

## CHAPTER 4

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## CHAPTER 4

### GUIDANCE FROM THE CENTRAL FORECASTING OFFICE

#### 4.1 Introduction

4.1.1 As indicated in chapter 1, CFO has responsibility for providing, through the routine issue of charts and text forecasts, guidance on the overall evolution of the weather pattern over the United Kingdom and surrounding waters. Much of this guidance is designed specifically to meet the requirements of other PS offices. This chapter discusses the schedule and content of those products of direct interest to these offices, together with notes on the conduct of conferences between CFO and the PS M Met Os. The role of CFO in providing services for specific market areas is discussed in the chapters relating to those market sectors; for example services for shipping are covered in chapter 18. CFO's role in marine emergency situations is discussed in chapter 23.

4.1.2 Guidance for the period up to 36 hours ahead is based on interpretation of the Limited Area Model (LAM) and consideration of available Global Model (GM) output. Surface analyses and 24-hour prognoses are issued every 6 hours by CFO for an area bounded approximately by latitudes 30° N and 80° N and longitudes 60° W and 45° E as part of its role as a Regional Specialized Meteorological Centre within the WMO World Weather Watch. These analyses and prognoses are of prime importance for the guidance of outstations. In addition the outstation forecaster has available a wide range of numerical products disseminated in various ways. The developments expected by CFO are discussed in Synoptic Reviews (SRs) which are issued at approximately six-hourly intervals and Nowcasts issued at approximately three-hourly intervals. SRs are designed to be read in conjunction with numerical weather prediction (NWP) model chart output as well as the CFO analyses and prognoses. CFO analyses and 24-hour prognoses are discussed in section 4.2, SRs in section 4.3, and Nowcasts in section 4.4.

4.1.3 A wide range of medium-range guidance also is produced, based on the numerical guidance available from the global model, the ECMWF model and products from other centres (e.g. United States National Weather Service, Washington and Deutscher Wetterdienst, Offenbach). Forecast charts for several days ahead are discussed in section 4.5 while the accompanying medium-range text forecasts are presented in sections 4.6 to 4.8. Conferences between CFO and PS M Met Os are discussed in section 4.9.

4.1.4 To complement the guidance the Chief Forecaster has several conferences each day, two with the Main Met. Offices and several with the national media presenters. The Medium-range forecaster discusses aspects of the medium-range with the media presenter, The Weather Initiative, Metroute and with specialized offices such as Aberdeen, involved with specific medium-range guidance.

#### 4.2 Surface bulletins

4.2.1 Surface analysis This relates to the last main synoptic hour before the time of issue. The charts show intensities, positions and movement of the main isobaric features and fronts.

4.2.2 Surface prognosis This relates to the expected position of pressure and frontal features 24 hours after the time of the immediately preceding main synoptic hour. Contents and broadcast methods are as for the surface analysis (paragraph 4.2.2).

4.2.3 Chart contents are in conformity with WMO practices. Both the analysis and prognosis are coded in the International Analysis Code (FM 45-IV IAC) for insertion into the radioteletype broadcast (GFL) for use by the Royal Navy. In addition, each centre of pressure and each front is identified by a letter which is retained from chart to chart throughout its existence (a national practice).

#### 4.3 Synoptic Reviews

4.3.1 The SR serves three main purposes:

- a. To endorse or modify the numerical guidance received directly by the outstations.
- b. To amplify the numerical guidance received directly by the outstations.
- c. To provide a framework of guidance for the issue of public service forecasts by outstations and national media presenters.

4.3.2 There are three types of SR: Main SR, Special SR and Supplementary SR. Each of these is described below. The Chief Forecaster on duty is responsible for drafting the Synoptic Review

4.3.2.1 Main Synoptic Review Main SRs are structured into three parts, Parts 1, 2 and 3 which are broadcast and cover the forecast periods as detailed in Appendix A to Annex A. The forecast section in Part 1 of the Main Synoptic Review is intended to provide adequate guidance on the main weather features for the whole forecast period.

4.3.2.1.1 Part 1 This follows a set pattern of contents in order, the details of which are given in Annex A. Part I contains information under the following headings:

- a. Warnings (see Annex B).
- b. Headline summary.
- c. Discussion of numerical output (late evening issue of Part1 only).
- d. Forecast.
- e. Amplifying remarks.
- f. Outlook (included with Part 2 in the afternoon).

4.3.2.1.2 Part 2 This provides additional discussion and background to the guidance provided in Part 1. Details of the contents are set out in Annex A.

4.3.2.1.3 Part 3 This part of the SR is prepared after the numerical output has been thoroughly digested. Guidance given in the Supplementary SR, and in Parts 1 and 2 of the Main SR can be fine-tuned on the basis of this more thorough assessment and possibly as a result of later data. Percentage point probability forecasts are included in Part 3 for the two 12-hour periods (0600-1800 and 1800-0600) following the time of issue. Details concerning format are given in Annex A.

4.3.3 Special Synoptic Review This should be issued at any time for promulgating amendments to, or amplification of, earlier forecast guidance which cannot await the next main issue. The previous Main SR (and any intervening Special SRs) remains valid except for those areas covered by the latest Special Synoptic Review.

4.3.4 Supplementary Synoptic Review Supplementary SRs are issued at 0310, 0940 (summer), 1000 (winter) and 1510. The Supplementary SR includes direct reference to latest numerical output and specifically comments on the fields of pressure pattern, frontal structure and precipitation. Details of the contents of the Supplementary SR are given in Annex A.

4.3.5 The format and content of the SR recognizes the differing roles of CFO and the outstation. Forecasters in CFO influence the numerical model analyses and forecasts in some degree by 'intervention' and have access to the full range of forecast products from Bracknell and other international meteorological centres. Expertise on the characteristics, the interpretation and the evaluation of model products in relation to the evolution of weather systems, both for the Bracknell model data and for those received from elsewhere, resides in CFO. On the other hand the expertise on local weather characteristics is to be found principally in the outstations. Accordingly, outstation forecasters, within the overall current SR guidance, have the authority to decide on the presentation and local detail of forecasts for which they have responsibility. If it is considered that local detail is necessary which is not completely compatible with the overall SR guidance, then the outstation forecaster must consult with a senior forecaster at the parent Main Met. Office. Decisions on areas of uncertainty and ambiguity shall be dealt with by the senior forecaster at the Main Met. Office in consultation with the Chief Forecaster at CFO. The outcome of any consultation with CFO shall be conveyed back to the outstation forecaster who must ensure that forecasts issued are in line with any decision made. The Chief forecaster shall communicate by means of a Special SR, and if necessary by telephone to the presenters on national radio and television, any changes to the original SR guidance.

4.3.6 The Synoptic Reviews are disseminated via the usual MCC and ODS channels. The headings for Parts 1, 2 and 3 and for the Supplementary Reviews are AXXX01/02/03/04 EGRR YYGG00, respectively (GG being the hour during which the bulletins are issued).

#### 4.4 Nowcast

4.4.1 Nowcasts are issued by CFO every three hours. The nowcast is produced by the FRONTIERS forecaster in liaison with the Senior Aviation Forecaster. Information is provided on:

- a. Precipitation — observed areal extent, observed movement vectors, development, and rates of precipitation within cells.
- b. Cloud — information on convective cells, cloud tops when significant.
- c. Every other Nowcast includes a short-period detailed forecast provided by the Senior Aviation Forecaster. This forecast supplements the general forecast advice provided in Part One of the Main Synoptic Review. The text should add value to the local forecaster's interpretation of the FRONTIERS output, the radar and satellite imagery, and the Mesoscale model output. It is not intended that the short-period forecast within the Nowcast should replace the general overall guidance provided in part 1 of the Main Synoptic Review. In general, a Nowcast containing a short-period forecast is issued a short period ahead of the Main SR, but in the afternoon the issue is only five minutes ahead of the 1520 SR.

4.4.2 Nowcasts are disseminated via the usual MCC and ODS channels under the heading AXXX05 EGRR YYGGgg. On ODS the texts are given 'attention-getter' status. The Nowcast bulletins are issued at 0315 UTC, 0915 UTC (during BST), 1015 UTC (during winter time), 1515 UTC and 2115 UTC. Updates are issued at 0015 UTC, 0615 UTC, 1215 UTC and 1815 UTC.

#### 4.5 Medium-range prognoses

4.5.1 The Medium-Range Forecaster produces prognosis charts for 48, 72, 96 and 120 hours ahead each day based on 1200 UTC data. All of these prognoses are based upon the interpretation of the output from the UK Global model, with modification after examining NWP output from other meteorological centres.

4.5.2 The charts, at a scale of 1 in 30 million, cover much of western Europe, the North Atlantic and part of North America and depict the surface isobaric pattern, main significant frontal systems, and key 1000–500 hPa thickness isopleths. The surface isobars are drawn at 8 hPa intervals (including 1000 hPa). The key thickness isopleths are at 18 dam intervals (the series includes the 492, 510, 528, 546, 564, 582 dam isopleths as appropriate). Fronts and centres are given an identifying letter which is valid for the set of charts produced (identifying letters are consistent from the 1200 analysis through to the 120-hour prognosis but are not necessarily consistent with the lettering in a previous run). The forecast charts are disseminated by the facsimile network and are used by outstations as guidance in advising many different users, especially those likely to be affected by the weather in the vicinity of the British Isles.

4.5.3 It is the intention that one set of prognoses will be issued at 12-hourly intervals based on the global model output DT 1200 UTC rather than at 24-hour intervals. Until this is achieved a set of charts based on the global model run DT 0000 UTC are being disseminated, these charts are essentially global model output with the absolute minimum of any forecaster adjustment. The legend on the charts is intended to indicate this difference in the level of human input to the charts: thus the midday output that has had full forecaster input carries a legend in the form 48 hr PROG VT 12Z Mon 10 Jul 95, while the output based on the 0000Z run of the model carries a legend in the form T+96 UK GM VT 00Z Tue 11 Jul 95.

#### 4.6 General Synoptic Development

4.6.1 The medium-range forecast charts based on the Global model output DT 12Z are supplemented by written guidance contained in the General Synoptic Development (GSD). This text is disseminated once a day at 1900. An update to this GSD is issued at 0800 based on an assessment of the model output DT 00Z and the ECMWF output available overnight. This update also includes a forecast for one additional day to the days covered in the original GSD.

4.6.2 The Main GSD issued at 1900 is in two parts:

- a. Part 1 includes a technical discussion of the evolution and highlights potential severe weather considered likely with a medium or high risk.
- b. Part 2 contains the forecast weather for the period beyond that covered in the Main Synoptic Review Part 1 out to day 5.

4.6.3 The update to the GSD issued at 0800 is in two parts:

- a. text highlighting any changes from the previous guidance
- b. forecast for an additional day to the forecasts in the Main GSD issued the previous evening.

4.6.4 Details of the format and contents of the GSD and the Update to the GSD are given in Annex A.

#### 4.7 Quantitative temperature and rainfall guidance

4.7.1 Quantitative guidance on the maximum and minimum temperature and 24-hour rainfall accumulations throughout the forecast period is issued once daily in alphanumeric form at 1900 and amended if necessary at 0900 the next morning (if amended a complete document is broadcast). An example of a forecast text is given in Annex D.

4.7.2 The forecasts are intended to provide average forecast values for each of 10 forecast regions (see map at Annex E). Temperature values are deduced from direct model prediction of surface temperature, Model Output Statistics (MOS) and indirect model prediction, e.g. 850 hPa wet-bulb potential temperature or 1000–850 hPa thickness.

#### 4.8 National Severe Weather Warning Service

4.8.1 CFO provides input into the National Severe Weather Warning Service (see chapter 24).

#### 4.9 Public Services telephone conferences

4.9.1 Several conferences a day are chaired by the Chief Forecaster. The main aim of the conferences is to ensure that all those involved in public service forecasting work as a team with the Chief Forecaster recognised as the leader of that team. The purpose of the conferences varies with the group involved in the particular conference. During the course of a duty the Chief Forecaster in the CFO has telephone conferences with three groups as routine:

- a. Senior Forecasters at PS M Met Os.
- b. Media forecasters at BBC Weather Centre and London Weather Centre.
- c. IWP weather presenters.

4.9.2 There are also arrangements in place for the Chief Forecaster to discuss the situation with the Senior Forecaster at the PFO HQSTC. This latter liaison is important in that there are several offices within the Defence Services area which have some public commitments and indeed all Defence Services stations receive the Main Guidance from the CFO alongside the more specialized guidance for defence purposes from the PFO HQSTC.

4.9.2.1 The Conferences with Senior Forecasters at Public Service Main Met. Offices (Glasgow, Belfast, Manchester, Leeds, Cardiff and London) are held twice per day, usually at around 0200 and 1415 UTC (1315 UTC in Summer). The duty forecaster at the BBC Weather Centre has a listening role in these conferences. The conference is set up via the conference system at LWC (each M Met. O contacts LWC using the appropriate number and then when everyone is present, LWC Senior Forecaster contacts CFO on the appropriate ex-directory telephone number). The CFO Chief Forecaster chairs the conferences which should last no longer than a few minutes — *conferences of more than 8 to 10 minutes are counterproductive.*

4.9.2.2 The purpose of these conferences is to amplify and clarify the guidance given in preceding Synoptic Reviews, and to *highlight possible areas of doubt* which may have to wait to be resolved until the next run of the model becomes available in the next half an hour or so. The conferences are *not intended for the discussion of points of local detail* which remain the prerogative of the outstations, but CFO and the BBC Weather person may seek information about local features when relevant to the broad evolution. These conferences should provide an opportunity for M Met. Os to contribute, where appropriate, to the overall development of the guidance.

4.9.2.3 The timing of these conferences is necessarily a compromise, and due to the difficulties of time availability the conferences are held just a short while prior to the next model run becoming available. Thus there is a possibility that subsequent consideration of the latest products will result in significant modifications. Often the Chief Forecaster

will be aware of such occasions and will strongly advise the conference of the possibility of the next run coming up with significant changes in timing or development.

4.9.2.4 These conferences in no way obviate the need for ad hoc consultation between CFO and any outstation, as required for the purposes of clarification or information, or in connection with severe weather. Thus conferences with any outstation may be initiated at any time by either the CFO or an outstation, e.g. in connection with severe weather, inconsistencies between SR guidance and local forecasts, local weather information, etc.

4.9.3 Conferences are held with the media forecasters at BBC Weather Centre, IWP and London Weather Centre. The purpose of the media conferences is to ensure that the emphasis in the forecasts to the public is agreed between the presenters and the Chief Forecaster. The Chief Forecaster must be satisfied that the presenters have understood the interpretation of the model output and are aware of any areas of doubt that should be presented with special care. The Chief Forecaster must give clear signposting on the balance of options in connection with the evolution of the meteorological situation. The Chief Forecaster will keep in mind the difficulties in preparing new graphics at the last minute and will alert both the BBC and the IWP if a Severe Weather Warning is *a possibility* as far ahead of programme time as possible. The graphics can then be ready even if a decision cannot be made until the last minute.

4.9.3.1 Routine conferences between the CFO, London Weather Centre and the BBC Weather Centre take place several times a day. These conferences are held at a time as close to the main broadcasts at lunch-time and the early evening as possible. A conference is also held in the later part of the night to set the scene for the early morning radio and television presentations. Several other routine contacts are made between the BBC Weather Centre and the Chief Forecaster for updates and final checks.

4.9.3.2 Separate conferences are held with the forecasters/presenters at the IWP. The conference times are such that an initial conference is held in mid-morning which precedes the issue of the morning SR but sets the scene for the IWP presenter to prepare graphics for the lunch-time presentation. In a difficult situation an early afternoon conference is recommended so that sufficient time is available for discussion. A short update conference is then held in the late afternoon prior to recording for the early evening broadcasts. A check is then made soon after 6 p.m. as to whether recording of the late evening forecasts can then go ahead or be delayed due to a rapidly evolving situation.

4.9.4 These conferences in no way obviate the need for ad hoc consultation between CFO and any outstation, as required for the purposes of clarification or information, or in connection with severe weather.

## FORMAT OF THE SYNOPTIC REVIEW AND THE GENERAL SYNOPTIC DEVELOPMENT

### 4A.1 Supplementary Synoptic Reviews

4A.1.1 Supplementary SRs convey guidance on the latest main run of the numerical limited-area model. At 0310 the advice consists of a preliminary assessment of the latest run of the model. At 1000 UTC (0940 UTC in summertime) the advice consists of an update to previous interpretation of the model and includes comments on the intermediate run of the limited-area model. The supplementary SR at 1050 during summer-time carries comment on the latest mesoscale run (DT 0600 UTC), these are in Part 2 in winter-time.

4A.1.2 The advice in the Supplementary SR is specifically concerned with guidance concerning the interpretation of the numerical model and the text is normally presented under self-explanatory headings:

a. 0310 and 1510 issue:

Preliminary assessment of the limited-area model DTDDHH00 UTC

— Pressure pattern

— Interpretation of model fronts and precipitation output.

b. 1000 (winter), 0940 (summer) issue:

Discussion of the limited-area model

— Comments on the intermediate run and update on interpretation of the main run of the LAM.

c. 1050 (summer only)

Comments on the mesoscale model run DT 0600 UTC. Note in winter-time these comments are included in the Main SR Part 2 issued at 1125.

### 4A.2 Main Synoptic Review Part 1

4A.2.1 There are four main sections to the Main Synoptic Review Part 1:

a. Warnings

Annex B details the criteria for which warnings are indicated in the Synoptic Review. If any of the conditions in Annex B are expected to occur then a warning is indicated after the heading 'Warnings:'. A 'Nil' entry is required when none of the events specified in Annex B are expected.

b. Headline summary

The headline summary should not exceed 40 words and is intended to indicate the main emphasis of the expected weather in the forecast period.

c. Forecast

The forecast guidance is intended to complement the numerical output and provide an indication of the general evolution of the weather in broad terms highlighting the expectancy of severe weather. Forecasts will not include detail. Presentation will depend on the situation. On occasion geographical areas may be used to describe the forecast conditions while on other occasions the forecast conditions will be linked to weather systems. In the afternoon Main SR Part 1 Forecast section an opening statement is included on any changes in emphasis since the morning guidance was issued.

d. Amplifying remarks

Amplifying remarks will fill in detail associated with the general aspects of the weather indicated in the forecast section.

d. Outlook

A short-term outlook prepared by the medium-range forecaster is included for media use. If there are no changes to the advice in the General Synoptic Development then the text of the outlook merely states that there are no changes to the GSD guidance.

4A.2.2 The late evening issue (2225 UTC) of the SR Part 1 includes a discussion on the limited-area model under headings similar to those in the mid-morning issue of the Supplementary SR (see para. 4A.1.2).

4A.3 Main SR Part 2

4A.3.1 Part 2 of the Synoptic Review consists of a technical discussion of the forecast and forecast products. The chief forecaster has considerable flexibility in the contents of Part 2 depending on the situation and the relative merits of various parts of the numerical output.

4A.3.2 The contents of this part of the SR will address the following aspects of the situation as appropriate:

- a. Amendments to Part 1 (if necessary, but must appear even if nil in the Part 2 issued at 1640 UTC, and during the summer that issued at 0400 UTC).
- b. Discussion — Comments on large-scale dynamical evolution. In the early morning and afternoon issues any significant changes in latest numerical output to previous guidance should be highlighted.
  - Comments on the limited-area model ...
  - Comments on interpretation ...
  - Discussion of ...
  - Severe weather ...
  - Comments on any ...
- c. Preliminary comments ...
- d. Outlook (only in the 1615 issue)

4A.4 Main SR Part 3

4A.4.1 This part of the SR can address any of the discussion, forecasts or interpretation of the model in the immediately preceding Supplementary SR, or in Parts 1 and 2 of the Main SR. Following a more thorough appraisal of the numerical products and interpretation of later data the guidance should be fine-tuned as appropriate. Percentage-point probability forecasts are included in Part 3.

4A.4.2 Percentage-point probability forecasts These forecasts are included so as to provide quantitative guidance to supplement the descriptive guidance given in the Parts 1 and 2 of the Synoptic Review. In particular the probability will incorporate doubts and uncertainties arising from both the meteorological situation and the numerical advice taking into account the various model characteristics as interpreted by the forecast team in CFO.

4A.4.2.1 The forecast percentage-point probability for a specific site as produced by CFO is defined as the expected probability (expressed as a percentage) that the specified event will occur at a particular point (the observing site) within the specified period of time.

4A.4.2.2 In particular, the forecast percentage point probabilities within the Main SR Part 3 give an indication of the probability of the following events occurring at specific sites within the specified forecast periods:

- a. precipitation greater than a trace (rain or no rain situation) — no upper limit.
- b. precipitation greater than or equal to 5 mm.
- c. precipitation falling as snow (snow will be deemed to have fallen if ww reported as 22, 23, 26, 68, 70–79, or 83–86 in any hourly SYNOP report in the period of forecast with the exception of ww coded as 22, 23 or 26 in the first observation of the period)
- d. gale (mean wind 34 knots or more or gusts 43 knots or more)
- e. frost, screen minimum <0 °C (for 1800–0600 period only)
- f. temperature 4 °C or more from normal (for period 0600–1800 period only) separate columns for above or below normal.

4A.4.2.3 Twelve sites are included in the SR guidance. The choice of sites has been such that there is a low-level site in each region of the United Kingdom. The sites for which forecasts are prepared in CFO are:

Stornoway (03026)	Aberdeen (03091)	Glasgow (03140)
Edinburgh (03160)	Leeming (03257)	Manchester (03334)
Birmingham (03534)	Wattisham (03590)	Cardiff (03715)
London (03772)	Plymouth (03827)	Belfast (03917).

4A.4.2.4 An example of a probability forecast within a Main SR Part 3 is at Annex C.

#### 4A.5 The General Synoptic Development

4A.5.1 The General Synoptic Development is in two parts:

- a. Part 1 — a technical discussion of the forecast products
- b. Part 2 — a forecast in general terms for days 2 to 5, for the whole of the United Kingdom.

4A.5.2 GSD Part 1 issued at 1900Z The aim of the GSD issued at this time is to complement the chart output from the CFO and highlight aspects of confidence to the user of the information. There are three main sections in the GSP Part 1:

- a. Model discussion
- b. Synoptic features
- c. Severe weather watch

4A.5.2.1 Model Discussion This section briefly highlights any significant discrepancies from the raw global model output so that forecasters can make any adjustments to guidance already prepared which may have been based on the unadjusted model output. Comment should include reference to which model has been followed in the later part of the forecast (ECMWF, the UK GM, the DWD model, etc.) and why. A brief explanation should be given if appropriate. Comments should be confined to changes over the UK and the western European area.

4A.5.2.2 Synoptic Features The text in this section is a commentary that must relate directly to the two sets of charts issued (T+48/72 and T+96/120). Discussion should essentially refer to systems over the UK but comments on synoptic features of interest to our DS customers in Gibraltar, Cyprus and Germany and to the Royal Navy for the Mediterranean and eastern North Atlantic Ocean should also be made if appropriate. Reference is made to the various features using the system and frontal lettering. Comments are to include some indication of the intensity of fronts, characteristics of the air masses over the UK, aspects of the WBPT field that are relevant to the situation, and comments on temperatures as considered useful. Confidence in timing and/or evolution should be included in this section with reasons to substantiate comments.

4A.5.2.3 Severe Weather Watch Comments are made on the expectancy of severe weather (defined as such for the issue of early warnings within the National Severe Weather Warning Service). An indication of the risk (high, or

medium) should be given together with comments on timing and areal coverage. The possibility of severe weather considered to be a low risk is worth a mention provided the comments make it clear that the risk is low. It is quite in order to write NIL for this section.

4A.5.3 GSD Part 2 Forecasts are given in plain language for each day of the outlook period. The presentation may be based on geographical areas or be linked with weather systems provided the meaning to the user of the information is clear.

4A.5.4 Update to the GSD The content of this issue of the GSD (one document, no Part 1 and Part 2) is intended to update the content of the GSD issued the previous evening. Substantive changes will be signalled otherwise a statement should be made to the effect that the guidance issued in the GSD issued at YY1900 is still valid. See Appendix A for the format of this document.

ISSUE TIMES OF SYNOPTIC REVIEWS AND GSD TEXTS  
(All times UTC)

Winter time (local time as UTC)

Issued	Title		Forecast period
0310	Supplementary SR	)	Until 0600 UTC tomorrow
0425	Main SR Part 1	)	
0440	Main SR Part 2	)	
0550	Main SR Part 3	)	
0800	GSD Update		Updates 1900 issue of previous evening
1000	Supplementary SR	)	Until midnight tomorrow
1105	Main SR Part 1	)	
1125	Main SR Part 2	)	
1510	Supplementary SR	)	Until midnight tomorrow
1520	Main SR Part 1	)	
1615	Main SR Part 2	)	
1715	Main SR Part 3	)	
1900	GSD Parts 1 and 2		Next 5 days
2225	Main SR Part 1	)	Until midnight tomorrow
2245	Main SR Part 2	)	

Summer time (local time as BST)

Issued	Title		Forecast period
0310	Supplementary SR	)	Until 0600 UTC tomorrow
0345	Main SR Part 1	)	
0440	Main SR Part 2	)	
0550	Main SR Part 3	)	
0730	GSD Update		Updates 1900 issue of previous evening
0940	Supplementary SR	)	Until midnight tomorrow
1010	Main SR Part 1	)	
1025	Main SR Part 2	)	
1050	Supplementary SR		Comments on Mesoscale DT 0600 UTC
1510	Supplementary SR	)	Until midnight tomorrow
1520	Main SR Part 1	)	
1615	Main SR Part 2	)	
1715	Main SR Part 3	)	
1900	GSD Parts 1 and 2		Next 5 days
2225	Main SR Part 1	)	Until midnight tomorrow
2235	Main SR Part 2	)	

## CRITERIA FOR WARNINGS IN SYNOPTIC REVIEWS

4B.1 Snow A warning of snow is issued when snow or snow showers are expected at low levels. The SR in which a snow warning is issued includes as much information as possible about timing, intensity, amount and drifting. Snow expected on high ground is mentioned in SRs but does not necessarily require the issue of a warning of Special SR. When it is believed that snow over high ground represents a significant hazard (e.g. on roads over the Pennines) a warning of snow is appropriate. It can be useful to specify heights above which snow is expected.

4B.2 Thaw Notification of the expected thaw of lying snow is issued with an indication, if possible, of whether the thaw is likely to be slow or rapid, temporary or lasting.

4B.3 Frost A warning is issued whenever air temperatures below freezing point are expected. The expectation of ground frost without air temperatures below freezing point requires a frost warning except in the period from 1st November to 31st March.

4B.4 Icy roads A warning is issued when it is expected that the conditions given in Annex B to chapter 17 will be fulfilled. The guidance given in these warnings is of a very general character, e.g. "in the North tonight icy stretches on some roads are expected".

4B.5 Fog A warning is issued when visibility below 200 metres is expected, except in hilly areas when such reduction in visibility is due to low cloud (hill fog). The expected occurrence of hill fog should, however, be mentioned within the text of the Synoptic Review.

4B.6 Thunder A warning of thunder is issued when thunderstorms are expected over any part of the United Kingdom.

4B.7 Land gale A warning is issued when the mean wind strength either at low level or over high ground is expected to reach gale force 8 or more, or the likelihood exists of gusts to 43 knots or above. However the expectation of gales over mountains (say above 800 m) does not require a warning. Indications are given in the text of direction, strength and timing. In particular mention should be made of expected gust speeds, e.g. "Over southern England tonight south-easterly winds will increase to gale Force 8 in places with gusts reaching 45 to 50 knots at times, and may increase to storm Force 10 especially over high ground before veering and moderating later tomorrow".

## EXAMPLE OF PROBABILITY FORECASTS WITHIN A MAIN SR PART 3

MAIN SR NO 19 (PART THREE)  
ISSUED 180550

NOTHING TO ADD TO PREVIOUS GUIDANCE.

PERCENTAGE PROBABILITY FORECASTS:  
PERIOD: 0600 TO 1800 TODAY 18 FEB 1993

	WET	VERY WET	PPN SNOW	GALE	MAXIMA	
					AN	BN
03026	: 00	: 00	: --	: 00	: 00	: 10
03091	: 10	: 00	: 50	: 00	: 00	: 00
03140	: 10	: 00	: 40	: 00	: 00	: 00
03160	: 10	: 00	: 50	: 00	: 00	: 20
03257	: 10	: 00	: 50	: 00	: 00	: 50
03334	: 10	: 00	: 40	: 00	: 00	: 40
03534	: 10	: 00	: 50	: 00	: 00	: 50
03590	: 20	: 00	: 70	: 00	: 00	: 50
03715	: 20	: 00	: 40	: 00	: 00	: 30
03772	: 10	: 00	: 50	: 00	: 00	: 00
03827	: 30	: 00	: 10	: 00	: 00	: 10
03917	: 30	: 00	: 20	: 00	: 00	: 00

PERIOD: 1800 TONIGHT UNTIL 0600 TOMORROW

	WET	VERY WET	PPN SNOW	GALE	FROST
03026	: 30	: 00	: 10	: 10	: 10
03091	: 10	: 00	: 60	: 00	: 60
03140	: 10	: 00	: 30	: 00	: 50
03160	: 05	: 00	: 80	: 00	: 70
03257	: 00	: 00	: --	: 00	: 70
03334	: 10	: 00	: 60	: 00	: 60
03534	: 10	: 00	: 80	: 00	: 80
03586	: 10	: 00	: 80	: 00	: 80
03715	: 00	: 00	: --	: 00	: 60
03772	: 00	: 00	: --	: 00	: 80
03827	: 10	: 00	: 20	: 00	: 50
03917	: 10	: 00	: 20	: 00	: 20

WET : PPN GREATER THAN TRACE (NO UPPER LIMIT)  
 V WET : 5 MM OR MORE  
 PPN SNOW : IF PPN OCCURS, THE PROB OF IT FALLING AS SNOW  
 (WW 22, 23, 26, 68, 69, 70-79 OR 83-86)  
 GALE : MEAN WIND 34 KTS OR MORE OR GUSTS 43 KTS OR MORE  
 MAXIMA : 4 DEG C OR MORE ABOVE OR BELOW NORMAL (AN OR BN)  
 FROST : MINIMUM LESS THAN 0.0 C

TOO: 180550

## EXAMPLES OF QUANTITATIVE TEMPERATURE AND PRECIPITATION FORECASTS

Evening issue

% PH4  
RE: TEMP AND RAIN TO PH4, BBC(TVWO)

FMUK81 EGRR 101900

MEDIUM RANGE FORECASTS ISSUED BY CFO

DT 101200Z JUL 1995

TEMPERATURES (MIN/MAX) ON DATE SPECIFIED

DATE	0	1	2	3	4
12 JUL	14/18	14/20	15/23	16/25	14/23
13 JUL	11/19	11/21	12/23	13/24	12/23
14 JUL	11/18	11/21	12/22	13/24	12/22
15 JUL	11/17	10/20	11/21	12/22	11/21

DATE	5	6	7	8	9
12 JUL	15/24	15/20	15/21	12/21	13/20
13 JUL	13/24	10/20	12/21	12/21	11/19
14 JUL	13/23	11/19	12/20	12/20	12/19
15 JUL	13/22	10/18	12/19	12/19	11/18

24HR ACCUMULATED RAINFALL PERIOD 1200 TO 1200 ENDING ON THE SPECIFIED DATE.

DATE	0	1	2	3	4	5	6	7	8	9
12 JUL	M	M	M	L	L	L	M	M	L	L
13 JUL	L	L	O	O	O	O	L	L	L	L
14 JUL	M	L	L	O	O	O	L	L	L	M
15 JUL	M	L	L	L	L	L	M	L	L	M

## ADDITIONAL COMMENTS

(TO BE READ IN CONJUNCTION WITH GSD ISSUED 101930)

## TEMPERATURES

12TH. AREA 0: MAXIMA SEVERAL DEGS LOWER IN E.

## RAINFALL

12TH. AREAS 0-7 & 9: LOC ONE CATEGORY EITHER SIDE. AREA 8: LOC 'O'  
13TH. AREA 0: LOC 'M'. AREA 8: LOC 'O'. AREA 9: LOC ONE CATEGORY EITHER SIDE.  
14TH. AREAS 0, 1, 2, 6, 7, 8, 9: LOC ONE CATEGORY EITHER SIDE.  
AREAS 3, 4, 5: LOC 'L'  
15TH. ALL AREAS LOC ONE CATEGORY EITHER SIDE

ISSUED BY CFO AT 101925Z

**Morning issue – no amendments**

%PH4  
RE: TEMP AND RAIN TO PH4, BBC(TVWO)  
FMUK81 EGRR 100800  
NO AMENDS TO FORECASTS ISSUED AT 101925Z  
ISSUED BY CFO 100900

**Morning issue –amendments to some or all of the information**

Procedure is to copy the document from the previous evening across, amend the heading (see below) and time of issue. Amend any of the entries in the tables or in the Additional comments as necessary. **Information for an extra day is not to be added.**

In the example below changed text in the headings from the evening output are shown in bold italic but of course this is not possible on documents sent by telex.

**NB This example below does not refer to the 1925Z issue on the previous page, it actually refers to the one issued on the evening of the 9th June!**

% PH4  
RE: TEMP AND RAIN TO PH4, BBC(TVWO)  
FMUK81 EGRR 100800  
AMENDED MEDIUM RANGE FORECASTS ISSUED BY CFO  
DT 100000Z JUL 1995

TEMPERATURES (MIN/MAX) ON DATE SPECIFIED

DATE	0	1	2	3	4
11 JUL					
12 JUL	<b>Table issued the previous evening to be reissued</b>				
13 JUL	<b>with values amended as necessary</b>				
14 JUL					

DATE	5	6	7	8	9
11 JUL					
12 JUL	<b>Table issued the previous evening to be reissued</b>				
13 JUL	<b>with values amended as necessary</b>				
14 JUL					

24HR ACCUMULATED RAINFALL PERIOD 1200 TO 1200 ENDING ON THE SPECIFIED DATE.

DATE	0	1	2	3	4	5	6	7	8	9
12 JUL										
13 JUL	<b>Table issued the previous evening to be reissued</b>									
14 JUL	<b>with entries amended as necessary</b>									
15 JUL										

ADDITIONAL COMMENTS  
(TO BE READ IN CONJUNCTION WITH GSD ISSUED 100800)

etc

ISSUED BY CFO AT 100900Z

AREAS USED IN QUANTITATIVE TEMPERATURE AND RAINFALL GUIDANCE

