The effects at ECMWF of the changes of codes for surface observations on 1 January 1982

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1. **INTRODUCTION**

The new 'common code' FM12-VII SYNOP and FM13-VII SHIP replaced the former codes for reporting surface observations at 0000Z on 1 January 1982. The introduction of the new code also involved the rearrangement of bulletins so that all reports in one bulletin contained winds which were either all measured or all estimated and used the same units for wind speed. The division of the new code into sections for global, regional and national exchange also required changes to compiling and editing practices for compilation of the appropriate bulletins. These were all major changes.

Centres receiving and using the data also had to make the necessary changes to decode and use the reports received in the new codes.

Descriptions of the codes are given in Appendix 1.

2. **DECODING PROBLEMS AT ECMWF**

In anticipation of some countries continuing to use the old code, the decoding system of the Operational Suite was geared to handle reports in either old code or new code - the MIMIMjMj group deciding the appropriate decoding routine.

The MIMIMjMj group consists of 4 letters identifying the type of reports in the bulletin. In the old code MXXX denotes land station reports and NNX denotes sea station. In the new code, the letters are AAXX and BBXX respectively. In the event of the MIMIMjMj group being missing or corrupt, the reports were decoded twice, being interpreted first as old code and then as new code. The two versions of each report were then presented for Quality Control and the better report stored in the Reports Data Base.

The symbolic letters of the MIMIMjMj group proved to be absolutely useless as a means of identifying the code used in the reports. Many bulletins were received with the old MIMIMjMj (MXXX and NXX) with reports in the new code and others with the new MIMIMjMj (AAXX and BBXX) and reports in the old code. A considerable number of SHIP bulletins contained a mixture of reports in both old and new code. Some SHIP bulletins had MIMIMjMj of WXX - the indicator for satellite clear radiance data! To overcome this problem, the program was changed so that all bulletins and reports were decoded twice (MIMIMjMj indicator ignored) and the Quality Control retained the better reports.

The incoming data was closely monitored and when systematic errors were identified, the originating centres were notified where possible, and decoding routines modified to permit the use of the maximum amount of data.
The following are the major changes made to accommodate frequent and systematic errors identified in the bulletin and report formats:

a. The parallel decoding of all reports by ignoring the MIMIMJMJ group (as mentioned earlier) was modified when a clearer picture of what formats were actually being received emerged. Reports from land stations were decoded in the old format only when the MIMIMJMJ group was not 'AAXX'. Reports known to be in the old format (e.g. from USA and Canada) were not decoded in the new format. Ship reports continued to undergo the double decoding.

b. The inclusion of date/time groups in the SHIP reports BBXX line was a very common error and the programs were modified to handle it.

c. The illegal coding of $iRiX as // was catered for. $iR$ is the indicator for inclusion or omission of rainfall data and $iX$ the indicator for type of station operation. The use of / is invalid for both indicators.

d. The section indicator 333 was commonly misused and extended to a 5 character group 333//, and allowance was made for this.

e. American and Canadian land station reports frequently had spurious SM characters embedded in the reports. These were looked for and removed.

f. A variety of symbols ($#, \,$) appeared as end-of-report signals instead of $=$, especially in reports from South America and Africa, and these were catered for.

Reports on the difficulties encountered were sent to WMO periodically for corrective action. These reports are attached in Appendix 2.

At the moment, (March 1982), there is still a large number of ship reports being received in the old code, but the collecting centres normally issue them in separate bulletins. Some land stations are still reporting in the old code, mainly stations in Blocks 78 and 94.

3. DATA PROBLEMS AT ECMWF

The volume of surface data received on 1 January was well below normal as was the quality of the data. No data at all was received from North America for 0000Z or 0600Z (it was received in the old code for 0300Z and 0900Z). No data was received from Central America and very little from Siberia. Data was also missing for different times from South America, Africa, USSR and Afghanistan.
The quality of the data was well below normal. A particular problem was created by the use of the MiMjMj groups, as previously mentioned. These wrongly coded reports were only rejected at the data base quality control or analysis level and it cannot be excluded completely that some corrupt data (particularly MSL pressure values) might have been used in the analysis for the forecast run of 1 January.

The quantity of data received gradually increased over a number of weeks. The problem areas were generally Alaska and Central America (from where virtually no data was received) with below normal coverage on occasions from South America, Africa, Australia and USSR. Reports from Alaska and Central America have only been received on a regular basis since 8 February.
(i) The symbolic version of the new codes introduced in January is shown below.

APPENDIX 1

C. LIST OF CODE FORMS

WITH NOTES AND REGULATIONS

FM 12-VII SYNOP — Report of surface observation from a land station

FM 13-VII SHIP — Report of surface observation from a sea station

CODE FORM:

SECTION 0 MIIIMjMj { D.....D } ** YYGGjw { I*III * } 99LeLeLa QcLeLeLeLo **

SECTION 1 16shhVV Nddff 1nTTT 29nTeTtTe 3PqPqPqPq 4PPP PPP 6RRRR RRRR 7w1w1 W2 8N1C1C1C1 9h1h//

SECTION 2 222DyK 0sTwTwTw (1PwPwPwHwHw) (2PwPwPwHwHw)
(3GwGwGwGwGw) (4GwGwGwGwGw) (5GwGwGwGwGw)
(6iEiEiEiEi) (ICE + plain language or c(SibDzI) )

SECTION 3 333 (0...) (1nTnTnTn) (2nTnTnTn)
(SEII) (4'ess) (5's(a)l(a))
(6RRRT) (7...) (6N1ChH)
(8SP5SP5SP5) (85000 0...) (1...) ......)

SECTION 4 444 N'C'H'H'C1

SECTION 5 555 Groups to be developed nationally

NOTES:

(1) The code form FM 12-VII SYNOP is used for reporting synoptic surface observations from a land station, manned or automatic. The code form FM 13-VII SHIP is used for the same kind of observations from a sea station, manned or automatic.

(2) A SYNOP report from a land station is identified by the symbolic letters MIIIMjMj = AAXX.

(3) A SHIP report from a sea station is identified by the symbolic letters MIIIMjMj = BBXX.

** Used in FM 12-VII.

** Used in FM 13-VII.

(4) The code form is made up of figure groups arranged by sections in ascending order of their numerical indicators with the exception of the following:

(a) All the groups of Section 0 and for the first two groups of Section 1, which are always included in the report of any surface observing station;

(b) The first data group of Section 2 — 222DyK, which is always included in the report of a sea station;

(c) The data group of Section 4, which is clearly identified by a three-figure indicator group.
As a result, the following features are achieved:

(d) The loss of information due to the accidental loss of any one of these groups is strictly limited to the Information content of that group;

(e) The rules of inclusion or omission of sections or of groups between brackets can be laid down for each specific case of station type or of data requirements;

(f) The length of the message can be kept to a strict minimum by dropping out some groups whenever their Information content is considered insignificant or when that Information content is not normally available.

It is to be noted that the code word ICE of Section 2 plays the role of a numerical indicator for the last data group of the section or for the equivalent plain language information.

(5) The code form is divided into a number of sections as follows:

<table>
<thead>
<tr>
<th>Section number</th>
<th>Symbolic figure groups</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>—</td>
<td>Data for reporting identification (type, ship's call sign/buoy identifier, date, time, location) and units of wind speed used</td>
</tr>
<tr>
<td>1</td>
<td>—</td>
<td>Data for international exchanges which are common to the SYNOP and to the SHIP code form</td>
</tr>
<tr>
<td>2</td>
<td>222</td>
<td>Maritime data pertaining to a sea or to a coastal station</td>
</tr>
<tr>
<td>3</td>
<td>333</td>
<td>Data for regional exchange</td>
</tr>
<tr>
<td>4</td>
<td>444</td>
<td>Data for clouds with base below station level, included by national decision</td>
</tr>
<tr>
<td>5</td>
<td>555</td>
<td>Data for national exchange</td>
</tr>
</tbody>
</table>

(ii) The old codes replaced in January were FM 11-V SYNOP, FM 14-V SYNOP, FM 21-V SHIP, FM 22-V SHIP, FM 23-V SHRED, FM 24-V SHIP and FM 26-IV SPESH. Of these, the principal code forms used were FM 11-V and FM 21-V and these are shown below in symbolic form.

**c. LIST OF CODE FORMS**

**WITH NOTES AND REGULATIONS**

**FM 11-V SYNOP — Report of synoptic surface observation from a land station**

**CODE FORM:**

\[
\begin{align*}
\text{MMMMJ}_{ij} & \quad \text{YYGG} \\
\text{I}_{ll} & \quad \text{Nddff} \\
\text{T}_{dd} & \quad \text{la} \quad \text{lp}_{p} \\
\text{V}_{w} & \quad \text{ww} \quad \text{W} \\
\text{P}_{p} & \quad \text{PP} \quad \text{TT} \\
\text{N}_{ch} & \quad \text{Cl} \quad \text{h} \quad \text{Cm} \quad \text{Ch} \\
\text{N}_{c} & \quad \text{Ch} \quad \text{H} \quad \text{C} \quad \text{e} \\
\end{align*}
\]

**N O T E S:**

(1) The code form FM 11-V SYNOP is used for reporting synoptic surface observations from a land station, whether manned or automatic. However, the code form FM 14-V SYNOP, rather than the code form FM 11-V SYNOP, should be used when the land station at which the observations are made is permanently automatic.

(2) Land stations which are sometimes manned and sometimes operated automatically always draw up their reports in a single code, preferably FM 11-V.

(3) The automatic land weather stations which use the code form FM 14-V SYNOP are listed in Volume A of WMO Publication No. 9.

(4) A SYNOP report coded in FM 11-V, or a bulletin of these reports, is identified by the symbolic letters M(MM/MM) = MMXX.

(5) Groups in brackets are drop-out items and may or may not be included in the report, depending on specified conditions.

(6) The groups with indicator figures 8 and 9 may be repeated as necessary.
FM 21-V SHIP — Report of synoptic surface observation from a sea station

**CODE FORM:**

- **M**M**M**M**M**M
- **Q**C**L**C**L**C**L**C
- **YY**GG**W**W
- **N**d**d**f
- **V**V**w**w**W**
- **B**B**B**B**B**B**B**B**B

**NOTES:**

1. The code form FM 21-V SHIP is used for reporting synoptic surface observations from a sea station, whether manned or automatic. However, the code form FM 21-V SHIP, rather than the code form FM 21-V SHIP, should be used when the sea station at which the observations are made is permanently automatic.

2. Sea stations which are sometimes manned and sometimes operated automatically always draw up their reports in a single code, preferably FM 21-V.

3. A SHIP report coded in FM 21-V, or a bulletin of these reports, is identified by the symbolic letters M**M**M**M**M**M = NNXX.

4. Groups in brackets are drop-out items and may or may not be included in the report, depending on specified conditions.

5. The groups with indicator figures 8 and 9 may be repeated as necessary.

6. The code form FM 21-V is considered suitable not only for selected ships, but also for ocean weather stations.

* Ship call-sign normally inserted here.

**Note:**

(iii) The new codes removed some limitations and ambiguities present in the old e.g. including a sign digit for temperature and dewpoint presents a solution for temperatures less than -40°C, and the inclusion of the hundred value in reported pressure removes any doubt as to whether the pressure is greater or less than 1000 hectopascal.

The old codes included drop-out groups at the end of the reports, whereas in the new code any groups may be omitted except those in Section 9 and the first 2 groups of Section 1. In both cases drop-out groups are identified by the leading digit and their omission causes no problems. In the old code there were 5 groups containing parameter values which were position dependent, whereas the new code has only 2, and this feature enables more information to be extracted automatically from a report with a group incorrect or missing (it is a pity that all parameter groups are not identified by a unique indicator).

More information is given in the new code. Temperature values are given to 1 decimal place, a greater range of rainfall values can be reported (and the period to which the measurement refers is included) and different types of past weather can be reported.

Information on station operation (manned or automatic), wind measurement (instrument or estimate) and units of wind speed (knots or metres per second) is now included in each report.
APPENDIX 2

Reports to WMO on problems encountered with the new code and formats.

(i) Message sent to WMO on 4.1.82

You might be interested in the following summary of what happened at ECMWF when the new code was introduced:

1. History of events on Jan 1st

Although the decoding program of the ECMWF operational suite was geared to accept both old and new codes on 1 Jan., in a way that the MiMjMjMj group would decide on the decoding routine, many problems were encountered.

All SYNOPS from KWBC were missing from 00Z and 06Z. Errors in the MiMjMjMj and/or the YYGGGI groups were found in a number of bulletins.

A particular problem was created by bulletins with the old MiMjMjMj of MMXX and NNXX containing reports in new code, which was decoded according to the old practice as indicated by the MiMjMjMj line. These bulletins originated mainly from Italy (Block 16), North America (Block 72), Pacific (Block 91) and Russia (Block 24 which was the only one received). In addition to these bulletins ship reports from North America and Russia were also affected. These wrongly coded reports were only rejected at the data base quality control or analysis level and it cannot be excluded completely that some corrupt data (particularly MSL pressure values) might have been used in the analysis. These problems were further aggravated by the fact that off-duty staff had to be called in on this public holiday and the subsequent weekend staff to help overcome the problems.

2. Later developments and present state of affairs

Parallel processing in both decoding systems helped to overcome the most serious problems and the incorrect heading of new code with old headers was stopped by reverting completely to the old system in the case of North America.

At present (82/01/04/03Z) incorrect bulletins are mainly received from:
SIBE MKKF (BERMUDA), with the MiMj line missing and unrecognizable character before the II III Group.
SIGN1 CYCY (Canada), with MiMjMjMj line missing
SII01 FJGD (Indian ocean) missing MiMj line
SIGN2o-25 KWBC
SIGN2o-22 KWBC
SIGLAI BGSA:
Old code for Greenland, Canada, US.

- 7 -
**SIRO25 YRBK**

**SITU20:**

**MNXX** – Headers used in Romania, Turkey

(ii) **Message sent to WMO on 11.1.82**

Responding to your telex of 7 January, please find in the following a list of incorrect bulletins, as observed during the 24 hour period ending today at 0600Z.

(1) **Missing MiMiMjMj Line**

<table>
<thead>
<tr>
<th>Header</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIBE MXKF</td>
<td>(Bermuda)</td>
</tr>
<tr>
<td>SICN1 CWLA</td>
<td>(Canada)</td>
</tr>
<tr>
<td>SICO1 FJJD</td>
<td>(Indian Ocean)</td>
</tr>
<tr>
<td>SIFO22 LPPT</td>
<td>(Portugal)</td>
</tr>
<tr>
<td>SIVF25 EGRR</td>
<td>(RA VI SHIPS)</td>
</tr>
<tr>
<td>SIKN20 HKNC</td>
<td>(Kenya)</td>
</tr>
<tr>
<td>SMTH1 VTBB</td>
<td>(Thailand)</td>
</tr>
<tr>
<td>SMAA NZCM</td>
<td>(Antarctic)</td>
</tr>
<tr>
<td>SMAA IAMMC</td>
<td>&quot;</td>
</tr>
<tr>
<td>SMKR1 DKFY</td>
<td>(Korea)</td>
</tr>
<tr>
<td>SMVX2 RPMN</td>
<td>(Ships)</td>
</tr>
<tr>
<td>SMVX1 LEMM</td>
<td>&quot;</td>
</tr>
<tr>
<td>SMIS1 LLBD</td>
<td>(Israel)</td>
</tr>
<tr>
<td>SMVE1 AMMC</td>
<td>(RA V Ships)</td>
</tr>
<tr>
<td>SIMB20 FANE</td>
<td>(Marion Island)</td>
</tr>
<tr>
<td>SMWB1 RJTD</td>
<td>(RA II Ships)</td>
</tr>
<tr>
<td>SMAA1 STFK</td>
<td>(Antarctic)</td>
</tr>
<tr>
<td>SMVF1 EKMI</td>
<td>(RA VI Ships)</td>
</tr>
<tr>
<td>SMIE1 EIDB</td>
<td>(Ireland)</td>
</tr>
<tr>
<td>SNE23 EIDB</td>
<td>&quot;</td>
</tr>
</tbody>
</table>

(2) **Invalid MiMiMjMj line (reports in new code)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMAA NZCM</td>
<td>(Antarctic)</td>
</tr>
<tr>
<td>SKAA1 AMMC</td>
<td>&quot;</td>
</tr>
<tr>
<td>SKVD10 RUMS</td>
<td>(RA IV SHIPS) (use WNXX)</td>
</tr>
<tr>
<td>SMVF2 LFPW</td>
<td>(RA III Correction VI ships)</td>
</tr>
<tr>
<td>SMVF10 RUMS</td>
<td>(RA VI Ships)</td>
</tr>
<tr>
<td>SMVA10 RUMS</td>
<td>(RA I Ships)</td>
</tr>
<tr>
<td>SMVC13 RUMS</td>
<td>(RA III Ships)</td>
</tr>
<tr>
<td>SMVA1 DIAP</td>
<td>(RA I Ships)</td>
</tr>
<tr>
<td>SMBS10 SBBR</td>
<td>Brazil</td>
</tr>
<tr>
<td>SMBW1 VGDC</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>SMVF1 LFPW</td>
<td>(RA VI Ships)</td>
</tr>
<tr>
<td>SKLA1 VLIV</td>
<td>(Laos)</td>
</tr>
<tr>
<td>SMRS11 RUMS</td>
<td>(USSR)</td>
</tr>
<tr>
<td>SMHH1 NHHR</td>
<td>(New Hebrides)</td>
</tr>
<tr>
<td>SMCH1 SCSC</td>
<td>(Chile)</td>
</tr>
<tr>
<td>SMVA13 RUMS</td>
<td>(RA I Ships)</td>
</tr>
<tr>
<td>SMNC 20 NWWB</td>
<td>(New Caledonia)</td>
</tr>
<tr>
<td>SMAA NZCM</td>
<td>(Antarctic)</td>
</tr>
<tr>
<td>SMLS1 FXMU</td>
<td>(Lesotho)</td>
</tr>
<tr>
<td>SMAA1 AMMC</td>
<td>(Antarctic)</td>
</tr>
<tr>
<td>SMGL1 BGSC</td>
<td>(Greenland)</td>
</tr>
<tr>
<td>SMFR20 LFPW</td>
<td>(France)</td>
</tr>
<tr>
<td>SIVA20 FMIB</td>
<td>(RA I Ships)</td>
</tr>
<tr>
<td>SIDD20 ETPD</td>
<td>(German D Republic)</td>
</tr>
</tbody>
</table>
SIRO25 YRBK  (Romania)
SMVD10 RUBB  (RH IV Ships)
SMGL21 BGSF  (Greenland)
SNFK1 OOPC  (Pakistan)
SMSE2 BSSS  (Sudan)
SMNO23 ENMI  (Norway)

(3) Mixture of reports in old and new code (same bulletin)
SMVF3 LFPW  (RA VI Ships)
SMUD4 KWBC  (RA IV Ships)
SMVD5 KSF0

(4) Bulletins and reports in old code (withhold MiMiMjMj line) received from
Canada, USA, Arctic (via EBSA) and Bracknell (Ship reports only).

(5) Very little data has been received from Alaska, Caribbean and Northern USSR
since 1.1.82.

(iii) Message sent to WMO on 19.1.82
Please find in the following a list of incorrect bulletins, as observed in the
24 hour period ending at 0600Z today.

(1) Missing MiMiMjMj line
SIBE MXKF
STI01 FUDG
STCN1 CYCY
SINN20 HKNC
SIRH20 FRSB
STAR20 OBJD
SMCM20 FKKD
STIE22 EIDB
STM20 SEMP
SMMA1 AMMC
SMCA NQCM
SMKU1 NCRG
SMTF20 DXXK
SMX1 VHHE
SMVE1 NFFN
SMTH1 VTBB

(2) Invalid MiMiMjMj line (reports in new code)
SMBW1 VGDC
SMSS41 ESW1
SMVE10 RUMS
SMVC13 RUMS
SMVB10 RUMS
SMVE13 RUMS
SMVD10 ROMA
SMVA1 DITA
SMVF1 LLED
SMCV1 GVAC
SMVF10 RUMS
(3) Bullets and reports in old code (old M3M4M5M6 group) Received

SIAC21 EECA
SIVP21 EHDDB
SIVP25 EHDDB
SICN24 KWBC
SICN25 KWBC
SICN21 KWBC
SICN20 KWBC
SIUS21 KWBC
SIUS22 KWBC
SIUS20 KWBC
SICN22 KWBC
SICN23 KWBC
SMVF1 AMMC
SMVF1 AMMC
SIVP21 LFPW
SMVF4 EGRR
SMVX1 LEMM
SNVF21 EHDDB
SIVP21 EHDDB
SMVX1 LFPT
SMVX3 LFPT
SMVF5 EHDDB
SMVF1 LFPW

A regrettably large portion of the errors are in ship bulletins, many from Russian ships. For US/Canada, main hours are received in new code. Intermediate hours (03, 09, 15, 21) in old code (with correct headings).

(iv) Message sent to WMO on 26.1.82

The following is a list of incorrect bulletins received in the 24 hour period ending at 0600Z today (26 Jan 1982).

(1) Missing MiMiM4M5 line
SIBE MKKF
SICN1 CYCY
SII01 FJDG
SMI01 FJDG
SICH20 SCSC
SNFG20 DXXX
SNFP2 EGRK
SNFR43 LFPP
SNFX1 LENM
SNKX2 DKPT
SNV11 NFPT
SNVE1 NEKL
SNVF1 NEEK
SNVB1 AMWC
SNBM1 VBRR

(2) Invalid MiMiMjMj line (Reports in new code)

SMAM1 AMWC
SMAA NNEM
SMY30 LYBM
SMVA10 RUMS
SMVC13 RUMS
SMVD10 RUMS
SMV11 RUMS
SMVF10 RUMS
SMVD1 EGRK
SMGL1 BQSF
EMK1 OFKC
EMK20 KFSC
SMCN2 GCSC
SMCN20 GCSC
SMK10 RUTK
SMK11 RUTK
SMK20 YRBK
SMDD40 ETPD
SMDD44 ETPD
SMDC20 NWB
SMFD20 LFPR
SMVB10 RUHB
SMVB13 RUHB

(3) Bulletins in old code (old MiMiMjMj group)

SIAC21 ESSA
SNC21 ESSA
SIC220 KWBC
SIC221 KWBC
SIC222 KWBC
SIC223 KWBC
SIC224 KWBC
SIC225 KWBC
SICU20 KWBC
SICU21 KWBC
SICU22 KWBC
SMFT3 LFPR
SMVB1 AMWC
SMVE2 AMWC
SMX3 LFPT

The errors in Soviet ship bulletins continue to give concern, as does the American practice of including ship reports in old code in ship bulletins with new MiMiMjMj line and new reports.
(v) **Message sent to WMO on 17.2.82**

The following is a list of incorrect bulletins received at ECMWF in the period 0600-1800 on 17 February 1982.

(1) Ship bulletins in old format, with reports in old code

SMVD6  KWBC
SMVD6  KSFO

(2) Ship bulletins in new format, with reports in new code, with incorrect MIMIMjMJ line.

SMVX2  DEMS  YYGGIWI included
SMVA10  RUMS  YYGG,YYGGIWI included
SMVA13  RUMS  YYGG  
SMVC13  RUMS  YYGG,YYGGIWI  
SMVP10  RUMS  YYGG,YYGGIWI  
SMVA1  FMEE  YYGG,YYGGIWI Included
SMVB10  RUHB  YYGGIWI included
SMVA1  DTTA  NNXX used
SMVF1  EBBR  YYGG included
SMVA1  FIMP  
SMVA1  HKNC  
SMVB1  FIMP  
SMWD21  EGRR  YYGG included
SMWD21  EGRR  

(3) **SYNOP bulletins with invalid MIMIMjMJ line**

SMBE  MXXP  YYGGG instead of YYGGIWI
SMPL30  SOWR  YYGG  
SMIS22  LLBD  
SMNR1  DRRN  
SMFR20  LLPW  YYGGIWI corrupt
SMF1  NNTPN  
SMCA1  FIMP  
SMCM1  PKKD  
SMKN1  HKNC  YYGG instead of YYGGIWI
SMJD1  OJAM  
SMKN20  HKNC  
SMKB1  NGTA  
SMTN1  HTDA  
SMTN20  HTDA  
SMPH2  RPMM  
SIFL21  SOWR  
SICHE  SCSC  
SMIS1  LLBD  
SMGN1  GUCY  
SIFR40  LLPW  
SMFG1  MCRA  YYGGG  
SMNR1  DRRN  AAWXX  
SMNR1  DRRN  YYGGIWI Missing
SIFL30  SOWR  MNNXX Instead of AAXX
SMNG1  FNMI  Report on AAXX line

- 12 -
(2) Bulletins with MiMiMjMj line missing

SII01 FJDG
SMIO1 FJDG
SIBE MXKF
SMVF4 EGRR
SMVKH EDZW

The use of the date/time group in both SYNOP and SHIP bulletins is still incorrect on quite a large scale.