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January 24, 1993

Dear CANWARN participant;

Enclosed you will find an information package for CANWARN New Brunswick. The information contained in the training session hand out is identical to the information presented at the two CANWARN training sessions in early January. Please read it and become familiar with the information as it will help you to be an effective Severe Weather Spotter. It is important to note when operating under condition yellow that only observations of severe winter weather are to be reported. This measure insures that the reports of greatest importance get to the office in a timely manner. I have included a grid map which you can use for reference when making your reports. When making your report to the Net Controller, who is operating out of the forecast office, it is important to pass on your grid location, for example H6, as well as the name of your town or the nearest town to you. This way your location can be identified quickly.

This training session is designed for the winter operation only. I will be preparing another training session to be given in early April for summer severe weather. If you are unable to make it to the training session, I will be happy to mail out the information.

On behalf of Environment Canada I want to thank you for your participation in CANWARN New Brunswick. I look forward to getting CANWARN operational. The net may be brought up before a severe winter storm to test the system and help the participants get used to the procedures.

Sincerely;



Richard Fleetwood  
Supervisor

**CANWARN NEW BRUNSWICK  
TRAINING SESSION  
WINTER OPERATION**

**PURPOSE OF CANWARN:**

-TO SUPPLEMENT THE NETWORK OF REGULAR WEATHER OBSERVING SITES ACROSS THE PROVINCE OF NEW BRUNSWICK DURING SEVERE WINTER STORMS.

-OBJECTIVE IS TO HAVE A BETTER IDEA OF THE EVOLUTION OF THESE WINTER STORMS SO THAT MORE ACCURATE FORECAST CAN BE MADE AND LIVES AND PROPERTY PROTECTED.

**OPERATING PROCEDURE:**

-ACTIVATED AT THE DISCRETION OF THE SHIFT SUPERVISOR. SUPERVISOR WILL CONTACT DESIGNATED NET CONTROLLER AND ASK HIM TO ACTIVATE THE CANWARN NETWORK.

-DESIGNATED NET CONTROLLER WILL BE RESPONSIBLE FOR ADVISING ALL CANWARN PARTICIPANTS AND BRINGING THE NET UP.

-NORMALLY SEVERE WINTER WEATHER WARNINGS WILL BE ISSUED 24 HOURS OR MORE IN ADVANCE OF THE STORM HITTING. NET WILL BE BROUGHT UP A FEW HOURS BEFORE STORM BEGINS TO AFFECT THE REGION.

**CONDITION CODES:**

- CONDITION GREEN:
- STORM HAS NOT HIT YET. NETWORK IN THE PROCESS OF BEING BROUGHT UP. CHECK-INS CARRIED OUT.
  - NET CONTROL ANNOUNCEMENTS MADE INCLUDING THE READING OF WEATHER WARNINGS THAT HAVE BEEN ISSUED.
  - NET CONTROL ANNOUNCEMENTS EVERY 20 MINUTES.
  - REPEATER OPEN TO NORMAL TRAFFIC BUT NET CONTROLLER SHOULD BE ABLE TO TAKE CONTROL WHEN NECESSARY.
- CONDITION YELLOW:
- STORM HAS HIT THE REGION AND REPORTS SIGNIFICANT WINTER WEATHER HAVE STARTED TO COME IN.
  - ONLY REPORTS OF SIGNIFICANT WINTER WEATHER WILL BE ACCEPTED BY THE NET CONTROLLER.
  - REPEATER UNDER FULL CONTROL OF CANWARN.
  - LOW PRIORITY TRANSMISSIONS SHOULD BE AVOIDED.
- NET CONTROLLERS TO DEVELOP CANWARN NET ANNOUNCEMENTS AND WORK OUT DETAILS OF COMMUNICATION AS WELL AS PROCEDURES FOR TAKING THE NET DOWN.
- NET OPERATION BETWEEN 8:00 AM AND 10:00 PM 7 DAYS PER WEEK.

**REPORTING SIGNIFICANT WINTER WEATHER:**

-WHEN CALLING IN SIGNIFICANT WEATHER REPORTS GIVE CALL SIGN, GRID LOCATION AND NAME OF THE NEAREST TOWN.

TYPES OF WEATHER REPORTS TO BE ACCEPTED UNDER CONDITION YELLOW:

- 1) MODERATE AND HEAVY SNOW
- 2) HEAVY RAIN
- 3) STRONG WINDS
- 4) FREEZING RAIN, FREEZING DRIZZLE OR ICE PELLETS.
- 5) SIGNIFICANT BLOWING SNOW

-ONE OR MORE OF THESE CAN OCCUR AT THE SAME TIME SO DON'T HESITATE TO REPORT MORE THAN ONE IF PRESENT. MAKE A REPORT IF ONE OR MORE OF THESE DEVELOPS OR ENDS OR IF THERE IS A CHANGE FROM ONE TYPE OF SEVERE WEATHER TO ANOTHER.

**IDENTIFYING SEVERE WINTER WEATHER:**

1) MODERATE AND HEAVY SNOW:

-REPORT MODERATE OR GREATER INTENSITY SNOW WHEN VISIBILITY DROPS BELOW 3/4 MILE.

-SNOW ACCUMULATES AT ABOUT 1 CM PER HOUR.

-INCLUDE IN REPORT HOW MUCH SNOW HAS FALLEN SINCE SNOW BEGAN.

-CHECK IN EVERY 3 HOURS OR SO WITH AN UPDATE OF HOW MUCH SNOW HAS FALLEN SINCE IT STARTED.

-SNOW DEPTH CAN BE MEASURED WITH A RULER OR ESTIMATED. BE SURE TO TAKE DRIFTING INTO CONSIDERATION.

2) HEAVY RAIN:

-USE YOUR JUDGEMENT BASED ON YOUR OWN EXPERIENCE OF THE VARYING INTENSITIES OF RAIN IN YOUR AREA.

-GENERALLY HEAVY RAIN COMES DOWN HARD, ALMOST VERTICALLY AND DROPS ARE QUITE LARGE. WATER RUNS RAPIDLY DOWN THE STREET. PUDDLES FORM RAPIDLY AND LOCAL FLOODING OCCURS IN LOW LYING AREAS. CAN CAUSE STREAMS AND RIVERS TO FLOOD AFTER SEVERAL HOURS.

3) STRONG WINDS:

-STRONG WINDS SHOULD BE REPORTED WHEN STEADY SPEEDS REACH 60 KM/H OR GREATER AND OR THERE ARE WIND GUSTS TO 90 KM/H OR GREATER. WINDS OF THIS STRENGTH CAN CAUSE DAMAGE.

-YOU CAN ESTIMATE THE WIND SPEED USING THE BEAUFORT SCALE THEN MAKE YOUR REPORT IN KM/H.

## ESTIMATING WIND SPEED

### Wind Speed

### Specifications

Calm	- Smoke rises vertically.
1-5 km/hr	- Direction of wind shown by smoke drift but not wind vanes
6-12 km/hr	- Wind felt on face; leaves rustle; ordinary wind vanes moved by the wind
13-20 km/hr	- Leaves and small twigs in constant motion; winds extends light flag
21-29 km/hr	- Raises dust and loose paper; small branches are moved.
30-39 km/hr	- Small trees begin to sway; crested wavelets form on inland waters.
40-50 km/hr	- Large branches in motion; whistling heard in telephone wires; umbrellas used with difficulty.
51-60 km/hr	- Whole trees in motion; inconvenience felt in walking against wind.
61-73 km/hr	- Twigs break off trees; generally impedes progress.

### Wind Speed

### Specifications associated with rotary winds

74-86 km/hr	- Slight structural damage occurs, eg. roofing shingles, TV antennae, etc.
87-100 km/hr	- Shallow-rooted trees uprooted, damage to chimneys, light structural damage.
101-133 km/hr	- Large trees leaning considerably, broken tree limbs, considerable structural damage.
134-207 km/hr	- Windows broken, some trees uprooted, light mobile homes pushed or overturned, autos pushed off road.
208-291 km/hr	- Roofs torn off, weak buildings demolished, trailer homes destroyed, large trees uprooted or snapped, boxcars pushed over.
292-382 km/hr	- Trains overturned, steel-framed structures torn apart, cars lifted, trees leveled.

4A) FREEZING RAIN:

-OCCURS WHEN LIQUID RAIN IS SUPERCOOLED BELOW ZERO DEGREES CELSIUS. FREEZES ON IMPACT WITH THE GROUND OR OTHER OBJECTS AND FORMS A LAYER OF ICE.

4B) FREEZING DRIZZLE:

-OCCURS WHEN DRIZZLE IS SUPERCOOLED BELOW ZERO DEGREES CELSIUS. FREEZES ON IMPACT WITH THE GROUND OR OTHER OBJECTS AND FORMS A LAYER OF ICE.

-BOTH FREEZING RAIN AND FREEZING DRIZZLE MAKE HAZARDOUS DRIVING CONDITIONS, ARE DANGEROUS TO AIRCRAFT AND CAUSE STRESS TO STRUCTURES DUE TO THE WEIGHT OF THE ICE. FREEZING RAIN MORE HAZARDOUS THAN FREEZING DRIZZLE. GENERALLY THE AIR TEMPERATURE IS BELOW ZERO WHEN THESE OCCUR. WHEN MAKING A REPORT OF THESE GIVE AIR TEMPERATURE IF POSSIBLE.

4C) ICE PELLETS:

-SMALL TRANSPARENT OR TRANSLUCENT PIECES PELLETS OF ICE USUALLY SPHERICAL IN SHAPE. USUALLY BOUNCE WHEN HITTING HARD SURFACE AND MAKE A SOUND ON IMPACT. THESE ARE FROZEN RAIN DROPS.

-HAZARDOUS BECAUSE THEY INDICATE FREEZING RAIN ALOFT WHICH IS DANGEROUS TO AIRCRAFT. ALSO CAN INDICATE FREEZING RAIN FARTHER SOUTH.

-MAY AT TIMES BE MIXED WITH FREEZING RAIN OR SNOW.

5) BLOWING SNOW:

-DEVELOPS WHEN SNOW ON THE GROUND IS RAISED BY THE WIND TO A SUFFICIENT HEIGHT TO CAUSE A REDUCTION TO VISIBILITY.

-USUALLY OCCURS WITH FALLING SNOW BUT CAN OCCUR WITHOUT PRECIPITATION.

-REPORT IF WINDS GREATER THAN 40 KM/H AND SNOW IS RAISED OF THE SURFACE SO AS TO CAUSE A SIGNIFICANT REDUCTION TO VISIBILITY.

**MODES OF OPERATION:**

-CANWARN WILL OPERATE UNDER TWO MODES. THE FIRST MODE WILL BE THAT THE NET CONTROLLER RECEIVES REPORTS OF SEVERE WEATHER FROM THE NETWORK AND PASS THE INFORMATION ALONG TO THE METEOROLOGISTS IN THE FORECAST OFFICE. UNDER THE SECOND MODE THE CONTROLLER FROM TIME TO TIME WILL ALSO BE ASKED TO ACTIVELY SEEK OUT REPORTS FROM THE CERTAIN NETWORK MEMBERS IF HE EXPECTS SEVERE WEATHER TO BE DEVELOPING IN THAT AREA.

AND THAT'S IT.