

Radiosounding Data in BUFR Format

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Radiosounding data has traditionally been transmitted in alphanumeric code formats like TEMP and PILOT. The aim of the World Meteorological Organization (WMO) is that this data will be transmitted in binary code form in the future. The WMO has recommended that radiosounding data should have been transmitted operationally in binary form by the end of the year 2005 and that the migration should be completed by the year 2010.

Binary messages are coded in FM 94 BUFR (Binary Universal Form for the Representation of meteorological data) code form. BUFR is a universal code form and any kind of data can be coded in it. In 2005, new sequences specifying standard messages were defined. The new sequences of interest to radiosounding data are BUFR messages that contain the same information as TEMP and PILOT messages.

The Vaisala DigiCORA Sounding Software is workstation software used in radiosounding ground equipment for receiving, computing, displaying, and transmitting radiosounding data. There have always been several alphanumeric messages and customer specific messages available in the software. Now the set of messages has been expanded with new messages based on the WMO BUFR recommendations and sequence specifications.

From the equipment manufacturer's point of view there are some obstacles on the road before all radiosounding data is being transmitted in BUFR code form. There is a lack of knowledge about BUFR among many users, which means that plans for the transmission have not been made. The technical readiness is not complete, and it is likely that alphanumeric messages will be transmitted in parallel with BUFR messages for a long time. The data content of the BUFR messages is currently not unambiguously defined, which slows down the migration.