Confirmed Tornado
Kakabeka Falls, Ontario
June 21, 2006

Date- Local: Wednesday, June 21st, 2006
UTC: Wednesday, June 21st, 2006
Time- Local: 1635
UTC: 2035
Location: Kakabeka Falls (31.5 km W of Thunder Bay)
Region: Superior West
Classification: Confirmed Tornado
Category: A
Casualties: None
Track Length: 210 m
Width: 120 m
Motion: 270 degrees
Damage Estimate: None available
F-Scale Rating: F1
Code: TS
Damage Survey: Yes, done by Julie Turner and Kevin Everett
Spotter Reports: None
Other Documents:

Damage survey detailing damages, path length, width and motion. Also includes eyewitness interviews of what they observed, two waypoint maps, and conclusions

Photos of tree damage

2 OSPC reports, one confirming tornado the other confirming a funnel cloud spotting

sjs

Tornado F-Scale Assessment

Brad L. Rousseau
Tornado Data Production Assistant, Environment Canada
May 26th, 2010

Classification: Confirmed Tornado
Date: Wednesday, June 21st, 2006
Location: Kakabeka Falls (31.5 km W of Thunder Bay), Superior West Region

Assessment: F1
F-Code: TS
Explanation of Assessment: All species, all sizes of trees (some half a meter in diameter) twisted off. Some shallow-rooted species uprooted. Trees were spread out in a chaotic convergent manner.

SJS

June 21 2006

- Kakabeka Falls -

Investigators

Julie Turner, Outreach Officer, MSC Thunder Bay
Kevin Everett, AMOD, MSC Thunder Bay

** Please note that this is a preliminary report for review by the WPMs and OSPC **

Quick Facts

Severe Weather Type	Tornado
Location	Conmee Twp, ON (west of Kakabeka Falls)
Time	Approx 20:35 UTC
Duration	
Magnitude	F1 (based exclusively on tree damage)
Path Length	Over 210 metres (estimated)
Direction of Motion	From west to east
Max. Path Width	At least 120 metres wide
Significant Damage	All species, all sizes of trees (some half a metre in diameter) twisted off . Some shallow-rooted species uprooted.

Overview

A cold front sweeping through Northwestern Ontario was expected to kick off thunderstorm activity through the afternoon. The potential for severe weather was recognized early in the day and appropriate bulletins were issued beginning mid-morning. (Easily the best-handled summer severe weather event I remember seeing in NWO.)

Watches/Warnings/Events Chronology

Note—only bulletins applying to the affected areas are listed.

1424 UTC – Severe Thunderstorm Watch first issued for multiple regions including City of Thunder Bay and Superior West.

1558 UTC – Severe Thunderstorm Warning issued for multiple regions including Kakabeka Falls – Whitefish Lake – Arrow Lake
1639 UTC – Severe Thunderstorm Warning expanded to include City of Thunder Bay and Cloud Bay – Dorion
- Tornado Watch issued for City of Thunder Bay and Superior West
2014 UTC – Tornado Warning issued for City of Thunder Bay and Kakabeka Falls – Whitefish Lake – Arrow Lake
2030 UTC – first sighting of funnel cloud by observer (see report #1)
2035 UTC – eyewitness report of tornado touchdown (see report #2)
2218 UTC – Tornado Warning ended although Watch continued

Investigation Summary

- The field investigation took place more than a month after the event. Although a funnel cloud had been spotted at the time, it was several days before the damage was discovered in the bush and several more days before this became public knowledge through the local newspaper. Because the damage was entirely forest, cleanup wasn't imminent and the field work was conducted when local staff became available.

- Report #1
  Julie Turner (Outreach Officer Thunder Bay)
  (807) 346-5949
  (previously relayed to Phil Chadwick on June 21)

  Travelling home from work on Hwy 11/17 westbound at about 2030 UTC, from high ground by Kakabeka Falls Provincial Park I saw a funnel begin to form on the underside of a cloud west of the highway. It was broad and white-ish in colour, resembling an upsidedown beehive extending from the bottom of the cloud and rotating. I pulled over and watched it for a couple minutes and then continued to a higher vantage point at the intersection of Hwy 11/17 and Hume Road in Conmee Twp. From that location (indicated as Hume Rd on the maps) I watched for several more minutes. I could still see the broad white "V" shape but a darker visibly-rotating funnel cloud formed in front of it and reached down to the horizon—it looked like a dark grey twisted rope. I couldn't see the base to tell if it actually touched down. I watched it for a few minutes as it moved eastward in my direction and then dissipated. It didn't really retract into the cloud—it just became progressively more wispy in appearance until it was gone. About 15 minutes or so later, we experienced hail (about 10 mm in diameter) at my home on Hume Road lasting only a minute or two.

- Report #2
  Interviewed: Wilf Kuurila, resident of Conmee Twp
  (807) 622-7023

  Mr. Kuurila was mowing the lower lawn in front of his home at 175 Olson Road when he saw a rope-like funnel form and touch down at about 4:35 pm. The funnel

was at a 45 degree angle to the cloud base and moving eastward. He saw rotation and airborne tree debris where the funnel met the treetops. He experienced heavy rain as he headed for the house. He and his family took shelter in the basement under the stairs and heard a howling noise as the storm went by—estimated duration, 4 or 5 minutes. The rain had ended when he emerged and there was no hail. He subsequently cleaned up tree branches and debris from his lawn although the parent trees were about 400 feet back in the bush.

- Report #3
  Interviewed: Jim Kingsborough, resident of Conmee Twp

  Mr. Kingsborough also lives on Olson Road. He wasn't home at the time of the event and incurred damage to only a few individual trees on his property across the road.

- Another neighbour who witnessed the event—Giselle Little—couldn't be interviewed as she was out of town on holidays. Mr. Kuurila advised that she reported a roaring noise as the storm approached, which he didn't detect over the noise of his lawnmower. Damage was also investigated at the back of her property. A relative of Mr. Kuurila apparently has digital pictures of the event. We will try to obtain copies when the individual returns from his trip to Germany.

- The damage swath on the ridge behind the Kuurila home is at least 120 m wide and 210 m long but may be considerably longer. An additional swath over 100 m in length was examined further west on the same ridge behind the Little home. This would seem to imply that either the tornado touched down more than once or that there may have been more than one vortex. Due to the ruggedness of the terrain it wasn't possible to walk the entire area and a laser range finder was invaluable in determining distances. (This piece of equipment should be part of every storm investigation kit!) The damage we saw was exclusively to trees—all sizes and species, some uprooted but the majority twisted off, in some cases near ground level and in others, halfway up the tree. Some convergence in the pattern of downed trees was noted in along left side of the damage path.

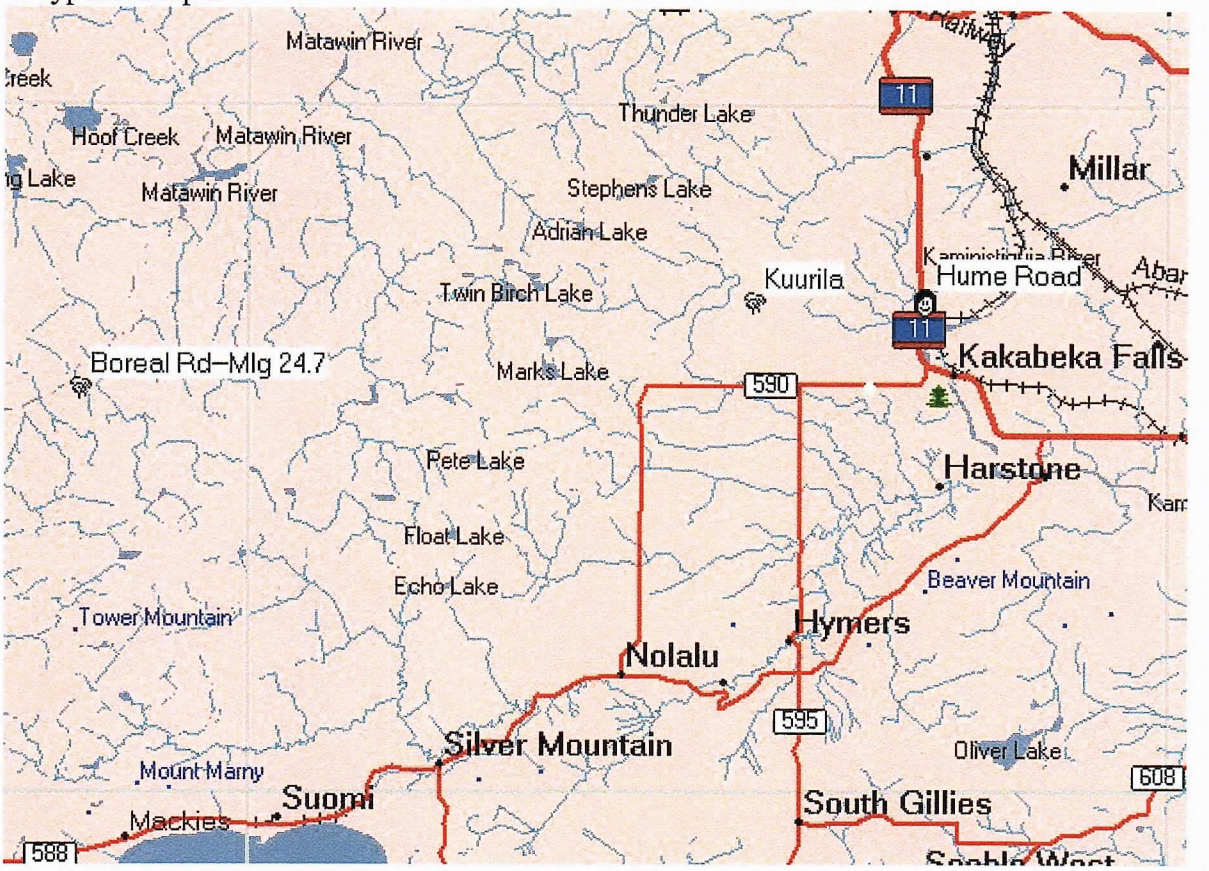
- Another area of damage further west (on the Boreal Road) was investigated at the same time, although with slightly different results. The damage area was visible to the south of the road for more than one kilometer along the roadside. The bulk of the downed trees were fanned out pointing roughly northeastward, with their trunks showing where bark had been ripped straight down one side as the tree toppled over. (See photo) However a few hundred metres to the west of the main swath was a small area of converging debris.

<u>Waypoint Map</u>

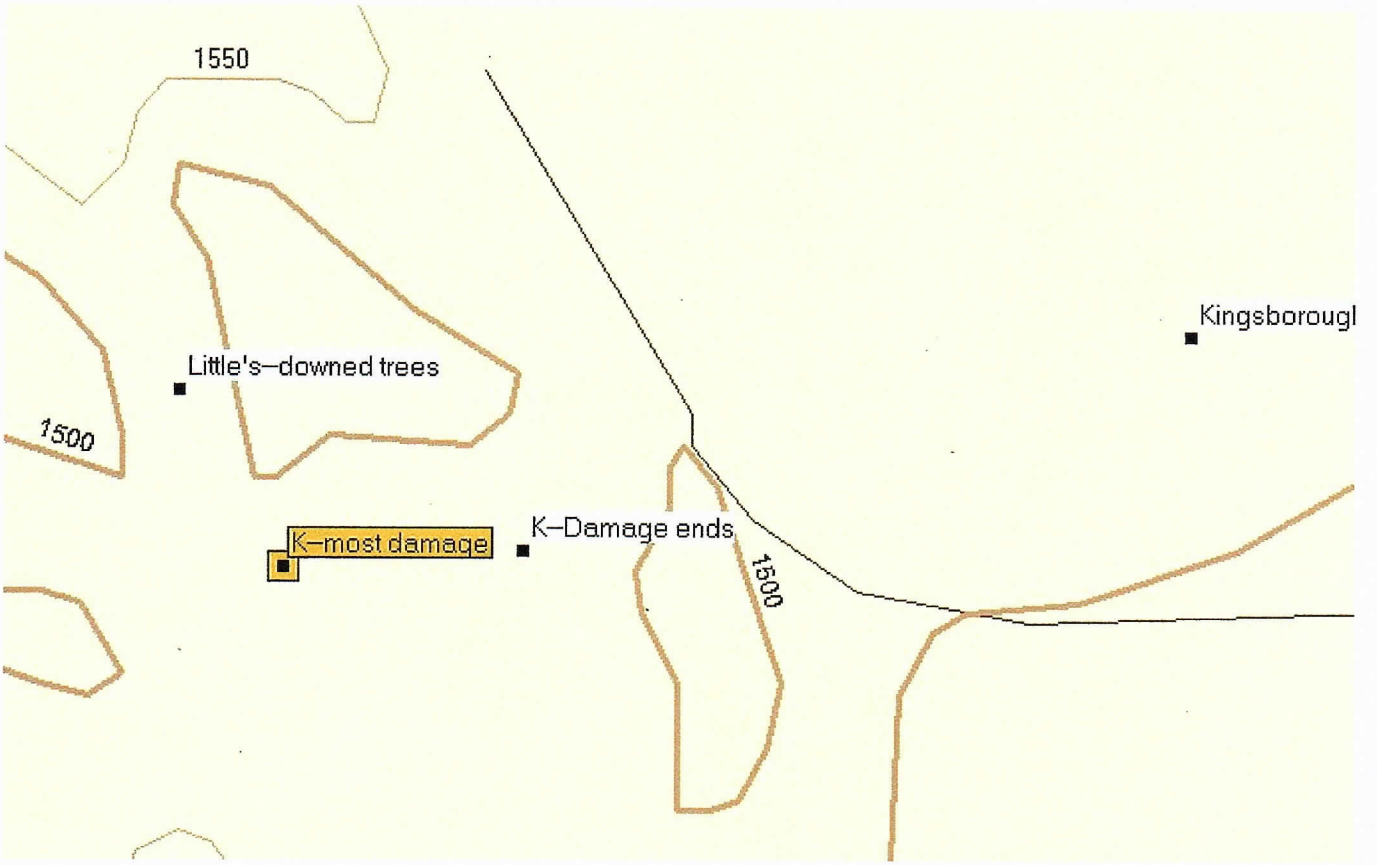
The first waypoint map shows the general location of the incident, with 3 markers showing the orientation of the funnel cloud sighting (labelled Hume Rd), the Kuurila residence where the tornado was spotted, and the damage site on the Boreal Road (5 mi

scale). The second map is more specific, showing the damage swath in relation to the Kuurila, Kingsborough and Little homes (300 ft scale).

Waypoint Map 1



Waypoint Map 2



Radar Evidence

To be completed when imagery available

Conclusions

Given the eyewitness accounts and the damage pattern, there is little doubt that a tornado touched down near Olson Road on June 21. Numerous large trees were downed at roughly right angles to and along the left side of the swath where some evidence of convergence was seen. The damage on Boreal Road isn't quite as straightforward. The primary damage appears to be the result of a blowdown with the downed trees fanned out generally pointing northeastward. However a smaller area of damaged trees a few hundred metres west of the main swath showed signs of spiraling with debris lying in all directions.

The orientation of the three sites in a west to east line—Boreal Road, Olson Road, and Hume Road—would suggest that the same cell or cluster of cells may have been responsible for all.

Digital photos of the damage can be found in the adjacent folder.


24 07 2006


24 07 2006


24 07 2006

Environment Canada Environnement Canada

[Français] [Back]

View Event

Back To Search Results

Event type	Tornado (vetted)
Event start date	2006-6-21 UTC (exact)
Event start time	20:35:00 UTC (estimate)
Event duration	00:20:00 (rough)
Entered by	bonczam (2007-11-07 15:08:00)
Event version	latest
fcst region	SUPERIOR WEST
meso region	KAKABEKA FALLS - WHITEFISH LAKE - ARROW LAKE
Latitude/Longitude	48 ° 28' N 89 ° 40' W
Location	0 KM N of Conmee
Hail	no
Hail size descriptor	N/A
Hail diameter	N/A
Hail depth	N/A
Wind	no
Gust speed	N/A
Wind direction	N/A
Wind intensity	N/A
Rain	yes
Rain amount	N/A
Rain duration	N/A
Tornado	yes
Tornado intensity	F1 (measured)
Lightning	no
Lightning Intensity	N/A
Mesocyclone	no
Funnel Cloud	no
Waterspout	no
Narrative	Funnel cloud spotted. Extensive tree damage and heavy rain were reported. Storm survey revealed damage to all species, all sizes of trees (some half a metre in diameter) twisted off . Some shallow-rooted species uproote. Damage path of length 210 m and maximum width of 120m from west to east. More details and photos available in the storm survey report under Kakabeka Falls.
Confidence	confirmed
Warning Criteria	met or exceeded
Source	Staff
MSC initiated report of event	N/A
Contact name	Julie Turner
Contact phone	N/A
Contact email	N/A
Contact address	N/A
Number of fatalities	N/A
Fatality comments	N/A
Number of injuries	N/A
Injury comments	N/A
Damage amount	N/A
Damage comments	N/A
Power outage	N/A

Back To Search Results Note: Event details are highlighted in orange.

You've Logged On As user: sillsd (ONT)
Today is: 2010-05-26
Account expiry date: 2014-12-31
Logoff

[Graphics off] |

Important Notices and Disclaimers

Created : 2003-12-08
Modified : 2006-02-16
Reviewed : 2003-12-08
Url of this page : http://performance.ec.gc.ca/eventdata/viewevent_e.php?b_templatePrint=true

---

The Green Lane™,
Environment Canada's World Wide Web Site.

Canada

Environment Canada Environnement Canada

[Français] [Back]

View Event

Back To Search Results

Event type	Thunderstorm (vetted)
Event start date	2006-6-21 UTC (exact)
Event start time	21:30:00 UTC (exact)
Event duration	00:01:00 (exact)
Entered by	bonczam (2007-08-23 17:39:59)
Event version	latest
fcst region	SUPERIOR WEST
meso region	KAKABEKA FALLS - WHITEFISH LAKE - ARROW LAKE
Latitude/Longitude	48 ° 24' N 89 ° 37' W
Location	0 KM N of Kakabeka Falls
Hail	no
Hail size descriptor	N/A
Hail diameter	N/A
Hail depth	N/A
Wind	no
Gust speed	N/A
Wind direction	N/A
Wind intensity	N/A
Rain	no
Rain amount	N/A
Rain duration	N/A
Tornado	no
Tornado intensity	N/A
Lightning	no
Lightning Intensity	N/A
Mesocyclone	no
Funnel Cloud	yes
Waterspout	no
Narrative	funnel cloud spotted.
Confidence	confirmed
Warning Criteria	not met
Source	Staff
MSC initiated report of event	N/A
Contact name	Julie Turner
Contact phone	N/A
Contact email	N/A
Contact address	N/A
Number of fatalities	N/A
Fatality comments	N/A
Number of injuries	N/A
Injury comments	N/A
Damage amount	N/A
Damage comments	N/A
Power outage	N/A

Back To Search Results

Note: Event details are highlighted in orange.

You've Logged On As user: sillsd (ONT)
Today is: 2010-05-26
Account expiry date: 2014-12-31
Logoff

[Graphics off] |

Important Notices and Disclaimers

Created : 2003-12-08
Modified : 2006-02-16
Reviewed : 2003-12-08
Url of this page : http://performance.ec.gc.ca/eventdata/viewevent_e.php?b_templatePrint=true

The Green Lane™,
Environment Canada's World Wide Web Site.

Canada