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CANWARN Atlantic

Standard Operating Guidelines

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PURPOSE

The purpose of this document is to provide some operating guidelines and communications procedures for the CANWARN program in Atlantic Canada. The goal of these guidelines is to achieve an orderly and efficient exchange of information between CANWARN organizations and the Environment Canada forecast offices.

BACKGROUND

CANWARN is a volunteer organization of amateur radio operators who report severe weather and damage reports to Environment Canada (Atlantic Storm Prediction Centre or Newfoundland and Labrador Weather Office) when they see it. What they do is called ground-truthing. They confirm on the ground what satellites and radars see in the atmosphere. The information gathered from CANWARN is also used to update and fine tune weather warnings, fill in gaps in current observing networks and is also a valuable in forensic storm analysis. When the ASPC or NLWO issues severe weather watches or warnings, they may alert the CANWARN volunteer Net Controllers in the affected areas. The volunteer Net Controllers contact other CANWARN members on the amateur radio, tell them a watch or warning has been issued and ask them to report signs of approaching severe weather.

CANWARN is organised in local networks. When CANWARN members spot severe weather or observe storm damage, they send their reports to the CANWARN network controller who forwards them to Environment Canada's weather office in Dartmouth NS or Gander NL using either a special telephone line or the forecast centre email. At the weather office, the meteorologists combine the data from the satellites and radar with the information from the ground to refine the forecast or prepare a severe weather watch or warning. In Atlantic Region, CANWARN stations would also participate in the Hurricane Net which is a mechanism for amateur radio operators to provide weather and damage reports during tropical weather events.

ACTIVATION

Weather and damage reports from CANWARN members can provide key information to weather forecasters during any type of severe weather event.

In Atlantic Canada CANWARN can be activated for:

- Severe Winter Storms including ice storms
- Strong wind or heavy rainfall events
- Storm surge events
- Hurricanes, Tropical Storms or Post-Tropical Storms
- Severe Thunderstorm and Tornado Watches
- Severe Thunderstorm and Tornado Warnings

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Guidelines for when to activate

When a Severe Thunderstorm **WATCH is Issued**

This means that conditions are favorable for severe weather to develop (i.e. tornadoes, large hail, heavy rainfall and damaging thunderstorm winds). Net may be on "stand-by" and full activation would generally occur one hour before severe weather is anticipated.

When a Severe Thunderstorm or Tornado **WARNING is Issued**

This means severe weather is imminent or occurring... and is usually issued for fewer regions at a time. These warnings typically do not last for an extended period of time. Activation would generally occur as soon as warnings are issued.

When the following synoptic scale warnings are issued

- Blizzard Warning
- Winter Storm Warning
- Freezing Rain Warning
- Rainfall Warning
- Wind Warning
- Hurricane or Tropical Storm Warning

These warnings usually cover a broader area as they are associated with larger scale storms. Lead time would also be greater as the duration would as well. In these situations CANWARN would be activated upon request from Environment Canada close to the onset of the storm for information such as snowfall accumulation, icing, wind, rainfall, rain/ice/snow line and of course any damage reports. Activation requests in these cases would depend on the severity of the storm.

Guidelines for how to activate

As CANWARN is primarily driven by volunteers, decision-making on activation and deactivation times for an event will be a collaborative process following discussions between Environment Canada meteorologists and the appropriate net controllers. Contact between Net Controllers should be done by phone or by email using contact information contained in Appendix 2.

When a Severe Thunderstorm **WATCH is Issued**

Appropriate Net Controllers will be contacted when a Watch is issued. Initial contact should include an estimated time for the start of the Net which is approximately 1 hour before the anticipated start of severe weather to allow the Net Control person to prepare. For example a Watch is issued at 11 AM but severe weather not anticipated to begin until 3 PM in the given area. Contact should be made as soon after 11 AM as possible but should state that CANWARN Net should begin at 2 PM for that area.

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When a Severe Thunderstorm or Tornado **WARNING is Issued**

Appropriate Net Controllers will be contacted as soon as possible after a **WARNING** is issued for a given area. Initial contact should provide details of where expected/actual area of severe weather will be/is currently and its anticipated motion. If a Severe Thunderstorm Warning is upgraded to a Tornado Warning for a given area contact should be made as soon as possible and should provide details of where expected/actual area of tornadic activity will be/is currently and its anticipated motion.

When a Synoptic **WARNING is issued**

Appropriate Net Controllers will be contacted when practical after a warning has been issued. Initial contact should provide details of what hazardous weather is expected, where it is expected to be and an estimated time for onset. For example if a warning is issued at 5 am for an event starting in the evening, the Net Controller would be contacted after 8 or 9 am and plan for an activation near the onset of the event. If the warning is issued for an observed event the details of the event would be communicated at the initial contact with the Net Controller.

WEATHER REPORTING PROCEDURE

Once a decision has been made to activate CANWARN, Net Controllers will make an announcement via appropriate amateur radio facilities that the Net is activated and will also provide details of the anticipated event. Updates will also be provided on the current weather situation as they become available and general information on severe weather information will be passed along. Net Controllers will be asked to follow an appropriate template to record weather details and damage reports and will then send the reports to Environment Canada via 1) email or 2) Severe Weather Reporting Line. Option 1) (email) is preferred as it is more easily monitored and tracked by forecasters.

When sending a report to Environment Canada, CANWARN Net Controllers should use the following format in the subject line for easy identification by the forecasters:

CANWARN-Location, Province

where location will be the name of the location for which the report originates.

Example for a report coming from Woodstock New Brunswick:

CANWARN-Woodstock, NB

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When sending a report over the telephone the Net Controller should identify him/herself and proceed with the report. In the event that the forecaster is unable to take the call at that time, the Net Controller will again identify him/herself then proceed with the report.

Weather to be reported:

- Hail
- Any damage done by hail
- Heavy Rain
- Rain that has caused local flooding
- Damaging Winds
- Wind that has caused damage from few shingles or large branches torn from trees to more significant structural and vegetation damage
- Large scale rotation in a thunderstorm
- Wall cloud...lowering with rotation
- Funnel cloud
- Tornado or waterspout

DEACTIVATION

The CANWARN net can be deactivated as a result of several reasons. In the event that the severe weather is no longer expected, communication between the meteorologist and Net Controller should take place to determine if the net is still required. If severe weather has occurred it may be useful to keep the net going when practical to relay any damage reports. The net may also be deactivated if the Net Controller is no longer able to continue with the net for any reason. In any event, when it has been determined that the main threat is past or the Net Controller cannot continue, the CANWARN net will be deactivated. This can be done by phone or email and must be acknowledged by both Net Controllers and meteorologists. Either way, time of deactivation should be recorded.

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APPENDIX 1

CANWARN GUIDELINES QUICK REFERENCE

In Atlantic Canada CANWARN can be activated for:

Severe Winter Storms including ice storms
Strong wind or heavy rainfall events
Storm surge events
Hurricanes, Tropical Storms or Post-Tropical Storms
Severe Thunderstorm and Tornado Watches
Severe Thunderstorm and Tornado Warnings

Activation

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When meteorologists at the ASPC or NLWO have determined that CANWARN activation would be beneficial in order to receive weather reports from amateur radio operators, a call will be initiated to the appropriate Net controllers. Final decision to activate will be a collaborative one between meteorologists and Net controllers. Time of activation should be recorded.

New Brunswick Net Controllers

Al Thurber
Phone: 506-363-4416
Cell: 506 476-5857
Email:
Hours:

Sterling Carpenter
Phone: 506-452-2965
Cell: 506 470-1298
Email:
Hours:

Nova Scotia Net Controllers

TBD

**Prince Edward Island Net
Controllers**

TBD

**Newfoundland and Labrador Net
Controllers**

TBD

Deactivation

Once it has been determined that the weather threat is past, warnings have been ended or other reasons determined by the Net Controllers, the CANWARN net will be deactivated. This can be done by phone or email and must be acknowledged by both Net Controllers and meteorologists. Either way, time of deactivation should be recorded.

APPENDIX 2

CANWARN NET CONTROLLERS

New Brunswick Net Controllers

Al Thurber
Phone: 506-363-4416
Cell: 506 476-5857
Email:
Hours:

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Sterling Carpenter

Phone: 506-452-2965

Cell: 506 470-1298

Email:

Hours:

Nova Scotia Net Controllers

TBD

Prince Edward Island Net Controllers

TBD

Newfoundland and Labrador Net Controllers

TBD

APPENDIX 3

SEVERE WEATHER REPORT FORM (sample)

Date:	Time of report:
Net Controller:	
Reporter (call sign):	
Location (County, community, distance and direction from nearest town, road, etc):	
Heavy Rain	Amounts:

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Time:	Flooding:		
Duration:			
Strong Winds	Speed & Direction (estimate using Beaufort Scale as an Aid):		
Time:			
Duration:	Description of Damage:		
Hail	Depth on ground:	Shot (1-3mm)	Golfball (33-52 mm)
Time:	Percentage of ground covered:	Pea (4-12 mm)	Baseball (53-76mm)
Duration:	Description of Damage:	Grape (13-20mm)	Grapefruit(77-02mm)
		Walnut(21-32mm)	Larger?(>102mm)
Tornado	Direction and speed:		
Time:			
Duration:	Description of Destruction:		
Funnel Cloud or Microburst	Direction and speed:		
Time:			
Duration:	Description of Damage:		
Waterspout	Direction and speed:		
Time:			
Duration:	Description of Damage:		
Dust Devil	Direction and speed:		
Time:			
Duration:	Description of Damage:		
GENERAL COMMENTS:			

APPENDIX 4

HURRICANE WATCH REPORT FORM (sample)

The Hurricane Watch Net serves two purposes:

1. To disseminate the latest Canadian Hurricane Centre information on active hurricanes affecting Atlantic Canada. This includes transmissions to any maritime amateur radio operators that may be in the affected area.

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2. To gather real-time ground level weather conditions from amateurs in the affected areas and to get these reports to the Canadian Hurricane Centre and the National Hurricane Center in a timely and accurate fashion.

Along with these weather reports, often come reports on damaged roads power outages, structural damage, phone and communications links, and of course reports on injuries and deaths. These non-weather report items are usually relayed to other nets in operation on 20, 40, and 80 who are focusing on Health & Welfare.

Standard Operating Procedures for stations reporting from the affected area.

Do not transmit on 14.325 unless asked to do so by the net control.

Any station located within 100 miles of the eye of the hurricane, or in a watch or warning area is encouraged to check in. Within this group, those who are already experiencing 30 kts or greater of wind or a falling barometer should definitely respond when the net control asks, "Are there any stations in the affected area needing a fill or wish to check in?"

As the hurricane approaches landfall, the net control will narrow requests to a specific area or ask only for stations experiencing certain conditions such as winds at 50 knots or greater.

Reporting stations are requested to report the following elements of their observed weather conditions:

Reporting Station: _____

Geographic Location: _____

Location (Latitude/Longitude): _____ Degrees North _____ Degrees West

Time of Observation: _____ (UTC time, please)

Sustained Wind Speed: _____ MPH or KPH (Over One Minute)

Gust Speed: _____ MPH or KPH

Wind Direction: _____ Degrees

Barometric Pressure: _____ Inches or Millibars

Comments: _____

From Operator: _____