

Changes in TIFF v4.7.1

	References
Current Version	v4.7.1 (tag v4.7.1)
Previous Version	v4.7.0
Primary Download Site	https://download.osgeo.org/libtiff/
Home HTTP Site #1	http://www.simplesystems.org/libtiff/
Home HTTP Site #2	https://libtiff.gitlab.io/libtiff/

This document provides a summary of significant changes made to the software between the *previous* and *current* versions (see above). A fully-detailed change summary is provided by the [ChangeLog](#) file included in the release package and by the Git commit history.

Major changes

None

Software configuration changes

- Define HAVE_JPEGTURBO_DUAL_MODE_8_12 and LERC_STATIC in tif_config.h.
- CMake: define WORDS_BIGENDIAN via tif_config.h
- doc/CMakeLists.txt: remove useless cmake_minimum_required()
- CMake: fix build with LLVM/Clang 17 (fixes [issue #651](#))
- CMake: set CMP0074 new policy
- Set LINKER_LANGUAGE for C targets with C deps
- Export tiffxx cmake target (fixes [issue #674](#))
- autogen.sh: Enable verbose wget.
- configure.ac: Syntax updates for Autoconf 2.71
- autogen.sh: Re-implement based on autoreconf. Failure to update config.guess/config.sub does not return error (fixes [issue #672](#))
- CMake: fix CMake 4.0 warning when minimum required version is < 3.10.
- CMake: Add build option tiff-static (fixes [issue #709](#))

Library changes

New/improved functionalities:

- Add TIFFOpenOptionsSetWarnAboutUnknownTags() for explicit control about emitting warnings for unknown tags. No longer emit warnings about unknown tags by default
- tif_predict.c: speed-up decompression in some cases.

API/ABI breaks:

- None

Bug fixes:

- tif_fax3: For fax group 3 data if no EOL is detected, reading is retried without synchronisation for EOLs. (fixes [issue #54](#))
- Updating TIFFMergeFieldInfo() with read_count=write_count=0 for FIELD_IGNORE. Updating TIFFMergeFieldInfo() with read_count=write_count=0 for FIELD_IGNORE. Improving handling when field_name = NULL. (fixes [issue #532](#))

- `tiff.h`: add `COMPRESSION_JXL_DNG_1_7=52546` as used for JPEGXL compression in the DNG 1.7 specification
- `TIFFWriteDirectorySec`: Increment string length for ASCII tags for codec tags defined with `FIELD_xxx` bits, as it is done for `FIELD_CUSTOM` tags. (fixes [issue #648](#))
- Do not error out on a tag whose tag count value is zero, just issue a warning. Fix parsing a private tag `0x80a6` (fixes [issue #647](#))
- `TIFFDefaultTransferFunction()`: give up beyond `td_bitspersample = 24` (Fixes <https://github.com/OSGeo/gdal/issues/10875>)
- `tif_getimage.c`: Remove unnecessary calls to `TIFFRGBAImageOK()` (fixes [issue #175](#))
- Fix writing a `Predictor=3` file with non-native endianness
- `_TIFFVSetField()`: fix potential use of unallocated memory (out-of-bounds read / nullptr dereference) in case of out-of-memory situation when dealing with custom tags (fixes [issue #663](#))
- `tif_fax3.c`: Error out for CCITT fax encoding if `SamplesPerPixel` is not equal 1 and `PlanarConfiguration = Contiguous` (fixes [issue #26](#))
- `tif_fax3.c`: error out after a number of times end-of-line or unexpected bad code words have been reached. (fixes [issue #670](#))
- Fix memory leak in `TIFFSetupStrips()` (fixes [issue #665](#))
- `tif_zip.c`: Provide zlib allocation functions. Otherwise for zlib built with `-DZ_SOLO` inflating will fail.
- Fix memory leak in `_TIFFSetDefaultCompressionState`. (fixes [issue #676](#))
- `tif_predict.c`: Don't overwrite input buffer of `TIFFWriteScanline()` if "prediction" is enabled. Use extra working buffer in `PredictorEncodeRow()`. (fixes [issue #5](#))
- `tif_getimage.c`: update some integer overflow checks (fixes [issue #79](#))
- `tif_getimage.c`: Fix buffer underflow crash for less raster rows at `TIFFReadRGBAImageOriented()` (fixes [issue #704](#))
- `TIFFReadRGBAImage()`: several fixes to avoid buffer overflows.
- Correct passing arguments to `TIFFCvtIEEEFloatToNative()` and `TIFFCvtIEEEDoubleToNative()` if `HAVE_IEEEFP` is not defined. (fixes [issue #699](#))
- `LZWDecode()`: avoid nullptr dereference when trying to read again after EOI marker has been found with remaining output bytes (fixes [issue #698](#))
- `TIFFSetSubDirectory()`: check `_TIFFCheckDirNumberAndOffset()` return.
- `TIFFUnlinkDirectory()` and `TIFFWriteDirectorySec()`: clear `tif_rawcp` when clearing `tif_rawdata` (fixes [issue #711](#))
- `JPEGEncodeRaw()`: error out if a previous scanline failed to be written, to avoid out-of-bounds access (fixes [issue #714](#))
- `tif_jpeg`: Fix bug in `JPEGDecodeRaw()` if `JPEG_LIB_MK1_OR_12BIT` is defined for 8/12bit dual mode, introduced in `libjpeg-turbo 2.2`, which was actually released as 3.0. (fixes [issue #717](#))
- add assert for `TIFFReadCustomDirectory` infoarray check.

Other changes:

- `tif_jpeg.c`: use `JPEG_MAX_DIMENSION` constant instead of hard-coded 65535 value
- `tif_lzw.c` / `tif_packbits.c`: use `NULL` instead of 0.
- Take into account `PACKBITS_READ_ONLY`, `LZW_READ_ONLY`, and `LERC_READ_ONLY` macros to disable compiling write-support for those codecs.
- `tif_lerc.c`: add missing casts
- Merge several functions implemented twice in different modules. (see [issue #154](#))
- Remove `get_field_type` form `TIFFField` structure because it is not used anymore and rename other parameter to `set_get_field_type`
- Silence some Coverity Scan warnings and mark already dismissed ones.

- References to codec libraries updated and missing codec compile defines (tiffconf.h) added.
- Move mkg3states under libtiff/tools. (fixes [issue #708](#))
- tiff_itrunc(): don't use rand() to please Coverity Scan.
- tiffio.h: fix compilation with LOGLUV_PUBLIC=0
- LICENSE.md: Add BSD license for Lempel-Ziv & Welch compression (tif_lzw.c) (fixes [issue #431](#))

Documentation

- TIFFRGBAImage.rst note added for incorrect saving of images with TIFF orientation from 5 (LeftTop) to 8 (LeftBottom) in the raster.
- TIFFRGBAImage.rst note added about un-associated alpha handling (fixes [issue #67](#))
- Update "Defining New TIFF Tags" description. (fixes [issue #642](#))
- Fix return type of TIFFReadEncodedTile()
- Update the documentation to reflect deprecated typedefs.
- TIFFWriteDirectory.rst: Clarify TIFFSetWriteOffset() only sets offset for image data and not for IFD data.
- Update documentation on re-entrancy and thread safety.
- Remove dead links to no more existing Awaresystems web-site.
- Updating BigTIFF specification and some miscellaneous editions.
- Replace some last links and remove last todos.
- Added hints for correct allocation of TIFFYCbCrToRGB structure and its associated buffers. (fixes [issue #681](#))
- Added chapter to "Using the TIFF Library" with links to handling multi-page TIFF and custom directories. (fixes [issue #43](#))
- update TIFFOpen.rst with the return values of mapproc and unmapproc. (fixes [issue #12](#))

Tools changes

New/improved functionality:

- tiffinfo: add a -W switch to warn about unknown tags.
- tiffdither: process all pages in input TIFF file.

Bug fixes:

- ppm2tiff: Fix bug in *pack_words* trailing bytes, where last two bytes of each line were written wrongly. (fixes [issue #467](#))
- fax2ps: fix regression of commit 28c38d648b64a66c3218778c4745225fe3e3a06d where TIFFTAG_FAXFILLFUNC is being used rather than an output buffer (fixes [issue #649](#))
- tiff2pdf: Check TIFFTAG_TILELENGTH and TIFFTAG_TILEWIDTH (fixes [issue #650](#))
- tiff2pdf: check h_samp and v_samp for range 1 to 4 to avoid division by zero. (fixes [issue #654](#))
- tiff2pdf: avoid null pointer dereference. (fixes [issue #741](#))
- Improve non-secure integer overflow check (comparison of division result with multiplicand) at compiler optimisation in tiffcp, rgb2ycbcr and tiff2rgba. (fixes [issue #546](#))
- tiff2rgba: fix some "a partial expression can generate an overflow before it is assigned to a broader type" warnings. (fixes [issue #682](#))
- tiffdither/tiffmedian: Don't skip the first line of the input image. (fixes [issue #703](#))
- tiffdither: avoid out-of-bounds read identified in [issue #733](#)
- tiffmedian: error out if TIFFReadScanline() fails (fixes [issue #707](#))
- tiffmedian: close input file. (fixes [issue #735](#))
- thumbnail: avoid potential out of bounds access (fixes [issue #715](#))
- tiffcrop: close open TIFF files and release allocated buffers before exiting in case of error to avoid memory leaks. (fixes [issue #716](#))
- tiffcrop: fix double-free and memory leak exposed by [issue #721](#)
- tiffcrop: avoid buffer overflow. (fixes [issue #740](#))

- tiffcrop: avoid nullptr dereference. (fixes [issue #734](#))
- tiffdump: Fix coverity scan issue CID 1373365: Passing tainted expression *datamem to PrintData, which uses it as a divisor or modulus.
- tiff2ps: check return of TIFFGetField() for TIFFTAG_STRIPBYTECOUNTS and TIFFTAG_TILEBYTECOUNTS to avoid NULL pointer dereference. (fixes [issue #718](#))
- tiffcmp: fix memory leak when second file cannot be opened. (fixes [issue #718](#) and [issue #729](#))
- tiffcp: fix setting compression level for lossless codecs. (fixes [issue #730](#))
- raw2tiff: close input file before exit (fixes [issue #742](#))

Changes to contributed and unsupported tools

- addtiff: Fixing MSVC compiler warnings
- Improved oss-fuzz fuzzer tiff_read_rgba_fuzzer.cc.
- oss-fuzz: fix memory leak in fuzz target.