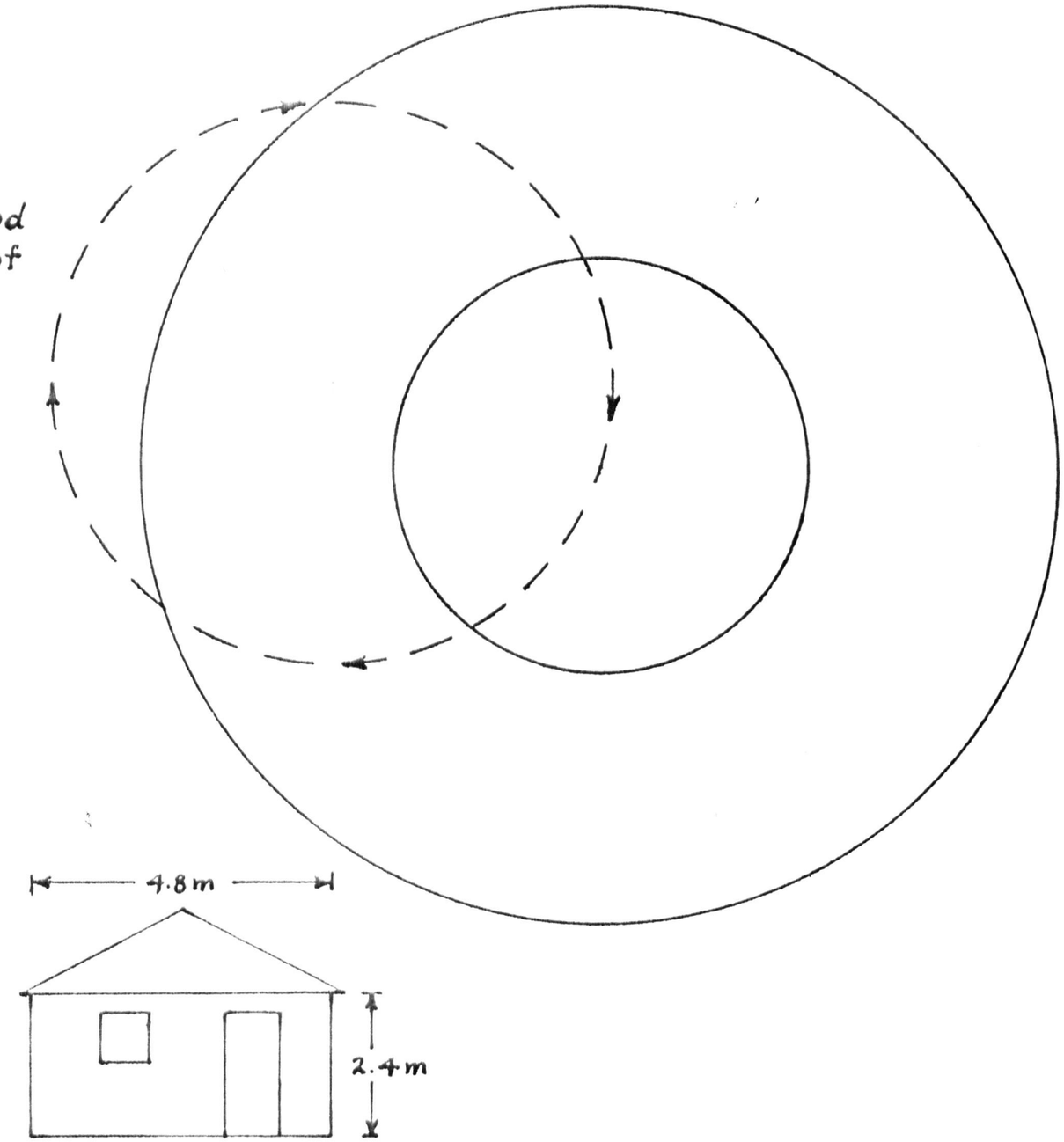
Discussion

The area of damage (Figure 3) seems to be similar to the converging airflow pattern described by Professor T. T. Fujita in Weatherwise, October, 1983, pages 260 - 261. These patterns are associated with slow-rotating (weak), fast-moving tornadoes. However, although a horizontal cloud rotating at a high rate of speed was noted by the witnesses who were furthest away, a funnel was not observed by the nearby witnesses. Hence, some doubt remains as to whether or not the event was associated with a tornado.

John O. Bursey

FIGURE 1.

DFO Cabin with doughnut shaped cloud center 10-15 meters overhead. Diameter of the cloud about 15-22 meters. Geometric center of cloud moved along dashed curve, bottom at times almost touching ground.



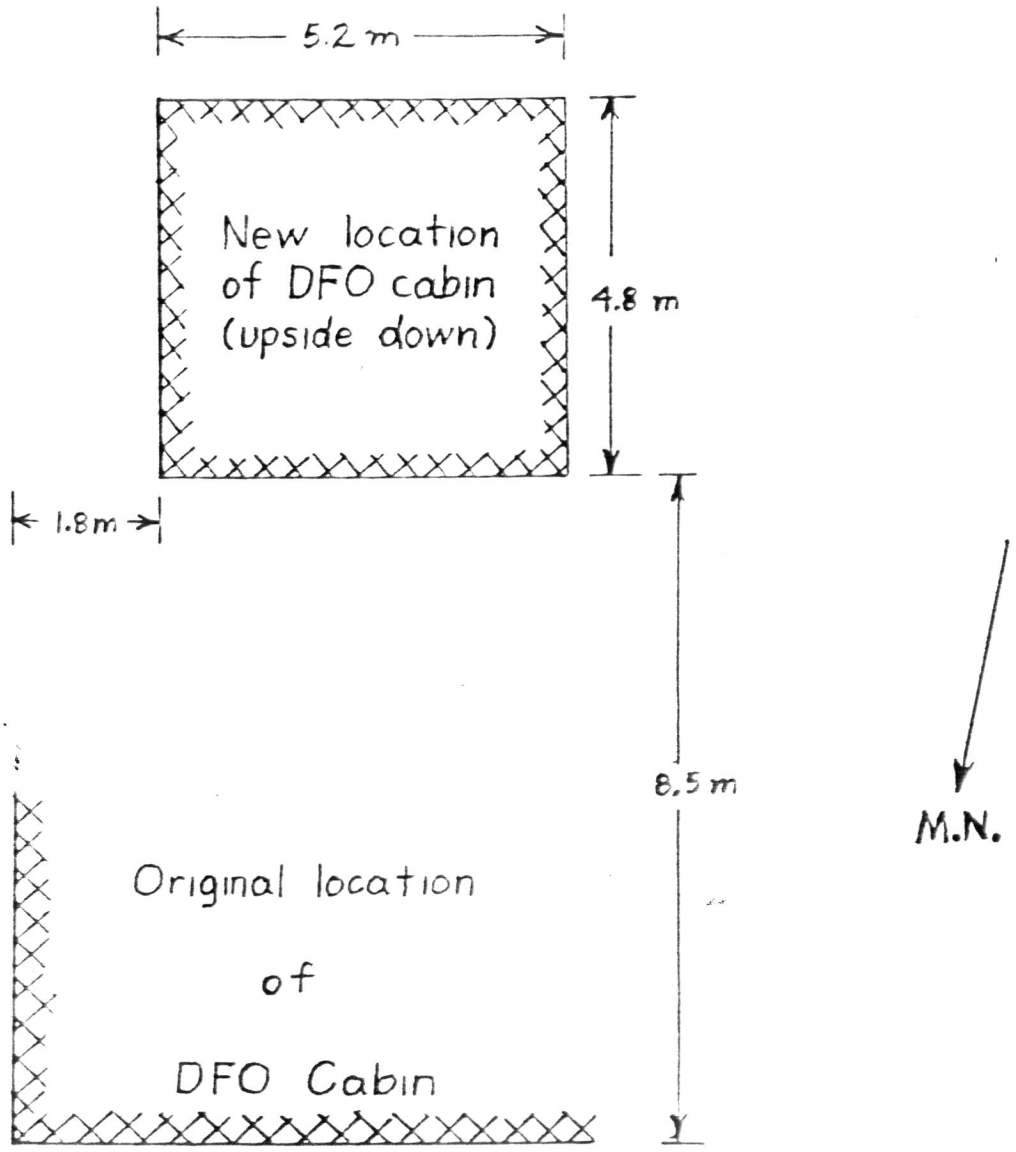


FIGURE 2. The cabin is constructed with 2 x 4 inch framing, covered with 3/4 inch lumber and clapboarded. It is upside down and partially collapsed in the new position with most of the windows shattered.

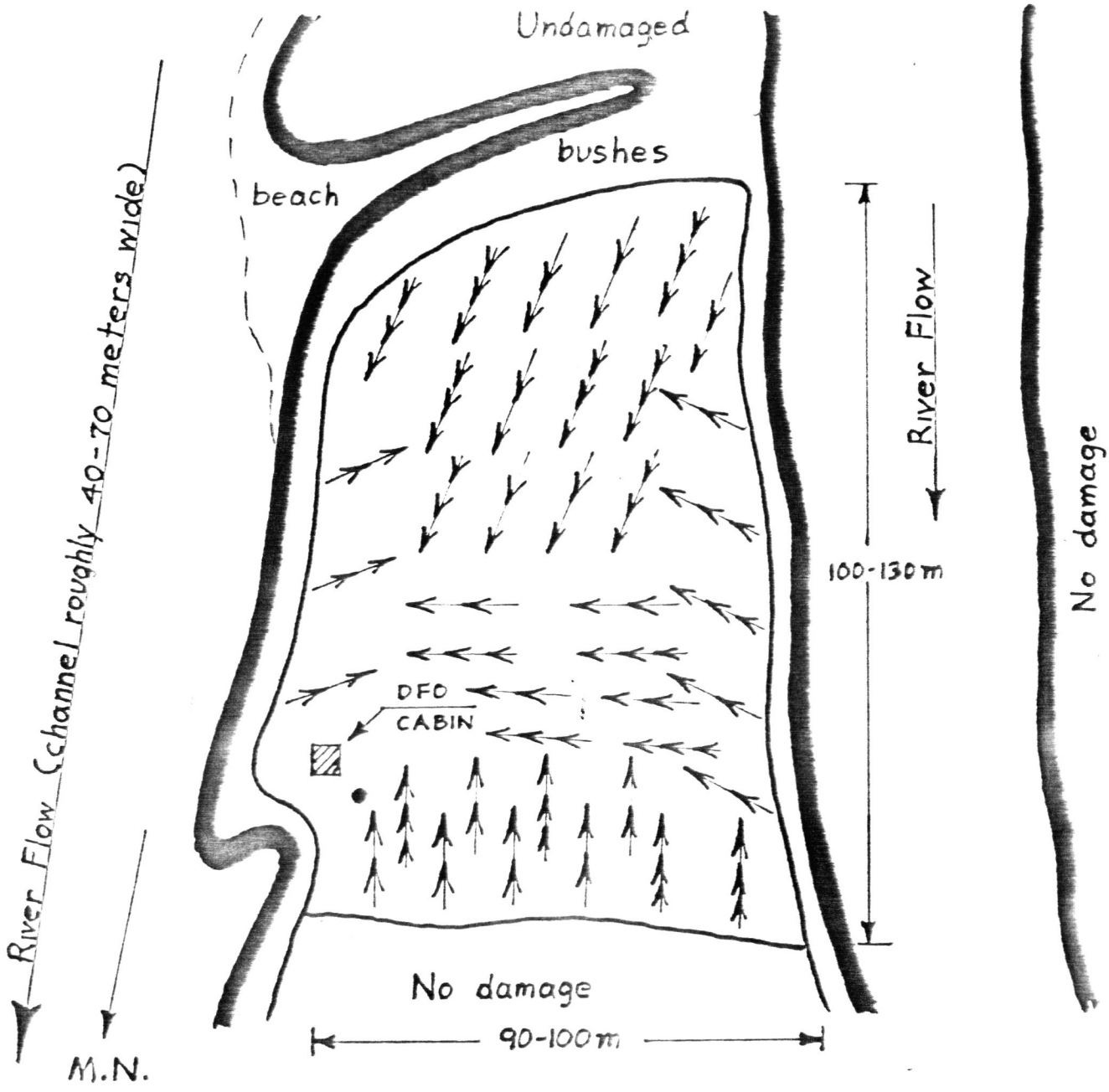


FIGURE 3. Storm travelled from west to east. Arrows indicate fallen trees and direction of lie. Dot locates standing tree. Trees predominately spruce and fir (7-14 meters) with a few birch and maple. Most evergreens damaged from insect attacks and some dead. A few trees broken off but most uprooted.