

Release Notes for BUFRLIB
Version 20080529

1) Subroutine BORT_EXIT was modified to fix a faulty ANSI-C declaration. This had been silently ignored by the IBM CCS compiler but was a portability issue for other compilers.

2) Subroutines RDTREE and WRTREE were modified to fix a bug which, on rare occasions, caused a segmentation fault due to overflow of internal arrays. This bug only occurred when working with long character strings (i.e. longer than 8 bytes) while using a non-optimized compilation of BUFRLIB.

3) Subroutine WRITCA, which had been marked as obsolete within a previous version of BUFRLIB, has now been deleted.

4) A new subroutine PARSTR was added which works like existing subroutine PARSEQ, except that it allows substrings within a string to be separated by one or more occurrences of any given single character (and not just by one or more blank characters). As such, the existing subroutine PARSEQ has been marked as obsolete (for future removal from BUFRLIB), and many other subroutines throughout BUFRLIB have been modified to now use the new subroutine PARSTR.

5) Subroutine JSTCHR was modified to add a return argument indicating whether the input string was empty. This allows the subroutine to be used in any context where existing subroutine LJUST was being used, and LJUST has now been marked as obsolete (for future removal from BUFRLIB).

6) Several new subroutines have been added to enable the capability to read BUFR table information from external ASCII master tables instead of from pre-defined DX dictionary files. This is in preparation for the planned future capability to be able to directly decode a BUFR message according to its internal data description section.

7) The value BMISS (i.e. the BUFR "missing" value), which was defined as a local data value within many separate subroutines, has now been defined as a global parameter within the "bufrlib.PRM" include file. In addition, a new function IBFMS has been added which safely tests a given value to determine whether or not it is "missing", and several existing subroutines throughout BUFRLIB have been modified to now use this new function.

8) The determination as to whether the local host machine uses the "big-endian" or "little-endian" byte-ordering scheme is now determined at compile time and integrated into BUFRLIB via the use of conditional compilation statements. This allows BUFRLIB to run much more efficiently since it no longer has to constantly re-check the local byte-ordering scheme at run time.

9) Subroutine DXDUMP was modified to correct a bug which caused the truncation of output reference values longer than 8 digits.

10) Several global parameters were increased in "bufrlib.PRM". Specifically, MXCDV (the maximum number of data values per subset in a compressed BUFR message) was increased from 2000 to 3000, and MAXMEM (the maximum number of bytes that can be used to store BUFR messages within internal memory) was increased from 50Mb to 75Mb within the "supersized" BUFRLIB.