

CHAPTER 24

WARNINGS OF SEVERE OR HAZARDOUS WEATHER

- 24.1 Introduction
- 24.2 National Severe Weather Warning Service
- 24.3 Military aid to the civil community due to severe weather

Annex A Criteria for the issue of warnings within the National Severe Weather Warning Service

Annex B Procedures for the issue of warnings within the National Severe Weather Warning Service

Appendix A Tables of damage and advice for severe weather warnings

Appendix B Police Region and Force boundaries

Appendix C Early warnings — areas to be used in regional risk assessments

CHAPTER 24

WARNINGS OF SEVERE OR HAZARDOUS WEATHER

24.1 Introduction

24.1.1 This chapter is concerned with those occasions when severe or hazardous weather occurs or is forecast to occur and is expected to bring disruptive conditions to utility services, damage to property, and/or result in injuries to the public. Support to the civil emergency authorities likely to be involved in the aftermath of such severe conditions is provided through the National Severe Weather Warning Service (NSWWS). An important aspect of this Service is that when certain conditions are satisfied Early Warnings are provided of the occurrence of major events. Warnings are also passed directly to the Ministry of Defence (MoD) of conditions considered to warrant possible military aid to the civil community. In addition advice is given to the media shortly before or with the onset of severe weather for onward transmission to the public, both nationally and locally.

24.1.2 Following the issue of warnings, enquiries from the media should be dealt with by the Weather Centres. For national severe weather events the issue of a News Release should always be considered by CFO (see section 3.3). Any aspect of military aid to the civil community should not be discussed with the media and persistent callers should be referred to the Duty Press Officer at MoD, telephone 0171 218 2906 during normal office hours, and 0171 218 7907 at other times (MoD 24-hour switchboard 0171 218 9000).

24.2 National Severe Weather Warning Service

24.2.1 The aim of the National Severe Weather Warning Service is the provision of warnings of severe or hazardous weather likely to cause problems to the community, ranging from widespread disruption and danger to life on a national scale to conditions that result in inconvenience to the community within a region.

24.2.2 A key feature of the service is that warnings are issued to one focal point within a Government Department or other Organization, the warnings then being 'cascaded' down to other recipients.

24.2.3 The structure of warnings within the NSWWS is as follows:

Severe Weather Warnings

Warnings of severe weather or exceptionally severe weather likely to result in considerable inconvenience to a large number of people or present a danger to life. There are two categories:

Early Warnings of severe weather	issued only when conditions are expected to be widespread, typically 12 to 48 hours in advance.
Flash Warnings of severe weather: (FLASH and EMERGENCY FLASH messages)	typically issued up to 6 hours in advance.

Motorway Weather Warnings

Warnings of hazardous conditions which might present the emergency authorities with potential operational problems. These are also typically issued up to 6 hours in advance, and are primarily concerned with adverse conditions affecting road traffic.

24.2.4 Procedures for the issue of warnings within the NSWWS are at Annex A.

24.2.5 Central guidance from CFO will highlight occasions when widespread severe weather conditions are likely. In particular, when severe or exceptionally severe weather is expected with medium or high confidence during the outlook period, mention will be made in the General Synoptic Development.

24.2.6 These warnings are offered to certain sectors of the community as part of the Public Met. Service. These include the emergency services, some Government Departments and other large organizations who may need to take action to prevent or deal with emergencies arising out of severe weather.

24.2.7 The NSWWS is administered at Headquarters, Bracknell. In particular, an up-to-date register will be maintained of those registered to receive NSWWS warning. The register comprises a National list and a Counties list. Those on the National list receive both Early Warnings and FLASH messages from CFO. Those on the Counties list receive Early Warnings from CFO, but FLASH messages and Motoring Weather Warnings from their local Weather Centre. Contact numbers of those receiving FLASH messages and Motoring Warnings will be sent annually (in the summer) to the Weather Centres for cross-checking and amending if necessary.

24.2.8 Weather Centres will be responsible for maintaining lists of local radio and television stations registered to receive FLASH messages and Motoring Weather Warnings

24.2.9 Weather Centres will also be responsible for ensuring that contact numbers are provided to recipients of the service so that they may seek advice on the warnings issued..

24.3 Military aid to the civil community due to severe weather

24.3.1 The Chief Forecaster in CFO prepares a warning message whenever severe weather is expected to result in the likelihood of the military being called upon to aid the civil community within the following 24 hours. The overriding criterion for the issue of warnings to the MoD is the expectation that the severe conditions will result in severe disruption or danger to life. In general, a warning will be considered for issue when any of the conditions for exceptionally severe weather given in paragraph 24A.1.4 of Annex A are expected to be reached or exceeded over a wide area within the United Kingdom within the following 24 hours.

24.3.2 Warnings are sent by signal to the MoD Duty Officer who alerts the appropriate military units and the Regional Coordination Centres (RCCs). The signal is copied to the meteorological offices likely to be involved with briefings in connection with the military aid.

CRITERIA FOR THE ISSUE OF WARNINGS WITHIN THE NATIONAL SEVERE WEATHER WARNING SERVICE

24A.1 Severe weather warnings

24A.1.1 The overriding criterion for the issue of warnings is the **strong likelihood** of severe weather which may cause **considerable inconvenience** to a large number of people or present a danger to life. Early Warnings should only be issued when such conditions are expected to cause disruption over a wide area. The conditions set out in the following section are intended to give guidance concerning the severity of the weather likely to meet this criterion, they are not inflexible rules.

24A.1.2 Categories

a. Gales

- i. Severe gales gusts of 70 m.p.h. (60 knots) or more.
- ii. Severe gales/storms gusts of 80 m.p.h. (70 knots) or more.

b. Snow

- i. Heavy snow snow falling at a rate of approximately 2 cm/hour or more expected for at least two hours.
- ii. Blizzards/drifting moderate or heavy snow accompanied by winds of 30 m.p.h. (25 knots) or more with visibility reduced to 200 m or less, or drifting snow giving rise to similar conditions. Blizzards are severe when visibility reduced to near zero.
- iii. Very heavy snowfall, blizzards or drifting expected to give depths of 30 cm or more potentially resulting in widespread dislocation of communications.

- c. Heavy rain heavy rain expected to persist for at least two hours and to give at least 15 mm within a 3-hour period.

- d. Dense fog visibility generally less than 50 m.

- e. Glazed frost/widespread icy roads

24A.1.3 Early Warnings and FLASH messages of severe weather are issued for the following categories:

- a. Gales
- b. Snow
- c. Heavy rain.

FLASH messages only are issued for :

- d. Dense fog
- e. Glazed frost/widespread icy roads.

24A.1.4 Early Warnings and EMERGENCY FLASH messages of exceptionally severe weather are issued for the following subcategories:

- a (ii). Severe gales/storms
- b (iii). Very heavy snowfall, blizzards or drifting.

24A.1.5 To draw attention to exceptionally severe weather, Early Warnings will include the words 'Exceptionally severe weather likely to cause widespread, severe disruption and danger to life.'

24A.1.6 EMERGENCY FLASH messages are only issued when the exceptionally severe conditions are expected to affect a wide area.

24A.2 Notes on weather criteria

24A.2.1 Severe gales When considering wind warnings it should be remembered that it is the repeated occurrence of high gusts that may cause structural damage and consequently endanger life. In many cases gust to mean wind ratios over inland urban areas can exceed 2.5. Care should be taken however not to be over influenced by observations from exposed coastal or hill sites, which may not be representative of the surrounding area.

24A.2.2 Blizzards/Drifting It is with warnings of blizzards and severe drifting messages in particular that originating offices should pay attention to some of the more remote areas, especially where there are known to be very large holdings of livestock or which are visited by organized parties.

24A.2.3 Heavy Rain Particular attention should be paid to the need for a warning when soil moisture deficits are zero or nearly so, since the risk of flooding is then increased. The term 'localized flooding' may be used in the text, provided that there is no confusion with river or coastal flooding.

24A.2.4 Glazed Frost/Widespread Icy Roads The occurrence of glazed frost caused by freezing rain or drizzle is relatively rare but when it does happen there will be widespread ice on untreated roads and a FLASH message should be considered. Icy roads can also arise from other sources (e.g. hoar-frost or rime), but FLASH messages should only be issued when roads are known to be icy over a wide area or are confidently expected to become so. The icy surface that sometimes develops on snow-covered roads does not normally warrant a FLASH message unless the onset of the icy conditions is associated with a first covering of snow.

24A.3 Motoring Weather Warnings

24A.3.1 These less stringent warnings are intended to advise of hazardous conditions which might present the emergency authorities with potential operational problems. The prime concern is of adverse weather conditions affecting road traffic. The conditions to be used as guidelines for the issue of warnings are:

- a. Strong winds with gusts of 45 m.p.h. (40 knots) or more.
- b. Snow.
- c. Heavy rain, i.e. falling at a rate of more than 4 mm/hour.
- d. Fog with visibility less than 200 m.
- e. Icy roads.

PROCEDURES FOR THE ISSUE OF WARNINGS WITHIN THE NATIONAL SEVERE WEATHER WARNING SERVICE

24B.1 Early warnings

24B.1.1 Organization

24B.1.1.1 Early Warnings will be issued by CFO when there is high confidence that severe weather conditions will have a substantial effect on the community.

24B.1.2 Form

24B.1.2.1 Early Warnings are prefixed with the following heading and preamble:

EARLY WARNING OF SEVERE WEATHER

EARLY WARNING OF (type of weather) ISSUED BY THE METEOROLOGICAL OFFICE AT (time) ON (date)

or

EARLY WARNING OF EXCEPTIONALLY (type of weather) LIKELY TO CAUSE SEVERE DISRUPTION AND DANGER TO LIFE ISSUED BY THE METEOROLOGICAL OFFICE AT (time) ON (date)

24B.1.2.2 The type of weather should be selected from the categories given in para. 24A.1.2a-c. Two or more types may be included.

24B.1.2.3 A table of risk assessments then follows, giving probabilities of severe weather occurring both nationally and regionally:

OVERALL RISK ASSESSMENT:

PROBABILITY OF OCCURRENCE OF SEVERE WEATHER CONDITIONS IN PART OF THE UK WITHIN THE NEXT (hours) HOURS IS (%) PER CENT.

REGIONAL RISK ASSESSMENT FOR OCCURRENCE OF SEVERE WEATHER CONDITIONS BETWEEN (time) (day) AND (time) (day):

Regions as Appendix D (%) PER CENT.

ALL OTHER REGIONS 20 PER CENT OR LESS.

24B.1.2.4 The text will begin with one of the following phrases

THIS IS THE FIRST WARNING OF ... (text of message)

or

THIS WARNING IS AN UPDATE TO THAT ISSUED AT (time) ON (date) ... (text of message)

or

THIS IS A CANCELLATION OF THE WARNING ISSUED AT (time) ON (date) ... (text of message).

24B.1.2.5 The text should normally conclude with an indication of further updates, or with a statement that this is expected to be the last Early Warning of the sequence.

24B.1.2.6 All references to time in the preamble and text must be expressed in local clock time. Wind speeds shall be given in miles per hour, and rainfall and snowfall amounts in millimetres and centimetres, respectively.

24B.1.2.7 The warning will always end with the statement:

ISSUED BY THE CENTRAL FORECASTING OFFICE, BRACKNELL.

24B.1.2.8 The text of the Early Warning will give appropriate details of the forecast conditions, for example wind speed and direction and amount of rain or snow. There should be a clear indication of when the severe weather is expected to arrive and its likely duration. Forecasters should avoid the use of technical terms when writing warnings.

24B.1.3 Procedures at CFO

24B.1.3.1 Early Warnings will be issued and distributed by CFO to registered recipients and also copied to MCCA, MCCS and ODS. Reference to the issue of an early warning will be made in the Main Synoptic Review (Part 2) following the issue, although on occasion the Chief Forecaster may consider a Special Synoptic Review to be necessary.

24B.1.3.2 Warnings will normally be issued during the morning after 0900 local time. Although they can be issued at other times, every effort should be made to avoid issuing warnings during the small hours. Once issued, warnings are updated daily until the event occurs or the warning is cancelled. The last expected early warning in a sequence prior to the event occurring should advise to that effect. Cancellation messages will be issued if the event is no longer expected to occur.

24B.1.3.3 Areas at risk need to be defined as precisely as possible, preferably using counties or Scottish Regions. This may be impractical, especially in texts of early warnings several days ahead of an expected event when whole countries may be cited. Phrases such as northern England, which are liable to a range of misinterpretation, should be used with special care.

24B.1.3.4 A warning will normally be issued when the overall risk, i.e. the risk of the severe conditions occurring somewhere in the United Kingdom, is 60 per cent or greater. The warning will continue to be updated unless the overall figure falls to 20 per cent or less, at which time it should be cancelled. Assessments should only be given as multiples of 10 per cent. The overall risk can be interpreted as a measure of confidence in the forecast.

24B.1.3.5 Whenever possible, and certainly when the onset of severe conditions is expected within 24 hours, additional assessments will be given for regions of the United Kingdom. The regions will be based on the ones used in BBC National Radio Broadcasts and are defined at Appendix D. On occasions however, it is recognized that it may only be possible to provide assessments for England, Wales, Scotland and Northern Ireland. Regional risk assessments of 20 per cent or less will not be quantified further.

24B.1.3.6 Although the overall risk value of 60 per cent should normally be used for the issue of warnings, for lead times in excess of two or three days and exceptional events it may be appropriate to issue with lower values. No warning should be initiated when the overall risk assessment is 30 per cent or less.

24B.1.3.7 It is important that each assessment is interpreted correctly as the risk of the severe conditions occurring widely, but not necessarily everywhere, within the area specified. These are area probabilities and are not to be used in public forecasts.

24B.1.3.8 The regions defined at Appendix C are to be strictly adhered to when defining areas at risk. Any variation within the regions may be described in the text of the warning.

24B.1.3.9 In order to direct enquiries concerning the content of Early Warnings to the appropriate regional public offices the Floor Manager in CFO will keep a list of regional contact numbers.

24B.2 **FLASH and EMERGENCY FLASH Messages**

24B.2.1 Organization

24B.2.1.1 The public service offices, mainly WCs, are responsible for originating FLASH messages. The areas covered by each office are the normal areas of responsibility as given in Annex B to Chapter 1.

24B.2.1.2 The Aviation Unit Senior Forecaster at CFO holds a watching brief, and will initiate discussion with originating offices if he considers that the issue of a warning is considered necessary. If, after discussion, there is disagreement over the issue of a FLASH message **then the decision of CFO is mandatory and one shall be issued.** Conversely, a FLASH message will be issued if a Weather Centre considers it appropriate — the regional Weather Centres have local knowledge that may not be available to CFO.

24B.2.1.3 Originating offices which have a responsibility for radio and television stations should contact those stations to determine whether or not they wish to receive FLASH messages appropriate to their editorial areas. Suitable arrangements for free issue will then be made locally. Whenever new stations come on air they too should be contacted. All messages go to the national centres of BBC Radio and Television, and also ITN, through CFO.

24B.2.1.4 It is vital that radio and television stations are made aware of the importance and format of FLASH messages. It should be understood that there is a requirement for FLASH messages to be mentioned in subsequent relevant forecasts. Stations should be approached occasionally after the issue of a FLASH to ascertain if and when the message was broadcast.

24B.2.1.5 Only CFO will issue EMERGENCY FLASH messages. Their issue by CFO must always be accompanied by the issue of FLASH messages in the normal way by the relevant regional centres. Such messages must be consistent with the EMERGENCY FLASH and will be monitored in the normal way by the Aviation Unit Senior Forecaster at CFO. Any discrepancies must be resolved by liaison between CFO and the relevant regional centre with CFO having ultimate responsibility. The words EMERGENCY FLASH must not be used in FLASH messages issued from regional centres.

24B.2.1.6 EMERGENCY FLASH messages will be given considerable prominence on national radio and television either as a news item or as a special broadcast by the weather presenter.

24B.2.2 Form

24B.2.2.1 Texts of FLASH messages must be written in a form and style that will carry maximum impact. Messages are prefixed with the following heading and preamble:

FLASH WARNING OF SEVERE WEATHER

HERE IS A FLASH MESSAGE OF (type of weather) ISSUED BY THE METEOROLOGICAL OFFICE AT (time)
ON (date)

or

HERE IS AN EMERGENCY FLASH MESSAGE OF EXCEPTIONALLY (type of weather) ISSUED BY THE
METEOROLOGICAL OFFICE AT (time) ON (date)

(Text of message)

A 'tailer' line should be added detailing the originating Weather Centre:
ISSUED BY (name of originating office).

24B.2.2.2 The type of weather should be selected from the categories given in para. 24A.1.2. Two or more types may be included. All references to time in the preamble or text of warnings must be expressed in local clock time. Winds speeds shall be given in miles per hour, rainfall and snowfall amounts in millimetres and centimetres, respectively, and visibility in metres.

24B.2.2.3 The body of the text will indicate the type of weather causing concern, the period it is expected to last and the area affected. Details of the expected weather should be given where possible, for example wind speed and direction and amounts of rain or snow. Forecasters should avoid the use of technical terms when writing warnings.

24B.2.2.4 In many cases emphasis should be added to the message by making reference to actual weather reports and to the type of inconvenience or danger envisaged. Guidance on this and phrases applicable to each situation are given in Appendix A (tables of damage and advice for severe weather warnings). In the case of severe gales, the text should indicate the expected maximum gust speed in miles per hour. The intention is to give the best possible advice to the public on the damage which can be expected, particularly those aspects likely to pose a danger to life. Mention of

damage to structures such as buildings must therefore be included, as should damage to trees if likely to be hazardous.

24B.2.2.5 Examples of FLASH Messages (omitting preamble)

- a. A period of heavy rain accompanied by severe gale-force south to south-westerly winds is expected to affect the east Midlands this afternoon and for a time this evening. Some localized flooding is likely and with the wind gusting up to 70 m.p.h. driving conditions will be hazardous. Minor damage to buildings is also likely. Conditions will improve from the north-west during this evening.
- b. Heavy snow now falling over Sussex and Kent is expected to reach the Greater London area shortly and continue for three to six hours. There will be some drifting of the snow and driving conditions will become very hazardous.
- c. Many roads in the East Midlands will become very icy this morning as rain falls, but temperatures remain below freezing. Driving conditions will become very hazardous.
- d. Northerly winds are expected to increase to severe gale force later tonight in Eastern Scotland from Grampian south to Borders. They will remain at this level until morning. Gusts exceeding 70 m.p.h. are likely making driving conditions very hazardous and leading to some minor damage to buildings.

24B.2.2.6 Examples of EMERGENCY FLASH Messages

- a. Storm-force south-westerly winds with gusts to 90 m.p.h. are expected this evening over much of England north of a line Mersey to the Humber. Buildings could be damaged and many trees uprooted. Driving conditions will be very dangerous and the public is advised not make any journeys unless really necessary.
- b. Severe blizzards will occur this afternoon and evening over all of southern England south of a line Bristol to the Thames Estuary. Over 30 cm of snow is expected and drifting will occur in the gale force easterly winds. Driving conditions will be extremely dangerous and the public is advised not to venture out of doors unless really necessary.

24B.2.3 General Procedures

24B.2.3.1 When FLASH or EMERGENCY FLASH messages are issued there must be a high degree of confidence that severe or exceptionally severe conditions will occur. Often messages will be based on actual weather observations and local knowledge, making use of all reliable sources of information including AA/RAC, Police, etc.

24B.2.3.2 In order to increase their value to the public, warnings should be issued up to about six hours in advance of the expected onset of severe conditions whenever this can be done with confidence. This may be done at any time during the 24 hours, but the reduced radio and television audience will limit the impact of those issued overnight. In these circumstances, warnings concerning the onset of severe weather before 0600 LCT may be issued the previous evening (between 2100 and 2300).

24B.2.3.3 FLASH or EMERGENCY FLASH messages have considerably more impact than routine forecasts. This will however remain true only if the number of messages is kept within reasonable bounds. Common sense must be applied when considering issues for sparsely populated areas. Clearly it is the more densely populated regions which are likely to benefit most from the scheme. Judgement must be exercised using the severity of the conditions and the nature of the area at risk. EMERGENCY FLASH messages will be given a heightened profile on the broadcast media and may lead to disruption in programme schedules.

24B.2.3.4 FLASH or EMERGENCY FLASH messages can be issued for any part of the United Kingdom. The precise definition of the areas to be included in the message is important. Where possible, areas should be defined by county or Scottish region, but this may be impractical. If so, special care should be taken with phrases like "northern England" which are liable to a range of interpretation. Reference can be made to main towns and cities if this is appropriate and helpful.

24B.2.4 Procedures at Originating Stations (FLASH messages)

24B.2.4.1 As soon as the duty forecaster at an originating station decides to issue a FLASH message, he must telephone the CFO Aviation Unit Senior Forecaster to initiate action as laid out in para. 24B.2.5.1. The originating office should advise CFO before issue. Originating offices which are not M Met Os should consult the parent office in the normal way, unless such consultation would introduce significant delay.

24B.2.4.2 An originating office will also pass the message as follows:

- a. To commercial companies, BBC Television regions, and local and regional radio stations for which it is responsible (see Annex B to Chapter 1).
- b. To CFO and, if appropriate, its parent M Met O.
- c. When a FLASH refers to a BBC regional, IBA or local radio service area for which the originating office is not itself responsible, to the office which has this responsibility.
- d. To any other originating office which has an urgent need for such messages and has made an arrangement to receive them directly in this way.
- e. To registered recipients of FLASH messages within the National Severe Weather Warning Service.

24B.2.4.3 All originating stations should deal promptly with any telephone request from another office for discussion concerning FLASH issues; in particular, the BBC Weather Centre, International Weather Productions (IWP) and LWC may have to make such requests as part of their responsibility to various sections of the national media.

24B.2.4.4 Requests received by originating offices from local radio stations for recorded telephone or live interviews concerning FLASH issues and the weather situation which has led to them should be met whenever possible; offices which are not M Met Os must consult their parent office for briefing, but Headquarters permission for broadcasts of this type is not needed.

24B.2.4.5 Originating offices must keep full records of FLASH messages issued including times of despatch to each recipient.

24B.2.4.6 If the severe weather persists within an area for several hours a repeat FLASH message must be issued. This would be sensible if, for example, the original FLASH was issued overnight and the severe weather was still affecting the rush-hour traffic.

24B.2.5 Procedures at CFO

24B.2.5.1 All FLASH messages received at CFO will be shown at once to the Aviation Unit Senior Forecaster. Except in the special circumstances described in para. 24B.2.5.3, he will authorize immediate despatch by the fastest possible means to:

- a. BBC Newsroom for Radio 2.
- b. BBC Radio 4 Continuity for Radios 1, 3 and 4.
- c. BBC Television (Weatherman when on duty, otherwise Presentation).
- d. BBC Travel Centre.
- e. ITN Newsdesk.
- f. IWP Weather Unit at Camden Lock.
- g. LWC.
- h. MCC Bracknell, addressed 'PRIORITY FOR MCCA/ODS'.
- i. Registered recipients of FLASH messages within the National Severe Weather Warning Service on the national list.

24B.2.5.2 In certain weather situations, there is a danger of proliferation of FLASH messages and this both reduces the impact and is most unwelcome to the TV or radio stations. When a FLASH message arrives, if the Aviation Unit Senior Forecaster at CFO considers that this is likely he should delay the issue and at once discuss the matter on the conference telephone with the duty forecasters at appropriate M Met Os.

24B.2.5.3 If after discussion it is decided that a composite message covering several areas is desirable, the CFO Aviation Unit Senior Forecaster will prepare a suitable text. In certain circumstances it may be more convenient to carry out this liaison by means of a Special SR especially when issue of messages with lead times approaching six hours or more is being considered. In the case of composite messages it is particularly important to exercise care with area description. FLASH messages refer to severe weather conditions which are actually occurring or are confidently expected to commence within six or at most nine hours. Composite texts should not take the form of a forecast covering a large area with times of onset beyond this limit. Instead, separate, but coordinated FLASH messages should be issued at intervals.

24B.2.5.4 When an EMERGENCY FLASH is issued by CFO, the BBC Weather Centre and IWP will be contacted by telephone to advise them of the despatch of the message and of its heightened status as an EMERGENCY FLASH. Regard should be paid to the lack of 24-hour cover at IWP, and every effort should be made to issue the EMERGENCY FLASH whilst the presenter is on duty. In his absence ITN should be contacted by telephone, but, if the issue of an EMERGENCY FLASH is anticipated, it may be possible for the presenter to remain on duty.

24B.3 Motorway Weather Warnings

24B.3.1 Organization

24B.3.1.1 These messages are passed to registered recipients (mainly Police and Fire Services) who wish to have warnings of adverse or hazardous conditions which might present the emergency authorities with potential operational problems. The prime concern is of adverse weather conditions affecting road traffic.

24B.3.1.2 Responsible offices, as indicated in Annex B to chapter 1, should maintain liaison with all Police Authorities (see map at Appendix B) in whose areas there are major roads. They should negotiate with each authority the provision of warnings for these roads in return for a certain amount of actual weather information from the Police patrols, to include if possible:

- a. Telex copies of all ROAD TRAFF messages sent by the Police to the BBC Travel Centre.
- b. Any reports coming to hand from patrol cars of fog, snow, heavy rain or icy surfaces on motorways.

Routine daily observations of general weather on motorways are not normally forthcoming from the Police. The best approach is to arrange for PLAINOB type messages to be provided on request when hazardous weather is evident or suspected.

Weather Centres responsible for issue of messages to the BBC Travel Centre are set out in Annex B to Chapter 1, the allocation being based on counties/regions and covering roads of all types in all parts of the United Kingdom.

24B.3.1.3 Warnings are issued for the five categories given in para. 24A.3 of Annex A. Specific warnings of strong cross-winds are issued when required, e.g. for important road bridges such as the Severn Bridge carrying the M4 Motorway.

24B.3.2 Form

24B.3.2.1 Motoring Weather Warnings are prefixed with the following heading and preamble:

MOTORING WEATHER WARNING

HERE IS A WARNING OF (type of weather) ISSUED BY THE METEOROLOGICAL OFFICE AT (time) ON (date)

(Text of message)

A 'tailer' line should be added detailing the originating Weather Centre:

ISSUED BY (name of Weather Centre).

24B.3.2.2 The type of weather should be selected from the categories given in para. 24A.1.3. Two or more types may be included. All references to time in the preamble or text of warnings must be expressed in local clock time(LCT). Wind speeds shall be given in miles per hour, rainfall and snowfall amounts should be indicated in millimetres and centimetres, respectively, and visibility in metres.

24B.3.2.3 The text should indicate both expected duration of adverse conditions and any restricted application, e.g. 'snow is expected to continue over the Greater London area and Thames Valley for the rest of the morning', or 'snow is expected for two or three hours this afternoon on roads above 500 feet in north-west England'.

24B.3.3 Procedures

24B.3.3.1 Warnings should be originated a short time ahead of occurrence when this is reasonably certain. The BBC Travel Centre do not want warnings of possible events several hours ahead. Edited messages will be broadcast at suitable programme junctions on BBC Radios 1, 2 and 4 as soon as possible after receipt.

24B.3.3.2 All messages should be sent to:

- a. Telecommunications at Bracknell for CFO and onward transmission to the BBC Travel Centre.
- b. Registered recipients of Motoring Weather Warnings within the National Severe Weather Warning Service.
- c. Local radio and television stations who wish to receive the warnings.

Originating offices should also bear in mind the broadcast times of the many national forecasts on radio and television.

24B.3.3 The following points should be noted:

- a. A FLASH message should always be issued if conditions warrant it. The existence of a Motoring Weather Warning is not a reason for delay.
- b. It is not necessary that a Motoring Weather Warning be issued prior to a FLASH message.
- c. If a FLASH message has been issued, it is not then necessary to issue a Motoring Weather Warning for the same conditions and areas. Recipients who receive Motoring Weather Warnings also receive FLASH messages.

TABLES OF DAMAGE AND ADVICE FOR SEVERE WEATHER WARNINGS

TABLE 1. Wind warnings.

50 m.p.h. gusts — Motoring Weather Warning

- * Difficult driving conditions for high-sided vehicles, especially on exposed roads or bridges.

60 m.p.h. gusts — Motoring Weather Warning

- * Difficult driving conditions: unladen high-sided vehicles at risk of being overturned.
- * Some damage to trees, e.g. falling branches.

70 m.p.h. gusts — Severe Weather Warning

- * Hazardous driving conditions: unladen high-sided vehicles at risk of being overturned and motorists advised to drive with particular care.
- * Damage to trees, e.g. falling branches, with some being uprooted.
- * Minor damage to some buildings, particularly to tiles, slates and chimneys.

80 m.p.h. gusts — Severe Weather Warning

- * Dangerous driving conditions: high-sided vehicles at risk of being overturned and motorists advised to avoid driving if possible.
- * Considerable damage to trees with significant tree uprooting.
- * Extensive minor damage, particularly to tiles, slates and chimneys, and structural damage to some buildings.

90 m.p.h. gusts — Severe Weather Warning

- * Driving extremely dangerous.
- * Widespread uprooting of trees.
- * Widespread damage to buildings with potential for severe structural damage.
- * Public advised not to venture out of doors unless really necessary.

TABLE 2. Snow warnings

Snow — Motoring Weather Warning

- * Difficult driving conditions.

Heavy snow — Severe Weather Warning

- * Dangerous driving conditions.
- * Motorists advised to avoid driving if possible.

Blizzards or severe drifting — Severe Weather Warning

- * Driving extremely dangerous.
- * Some roads likely to become impassable.
- * Public advised not to venture out of doors unless really necessary.

TABLE 3. Other warnings

Heavy rain, fog or icy roads — Motoring Weather Warning

- * Difficult driving conditions.

Heavy rain, dense fog or widespread icy roads/glazed frost — Severe Weather Warning

- * Dangerous driving conditions.
- * Motorists advised to use extra care.
- * Localized flooding (in association with heavy rain).

Regional Boundaries ———
Force Boundaries ———
Metropolitan County - - - - -



**EARLY WARNINGS —
AREAS TO BE USED IN REGIONAL RISK ASSESSMENTS**

Northern Scotland	Highland Region, Western and Northern Isles
Eastern Scotland	Grampian, Tayside, Fife, Lothian, Borders
South-west Scotland	Strathclyde, Central, Dumfries and Galloway
Northern Ireland	All counties
North-east England	Northumberland, Durham Tyne and Wear, Cleveland, Yorkshire (N, W, S), Humberside
North-west England	Cumbria, Lancashire, Merseyside, Greater Manchester, Cheshire, Isle of Man
Wales	All counties
Midlands	Shropshire, Staffordshire, Derbyshire, Nottinghamshire, West Midlands, Leicestershire, Hereford and Worcester, Northamptonshire, Gloucestershire, Warwickshire
East Anglia	Lincolnshire, Cambridgeshire, Norfolk, Suffolk
South-west England	Avon, Somerset, Devon, Cornwall
Central southern England	Oxfordshire, Berkshire, Wiltshire, Hampshire, Isle of Wight, Dorset
South-east England	Buckinghamshire, Bedfordshire, Hertfordshire, Essex, Greater London, Surrey, Kent, Sussex (E, W)