
**Confirmed Tornado
Melduf, Ontario
July 17, 2000**

Date- Local: Monday, July 17th, 2000

UTC: Monday, July 17th, 2000

Time- Local: 1730

UTC: 2130

Location: 2 km SE of Melduf

Region: Barrie-Orillia-Midland

Classification: Confirmed Tornado

Category: A

Casualties: None

Track Length: 3 000 m

Width: 400 m

Motion: 315

Damage Estimate: \$10 000

F-Scale Rating: F1

Code: SS

Damage Survey: David Sills, MSC King Radar

Spotter Reports: Twelve

Other Documents:

Damage Survey By David Sills

Newspaper Articles

sjs

Meteorological Service of Canada
1905 Dufferin Street, ARMP
Brimley, Ontario M3H 5T4
CANADA

Tornado F-Scale Assessment

Sarah J. Scriver

Tornado Data Production Assistant, Environment Canada

April 21st, 2004

Classification: Confirmed Tornado

Date: Monday, July 17th, 2000

Location: Melduf, Barrie-Orillia-Midland Region

Assessment: F1

F-Code: SS

Explanation of Assessment: 7 x 20 m aluminum shed tossed 250 m , 200-300 trees downed.

SJS

Meteorological Service of Canada

4905 Dufferin Street ARVP

Downsview, Ontario M3H 5T4

CANADA

Storm Damage Survey - 17 July 2000

- Melduf -

Investigator
David Sills, MSC King Radar

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Quick Facts

Severe Weather Type	Tornado
Location	2 km SE of Melduf (SE of Midland)
Time	Approx. 1730 EDT though possibly earlier
Duration	Unknown
Magnitude	F1
Path Length	Approx. 3 km
Direction of Motion	Approx. 315°
Path Width	Approx. 400 m max.
Significant Damage	200-300 trees reported down including large trees, some minor building damage, shed destroyed
Damage Estimate (Source)	\$ 10 000 estimated (DS)

Overview

On 17 July 2000, several supercells thunderstorms developed over southern Ontario as a sharp cold front moving southeast across the region interacted with well-developed lake breeze fronts. Severe thunderstorms developed over Grey-Bruce and Barrie-Huron regions shortly after 1600 EDT. Large hail (up to 5 cm), high winds (likely greater than 100 km/h) and wall clouds were reported with these

storms. Numerous downed trees and other various damage were reported NW of Coldwater near Melduf (see the maps in Figures 1 and 2). Relevant damage reports are listed in Appendix A. Both a severe thunderstorm warning and a tornado warning were issued before the reported time of the tornado (see Appendix B).

A damage survey was conducted on Friday, 21 July 2000. A damage track was found roughly 400 m wide and 3 km long. There was ample evidence of rotation and damage to trees and buildings was consistent with F1 damage on the Fujita scale (Fujita, 1981). There were no injuries or deaths. The damage is estimated by the author at \$10 000.

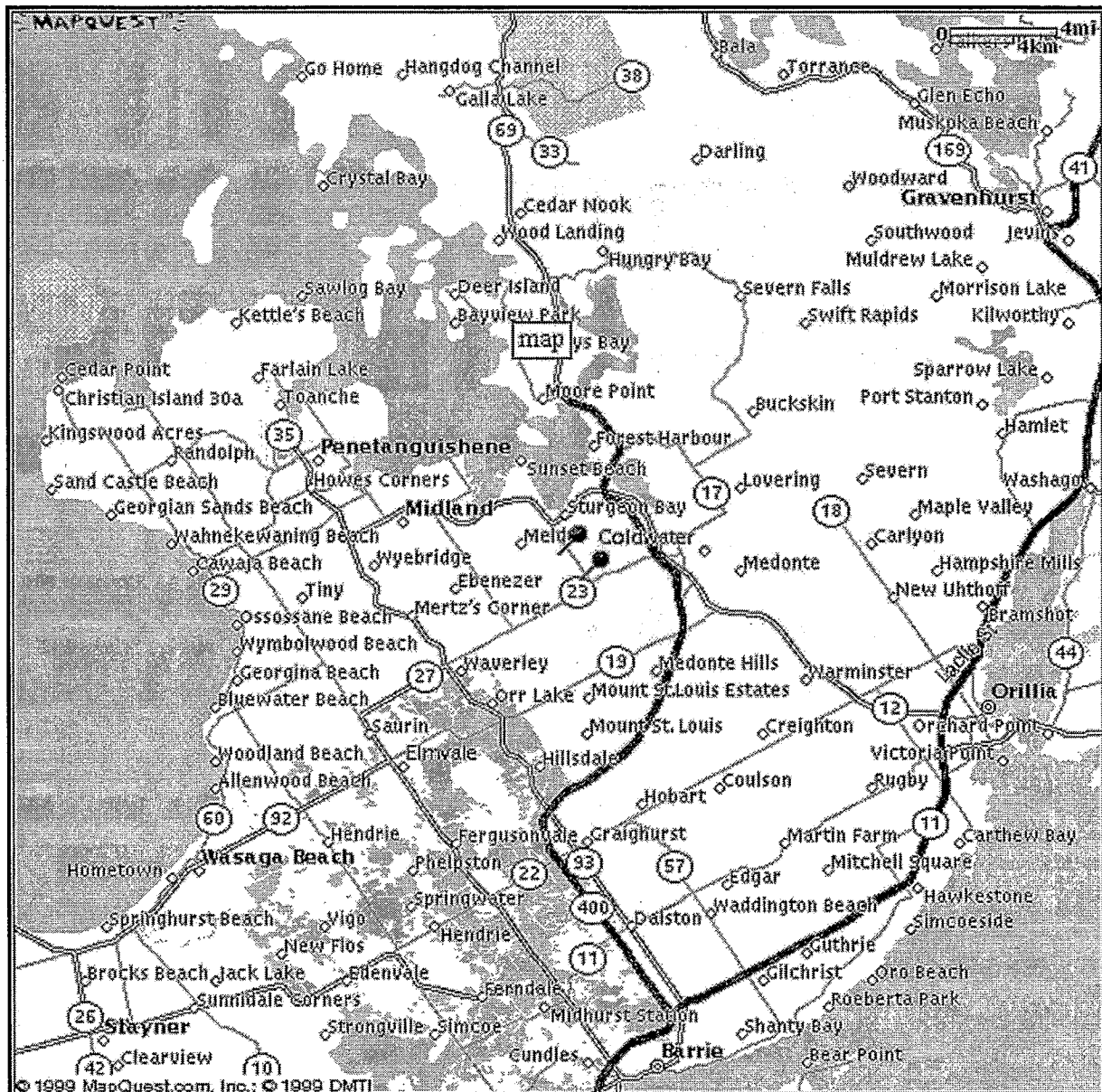


Figure 1. Map of the Simcoe County area (north towards top). The blue pushpins indicate the start and end of the tornado track.

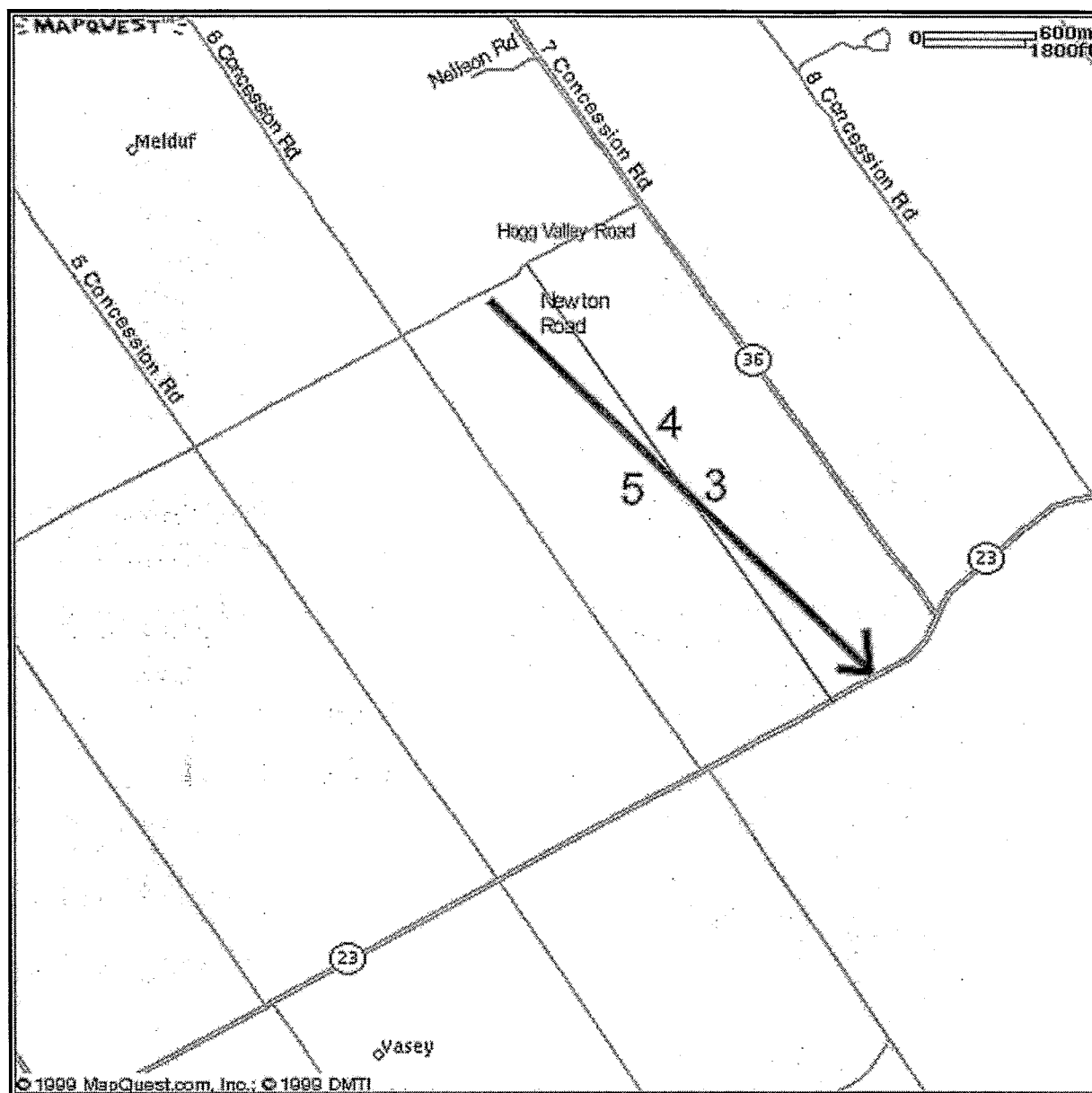


Figure 2. Higher resolution map of Melduf area with number labels representing figure numbers for the photographs below.
North is towards the top.

Investigation

A ground investigation was conducted on Friday July 21. After asking several of the locals about the damage, I was directed to the Newton Road and Hogg Valley Road area. Just south of this intersection, tree damage was increasingly evident. Trees were down from the south at the north end of Newton Road but tree orientations gradually backed to the north toward the south end of Newton Road. The track started about 200 m to the west of the Newton Road near Hogg Valley Road but ended about 200 m to the east of Newton Road near County Road 23 to the south. Along Newton Road, a 7 m x 20 m aluminum shed was picked up and tossed over 250 m toward the south while

trees about 200 m to the SSE were down from the north and northwest. It was also reported that large bales of hay weighing around 500 kg were moved about 300 m and a hay wagon was blown onto an elevator. There were a few other instances of minor damage to houses and yard objects.

The tornado track and the orientation of trees and debris suggest a cyclonically-rotating tornado moving from the north-northwest. In addition, splattered mud covered a side of one house. This is typical of a tornado as opposed to straight-line winds or microbursts. Several photos of damage are included below.

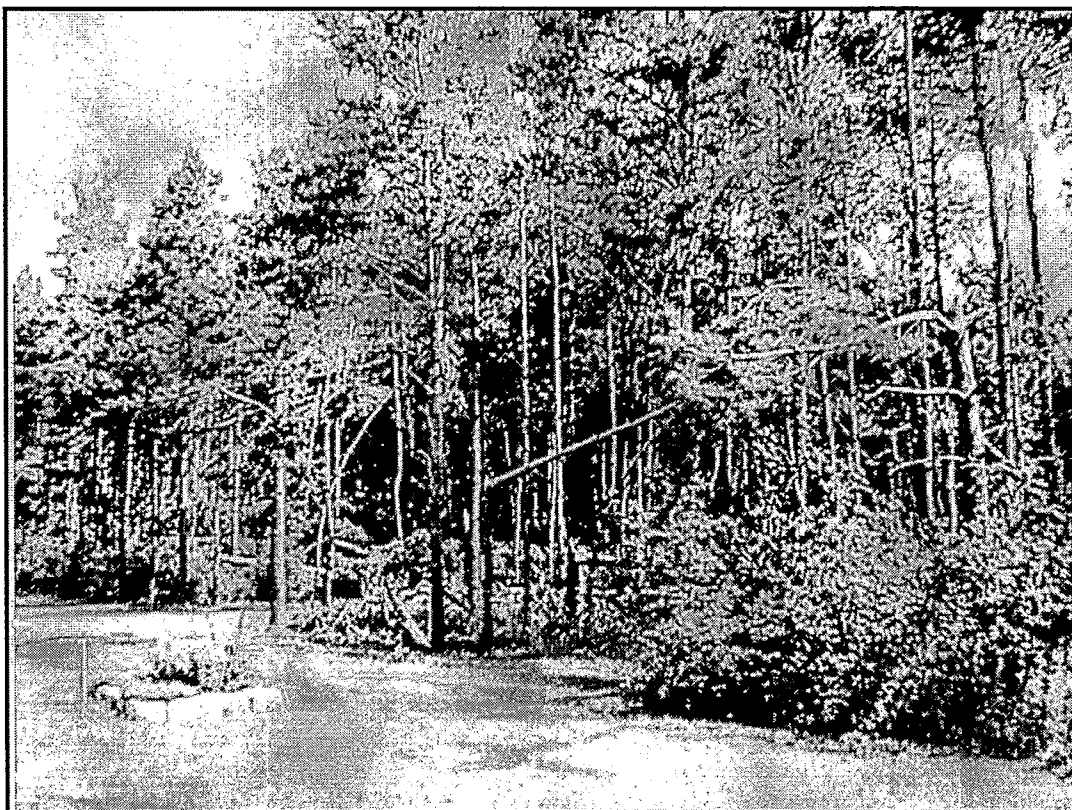


Figure 3. Numerous pine trees snapped from the west on east side of Newton Road. Taken facing North.



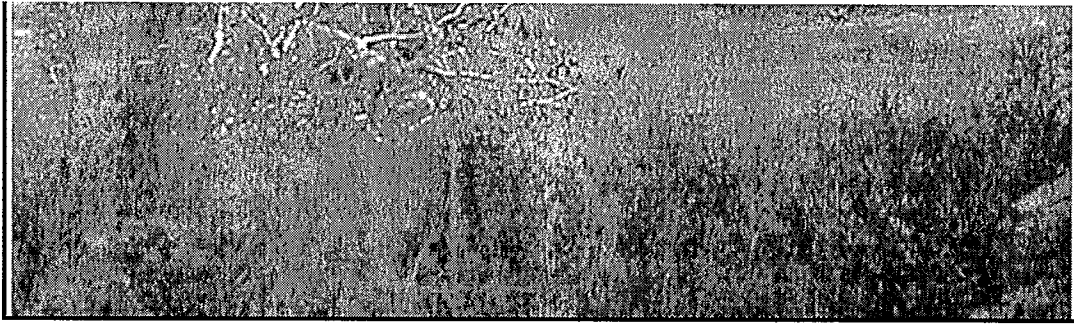


Figure 4. Two large trees snapped at their bases from the SSW on east side of Newton Road. Taken facing NE.



Figure 5. Debris from aluminum shed on west side of Newton Road. Taken facing SW.

Judging by the other damage reports received on this day (given in Appendix A), it seems that the reported time of this event is late at 1730 EDT. An event time closer to 1700 EDT is probably more accurate but, since the source was not recorded, this cannot be verified.

Conclusions

After analyzing the damage in this area, it was concluded that a cyclonically-rotating tornado was responsible. This tornado had a track of about 3 km from approximately 315 degrees and a maximum path width of about 400 m. Damage consisted mainly of snapped and uprooted trees, minor structural damage to buildings and minor crop damage. One aluminum shed was tossed and destroyed. The intensity of damage is consistent with F1 on the Fujita scale. There were no deaths or injuries.

Damage was estimated by the author at around \$10 000.

Reference

Fujita, T.T. 1981. Tornadoes and Downbursts in the Context of Generalized Planetary Scales. *J. Atmos. Sci.* **38**: 1511-1534.

Appendix A - Abridged entries from severe weather log

SOURCE/WATCHER ID: Terry Darling
EVENT TIME (UTC): 20-15
EVENT LOCALE: Thornbury
ASOCTD PUBLIC RGN: Grey-Bruce
DETAILED DESCRIPTION: 80 km/h wind gusts, 30 sec duration.

SOURCE/WATCHER ID: Unknown
EVENT TIME (UTC): 20-30
EVENT LOCALE: Penetang
ASOCTD PUBLIC RGN: Barrie-Huron
DETAILED DESCRIPTION: Golf ball sized hail

SOURCE/WATCHER ID: Dave Brain
EVENT TIME (UTC): 20-30
EVENT LOCALE: Midland
ASOCTD PUBLIC RGN: Barrie-Huron
DETAILED DESCRIPTION: 1/4 to 1/2 inch diameter hail

SOURCE/WATCHER ID: Pirep (Pilot Report)
EVENT TIME (UTC): 20-30
EVENT LOCALE: YQA - Midland
ASOCTD PUBLIC RGN: Barrie-Huron
DETAILED DESCRIPTION: UUA /OV CYEE 2035 FL SFC OBS/ SK 004 AGL OVC XXX /RM VSBY 1/4 +RWGRF HAIL SIZE 1 TO 2 INCHES IN DIAMETER CB MVG ESE

SOURCE/WATCHER ID: Al Green
EVENT TIME (UTC): 20-30
EVENT LOCALE: Midland, Hwy 12 east of hwy 93
ASOCTD PUBLIC RGN: Barrie-Huron
DETAILED DESCRIPTION: Golf ball sized hail for 5 minutes

SOURCE/WATCHER ID: Scott #1575
EVENT TIME (UTC): 20-36
EVENT LOCALE: 3 miles east of Midland (Port McNicoll)
ASOCTD PUBLIC RGN: Barrie-Huron
DETAILED DESCRIPTION: marble sized hail, 1.5 - 2 cm hail, gusting winds

SOURCE/WATCHER ID: Dave Brain

EVENT TIME (UTC): 20-45

EVENT LOCALE: Rugby, 8 miles W of Orillia

ASOCTD PUBLIC RGN: Barrie-Huron

DETAILED DESCRIPTION: 30 trees down (2 foot diameter), some N-S, some NW-SE.

SOURCE/WATCHER ID: Canwarn

EVENT TIME (UTC): 20-52

EVENT LOCALE: 20 km N of Barrie

ASOCTD PUBLIC RGN: Barrie-Huron

DETAILED DESCRIPTION: Lowering of cloud base, strong inflow, scud cloud being sucked up.

SOURCE/WATCHER ID: via Sharon Hancock

EVENT TIME (UTC): 21-15

EVENT LOCALE: Coldwater

ASOCTD PUBLIC RGN: Barrie-Huron

DETAILED DESCRIPTION: Pea sized hail, 50 km/h sustained winds

SOURCE/WATCHER ID: Unknown

EVENT TIME (UTC): 21-30

EVENT LOCALE: 8 KM NW OF COLDWATER

ASOCTD PUBLIC RGN: Barrie-Huron

DETAILED DESCRIPTION: 200-300 TREES DOWNED (1/4 MI ED BY 1/2-1 MI LONG)..ORIENTED MOSTLY NW-SE EXCEPT ON NORTHERN AREAS ORIENTED SW-NE; 1000 POUND BALES OF HAY MOVED 800 FT HAY WAGON MOVED AND LEANING ONTO ELEVATOR ALUMINUM SHED 20 FT X 60 FT MOVED ABOUT 700 FT FROM SOUTH

Appendix B - Watch and warning chronology

- Special Weather Statement issued at 1621 EDT.
- Severe Thunderstorm Warning issued for area at 1628 EDT. Standard mention of possibility of tornadoes in bulletin.
- Severe Thunderstorm Watch issued for area and surrounding regions at 1650 EDT.
- Tornado Warning issued for area at 1719 EDT.

Spotter Reports, July 17, 2000

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** Dave Brain **EVENT TIME (UTC):** 20-45 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** Rugby, 8 miles W of Orillia **ASOCTD PUBLIC RGN:** Barrie-Huron **DETAILED DESCRIPTION:** "30 trees down (2 foot diameter), some N-S, some NW-SE." **INITIAL ASSESSMENT:** YES **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** NO **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Wind Mesoscale ? : **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** NO **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** RS **Vetted date:** 20/17/00

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** Canwarn **EVENT TIME (UTC):** 20-52 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** 20 km N of Barrie **ASOCTD PUBLIC RGN:** Barrie-Huron **DETAILED DESCRIPTION:** "Lowering of cloud base, strong inflow, scud cloud being sucked up." **INITIAL ASSESSMENT:** NEAR-SEVERE **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** NO **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Wind Mesoscale ? : **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** Myatt **Vetted date:** 16/07/2002

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** via David Brain **EVENT TIME (UTC):** 21-30 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** 4 miles W of Orillia **ASOCTD PUBLIC RGN:** Barrie-Huron **DETAILED DESCRIPTION:** "Large trees down" **INITIAL ASSESSMENT:** YES **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** NO **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Wind Mesoscale ? : **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** Myatt **Vetted date:** 16/07/2002

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** Dave Sills **EVENT TIME (UTC):** 21-30 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** 8 KM NW OF COLDWATER **ASOCTD PUBLIC RGN:** Barrie-Huron **DETAILED DESCRIPTION:** "survey conducted - see Tornado at Melduf" **INITIAL ASSESSMENT:** YES **SPL WX STATEMENT IN EFFECT ?:** UKN **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** UKN **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** UKN **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** NO **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Wind **Mesoscale ?:** **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** UKN **Watch Est Hit/Miss:** UKN **Warning Est Hit/Miss:** UKN **Separate Event (30km/30min):** NO **Vetted by:** Myatt **Vetted date:** 21/07/2002

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** **EVENT TIME (UTC):** 21-30 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** 8 KM NW OF COLDWATER **ASOCTD PUBLIC RGN:** Barrie-Huron **DETAILED DESCRIPTION:** "200-300 TREES DOWNED (1/4 MI ED BY 1/2-1 MI LONG)..ORIENTED MOSTLY NW-SE EXCEPT ON NORTHERN AREAS ORIENTED SW-NE; 1000 POUND BALES OF HAY MOVED 800 FT HAY WAGON MOVED AND LEANING ONTO ELEVATOR ALUMINUM SHED 20 FT X 60 FT MOVED ABOUT 700 FT FROM SOU" **INITIAL ASSESSMENT:** YES **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** NO **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Wind **Mesoscale ?:** **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** Myatt **Vetted date:** 16/07/2002

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** Al (Canwarn) **EVENT TIME (UTC):** 22-37 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** Alliston **ASOCTD PUBLIC RGN:** Barrie-Huron **DETAILED DESCRIPTION:** "Definite lowering." **INITIAL ASSESSMENT:** NEAR-SEVERE **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** POSSIBLE **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Tornado **Mesoscale ?:** **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** RS **Vetted date:** 20/07/00

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** EVENT TIME
(UTC): 22-50 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):**
0.0 (MIN): 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** Newmarket **ASOCTD PUBLIC**
RGN: York-Durham **DETAILED DESCRIPTION:** "Pea sized hail, greenish sky, 70 km/h
wind." **INITIAL ASSESSMENT:** NEAR-SEVERE **SPL WX STATEMENT IN EFFECT ?:**
YES STATEMENT LEAD TIME (HR): (MIN): WATCH IN EFFECT ?: YES **WATCH**
LEAD TIME (HR): (MIN): WARNING IN EFFECT ?: YES **WARNING LEAD TIME**
(HR): (MIN): TORNADO: NO **WINDSPEED:** 70 **RAINFALL:** MM **RAIN DURATION:**
HAIL DIAMETER: MM **HAIL DESCRIPTION:** 7 **EVENT DESCRIPTION:** Wind/Hail
Mesoscale ?: **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:**
YES Warning Est Hit/Miss: YES **Separate Event (30km/30min):** UKN **Vetted by:** RS
Vetted date: 20/07/00

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** EVENT TIME
(UTC): 22-50 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):**
0.0 (MIN): 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** Innisfil **ASOCTD PUBLIC RGN:**
Barrie-Huron **DETAILED DESCRIPTION:** "Funnel cloud reported." **INITIAL**
ASSESSMENT: NEAR-SEVERE **SPL WX STATEMENT IN EFFECT ?:** YES
STATEMENT LEAD TIME (HR): (MIN): WATCH IN EFFECT ?: YES **WATCH LEAD**
TIME (HR): (MIN): WARNING IN EFFECT ?: YES **WARNING LEAD TIME (HR):**
(MIN): TORNADO: POSSIBLE **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:**
HAIL DIAMETER: MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Tornado
Mesoscale ?: **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:**
YES Warning Est Hit/Miss: YES **Separate Event (30km/30min):** UKN **Vetted by:** RS
Vetted date: 20/07/00

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** Heather Kastner
(odie@simcoe.igs.net) **EVENT TIME (UTC):** 23-15 **EVENT DAY:** 17.0 **MONTH:** 7.0
YEAR: 2000.0 **EVENT DURATION (HR):** 0.0 (MIN): 0.0 **DAY OF THE WEEK:** **EVENT**
LOCALE: Between Beeton and Bond Head **ASOCTD PUBLIC RGN:** Barrie-Huron
DETAILED DESCRIPTION: "Saw tornado. "What seemed to be the end of the storm, we had
rain, winds, hail, then a noise, ... of heavy traffic, that got to the sound of a train behind our
barn... saw whirling dark, dirty cloud, (looked like whirling dirt & rain)..." **INITIAL**
ASSESSMENT: YES **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD**
TIME (HR): (MIN): WATCH IN EFFECT ?: YES **WATCH LEAD TIME (HR): (MIN):**
WARNING IN EFFECT ?: YES **WARNING LEAD TIME (HR): (MIN): TORNADO:** F?
WINDSPEED: **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL**
DESCRIPTION: **EVENT DESCRIPTION:** Tornado **Mesoscale ?:** **Synoptic ?:** **Big Event ?:**
Statement Est Hit/Miss: YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES
Separate Event (30km/30min): UKN **Vetted by:** CF **Vetted date:** 22/08/00

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** Fernando **EVENT TIME (UTC):** 23-25 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** Maple & Major Mackenzie **ASOCTD PUBLIC RGN:** York-Durham **DETAILED DESCRIPTION:** "Wall cloud, funnel clouds form and don't make it to the ground, black and green rotating clouds." **INITIAL ASSESSMENT:** NEAR-SEVERE **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** POSSIBLE **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** Tornado **Mesoscale ?:** **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** RS **Vetted date:** 20/07/00

CLASSIFICATION: Severe Thunderstorm **SOURCE/WATCHER ID:** # 0102 **EVENT TIME (UTC):** 23-58 **EVENT DAY:** 17.0 **MONTH:** 7.0 **YEAR:** 2000.0 **EVENT DURATION (HR):** 0.0 **(MIN):** 0.0 **DAY OF THE WEEK:** **EVENT LOCALE:** Central Toronto **ASOCTD PUBLIC RGN:** Toronto **DETAILED DESCRIPTION:** "Green clouds" **INITIAL ASSESSMENT:** NO **SPL WX STATEMENT IN EFFECT ?:** YES **STATEMENT LEAD TIME (HR): (MIN):** **WATCH IN EFFECT ?:** YES **WATCH LEAD TIME (HR): (MIN):** **WARNING IN EFFECT ?:** YES **WARNING LEAD TIME (HR): (MIN):** **TORNADO:** NO **WINDSPEED:** **RAINFALL:** MM **RAIN DURATION:** **HAIL DIAMETER:** MM **HAIL DESCRIPTION:** **EVENT DESCRIPTION:** **Mesoscale ?:** **Synoptic ?:** **Big Event ?:** **Statement Est Hit/Miss:** YES **Watch Est Hit/Miss:** YES **Warning Est Hit/Miss:** YES **Separate Event (30km/30min):** UKN **Vetted by:** RS **Vetted date:** 20/07/00