



World Meteorological Organization  
Organisation météorologique mondiale

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Weather • Climate • Water  
Temps • Climat • Eau

Our ref.: OBS/WIS/DRMM

GENEVA, 7 July 2015

Subject: Migration of upper-air reports to BUFR

Action required: Continue sending reports in alphanumeric form if your service produces separate BUFR reports for each part of a TEMP

Dear Sir/Madam,

The purpose of this letter is to encourage all Members to transition from the Traditional Alphanumeric Codes (TAC) to the Table Driven Code Forms (TDCF), in accordance with recommendations from the Commission for Basic Systems (CBS), and to provide some specific instructions in relation to transitioning TAC TEMP (TEMP, TEMP SHIP and TEMP MOBIL) to TDCF (BUFR) messages.

The TAC are not capable of representing all the information that is now needed for operational information exchange. The 2014 extraordinary session of the Commission for Basic Systems (CBS-Ext.(2014)), therefore, reviewed progress with migration to TDCF and concluded in its Abridged Final Report (WMO-No. 1140):

*“2.3.15 In view of the short time until the November 2014 date for completion of migration, and of the risks of attempting to implement rapid changes, the Commission recommended that data providers produce reports in both TAC and BUFR for an overlap period of two months with the intention of completing migration within six months. The Commission asked OPAG-ISS to review progress with migration every six months and to consider whether a further of extension of six months was required to resolve issues with the consistency and quality of data.”*

Since CBS-Ext.(2014) the number of reports being transmitted in TDCF has increased, and some Members are discontinuing the transmission of TAC.

To: Permanent Representatives (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO (PR-6855)

cc: Hydrological Advisers to Permanent Representatives

Users of reports in TDCF have identified many types of problems with the content of some reports that could be resolved by a systematic approach to detecting problems and reporting these to the originators of the reports. This approach is documented at: <http://wis.wmo.int/page=TDCF-migrate>.

A systematic problem has been identified. Many upper-air observations are being reported in TDCF (BUFR) by converting from TAC TEMP messages. The BUFR template was not designed to contain a part (A, B, C or D) of TAC TEMP, since these converted partial messages do not contain sufficient information for the full ascent to be reconstructed from the individual parts without additional information. Such messages do not comply with regulations in the *Manual on Codes*, Volume I.2; Part C (B/C regulations), and the nature of the non-compliance can result in production systems, including numerical weather prediction systems, being unable to process the information.

It is preferable to use the highest resolution information available directly from radiosonde systems when compiling a report in BUFR. If that is not possible, reports converted from TAC TEMP that contain a complete ascent (either the full ascent or the ascent up to 100 hPa) provide usable information for users.

The CBS Management Group has requested to the Inter-Programme Expert Team on Data Representation Maintenance and Monitoring (IPET-DRMM) to recommend by 1 September 2015 whether there are technical modifications that would facilitate production of complete ascents from TAC upper-air reports that might be achievable on a short enough timescale to assist in migration.

The CBS Management Group has endorsed the recommendation of the Implementation/Coordination Team on Information Systems and Services (ICT-ISS) that, pending the advice from IPET-DRMM, Members who produce upper-air reports in BUFR by converting TAC TEMP parts A, B, C, or D into BUFR reports that do not contain a complete ascent (up to 100hPa, or the full ascent to the end of the flight) should continue to transmit the TAC TEMP reports, as well as the BUFR encoded versions. This will allow for identification of problems within the BUFR reports as well as for users to continue the use of the TAC products until any problems are resolved.

The CBS Management Group urges Members to create TDCF reports containing complete ascents compliant with B/C regulations.

It is therefore requested that if your Service produces upper-air reports in BUFR by conversion of TAC TEMP parts A, B, C, or D, and if those BUFR reports do not contain a complete ascent (up to 100 hPa, or the full ascent to the end of the flight), to:

1. Continue transmitting TAC TEMP parts A, B, C, and D if you are unable to produce upper-air BUFR reports that contain complete ascents;
2. Inform the Secretary-General, as required in Article 9(b) of the Convention, if you provide upper-air reports and find it impracticable to do so in TDCF form that is compliant with the *Manual on Codes*, Volume I.2; Part C (B/C regulations), and if so whether your inability to do so is provisional or final, and state your reasons therefor.

If you are able to send upper-air reports originally encoded in BUFR compliant with B/C regulations, that is still the preferred method of exchange.

If you are aware of any other issue or you have questions please work through your National Codes Focal Point and contact the Secretariat at [wis-help@wmo.int](mailto:wis-help@wmo.int).

Yours faithfully,

A handwritten signature in black ink, consisting of a stylized, cursive name that appears to be 'J. Lengoasa'. The signature is written on a light-colored background and is positioned above the printed name.

(J. Lengoasa)  
for the Secretary-General